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Combining retirement savings and real estate ownership in the Netherlands

Jessica Warren

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List of abbreviations

AFM	Autoriteit Financiële Markten
AGS	Annual Growth Survey
AHV	Alters- und Hinterlassenenversicherung
AltEinkG	Alterseinkünftegesetz
Anw	Algemene nabestaandenwet
AOW	Algemene Ouderdomswet
Art.	Article
ASA	Archiv für schweizerisches Abgaberecht
ASGS	Annual Sustainable Growth Strategy
AVmG	Altersvermögensgesetz
Awir	Algemene wet inkomensafhankelijke regelingen
BaFin	Bundesanstalt für Finanzdienstleistungsaufsicht
BauSparkG	Bausparkassengesetz
bAV	betriebliche Altersversorgung
BetrAVG	Betriebsrentengesetz
BGB	Bürgerliches Gesetzbuch (German Civil Code)
BGer	Bundesgericht
BMAS	Bundesministerium für Arbeit und Soziales
BRSG	Betriebsrentenstärkungsgesetz
BV	Bundesverfassung der Schweizerischen Eidgenossenschaft
BVG	Bundesgesetz über die berufliche Alters-, Hinterlassenen- und Invalidenvorsorge
CBS	Centraal Bureau voor de Statistiek
CHF	Confoederatio Helvetica Franc (Swiss Franc)
CJEU	Court of Justice of the European Union
COM	Communication
CPB	Centraal Planbureau
CPI	Consumer Price Index

CSH	Contractual savings for housing
CSR	country specific requirements
DB	Defined Benefit
DBG	Bundesgesetz über die direkte Bundessteuer
dBSt	direkte Bundessteuer
DC	Defined Contribution
DNB	De Nederlandse Bank
DRV	Deutsche Rentenversicherung
DSR	debt-servicing ratio
DTI	Debt-to-Income
EC	European Commission
EET	Exempt-Exempt-Taxed
EigRentG	Eigenheimrentengesetz
EMW	Eigenmietwert
ErbStG	Erbschaftsteuer- und Schenkungsteuergesetz
ESA	Employment and Support Allowance
EStG	Einkommensteuergesetz
ESTV	Eidgenössische Steuerverwaltung
ETV	Equity-to-Value
EU	European Union
EUCFR	Charter of Fundamental Rights of the European Union
FA	Finance Act
FCA	Financial Conduct Authority
FINMA	Eidgenössische Finanzmarktaufsicht (Swiss Financial Market Supervisory Authority)
FOAR	Fiscal Old Age Reserve
FOR	Fiscale oudedagsreserve
FPA	Future of Pensions Act
FPC	Financial Policy Committee
FPR	Flexibele premieregeling
FSIO	Federal Social Insurance Office
GDP	Gross Domestic Product

GPP	Group Personal Pensions
GrStG	Grundsteuergesetz
GRV	gesetzliche Rentenversicherung
GSP	Group Stakeholder Pensions
HG	Gesetz über die Handänderungssteuer
HM	Her Majesty's
HMRC	Her Majesty's Revenue and Customs
HOLD	Home Ownership for People with Long-Term Disabilities
HPI	House Price Index
IBFD	International Bureau of Fiscal Documentation
IHT	Inheritance Tax
IHTA	Inheritance Tax Act
ISA	Individual Savings Account
ITA	Income Tax Act
IV	Invalidenversicherung
JSA	Jobseeker's Allowance
LIBOR	London Interbank Offered Rate
LISA	Lifetime Individual Savings Account
LTI	Loan-to-Income
LTV	Loan-to-Value
MID	Mortgage interest deduction
MvT	Memorie van toelichting
NATO	North Atlantic Treaty Organization
NEST	National Employment Savings Trust
NHG	Nationale Hypotheek Garantie
Nibud	Nationaal Instituut voor Budgetvoorlichting
NIC	National Insurance Contributions
NRB	Nil Rate Band
NVB	Nederlandse Vereniging van Banken
OECD	Organisation for Economic Co-operation and Development
OMC	open method of coordination
ONS	Office for National Statistics

OP	Old-age pension
OPSO	Older People's Shared Ownership
OR	Obligationenrecht
PA	Pensions Act
PAYG	pay-as-you-go
PI	Price index
PP	Partner pension
PPI	Pensions Policy Institute
PSTA	Pensions and Savings Fund Tax Act
PSW	Pensioen en Spaarfondsenwet
PW	Pensioenwet
RMU	Reformatorisch Maatschappelijke Unie
RNRB	Residence Nil Rate Band
RVU	Regeling voor Vervroegde Uittreding
SBVg	Schweizerische Bankiervereinigung
SDLT	Stamp Duty Land Tax
SDLTA	Stamp Duty Land Tax Act
SGB	Sozialgesetzbuch
SIPP	Self-invested personal pension
SMI	Support for Mortgage Interest
SPR	Solidaire premieregeling
StHG	Harmonisierung der direkten Steuern der Kantone und Gemeinden
SVB	Sociale Verzekeringsbank
SZW	ministerie van Sociale Zaken en Werkgelegenheid
TCGA92	Taxation of Chargeable Gains Act 1992
TEE	Taxed-Exempt-Exempt
TEU	Treaty of the European Union
TFEU	Treaty on the Functioning of the European Union
TTE	Taxed-Taxed-Exempt
UK	United Kingdom
UStG	Umsatzsteuergesetz
VAG	Versicherungsaufsichtsgesetz

VAT	Value Added Tax
VOA	Valuation Office Agency
WBR	Wet op belastingen van rechtsverkeer
WEF	Wohneigentum für Familien
WEFV	Verordnung über die Wohneigentumsförderung mit Mitteln der beruflichen Vorsorge
Wet Bpf	Wet betreffende verplichte deelneming in bedrijfstakpensioenfonds
Wet IB 2001	Wet inkomstenbelasting 2001
Wet LB 1964	Wet op de loonbelasting 1964
WEW	Waarborgfonds Eigen Woning
Wft	Wet op het financieel toezicht
Wlz	Wet langdurige zorg
WoP	Wohnungsbauprämie
WoPG	Wohnungsbau-Prämiengesetz
WOZ	Wet waardering onroerende zaken
WRR	Wetenschappelijke Raad voor het Regeringsbeleid
WTA	Wage Tax Act
Wtp	Wet toekomst pensioenen
ZGB	Schweizerisches Zivilgesetzbuch

Glossary of terms

Annuity mortgage	A mortgage loan where the borrower pays a fixed gross monthly amount composed of an interest component and a principal component. Over time, the interest portion decreases while the repayment portion increases.
Bausparen	A German contractual savings scheme for housing involving two phases: a savings phase where capital is accumulated, followed by a loan phase where the saver becomes entitled to a low-interest loan.
Defined Benefit (DB)	A pension scheme where the benefit amount is fixed in advance, typically based on salary and years of service.
Defined Contribution (DC)	A pension scheme where the contribution amount is fixed, but the final benefit depends on the investment returns and the size of the accumulated capital.
EET system	A taxation model (Exempt-Exempt-Taxed) where pension contributions are tax-deductible, investment returns are exempt, and benefits are taxed upon withdrawal.
Eigenmietwert	The imputed rental value in Switzerland, which is taxed as income for homeowners based on the potential rental income of the property.
Eigenwoningforfait	The Dutch main residence forfait; a net notional income calculated as a percentage of the value of the owner-occupied dwelling added to taxable income.
Linear mortgage	A mortgage loan where the principal is repaid by a fixed amount each month. The interest payment decreases over time as the residual debt lowers, resulting in decreasing gross monthly costs.

Loan-to-Income (LTI)	The ratio expressing the size of the mortgage loan relative to the gross household income, used to determine borrowing capacity.
Loan-to-Value (LTV)	The ratio expressing the size of the mortgage loan relative to the market value of the dwelling.
Lump sum	A single payment, for example, the withdrawal of accrued pension capital at once rather than as an annuity.
Main residence	The primary home where the taxpayer lives and which they own.
Mortgage	A legal agreement to borrow money from a bank or other (financial) institution, specifically to buy a house, where the house serves as collateral.
Occupational pension	A workplace pension provided through the employer (the second pillar).
Pay-as-you-go (PAYG)	A pension financing method where current contributions from the working population are used to pay for the benefits of current retirees (typically the first pillar).
Personal/individual pension	A pension arrangement between an individual and a pension provider without a role for the employer (the third pillar).
Public pension	A pension provided by the state, typically serving as a basic provision to prevent poverty (the first pillar).
Riester pension	A voluntary, state-subsidised private pension scheme in Germany designed to supplement the statutory pension.

1. Introduction

1.1 General introduction

The Netherlands is among the most economically affluent countries in Europe. Within the European Union (EU), it holds the second position in the ranking of "household net worth".[1] Relative to other countries, Dutch households tend to have relatively long balance sheets[2], particularly those who own their homes. This is largely due to widespread mortgage borrowing and the (quasi-)mandatory pension accrual system, which concentrate household assets in relatively illiquid forms – namely pension entitlements and housing wealth.

Figure *1.1* illustrates the steady increase in both assets and liabilities of Dutch households between 1995 and 2020. Asset growth is particularly marked in pension entitlements and non-financial assets. The latter primarily consists of housing wealth – that is, the value of owner-occupied dwellings – which constitutes the largest single component of household assets. Liabilities, shown as negative values, have also grown significantly over the period, largely driven by mortgage debt. This simultaneous growth in assets and liabilities highlights the Dutch household's financial structure: substantial gross wealth paired with relatively high leverage.

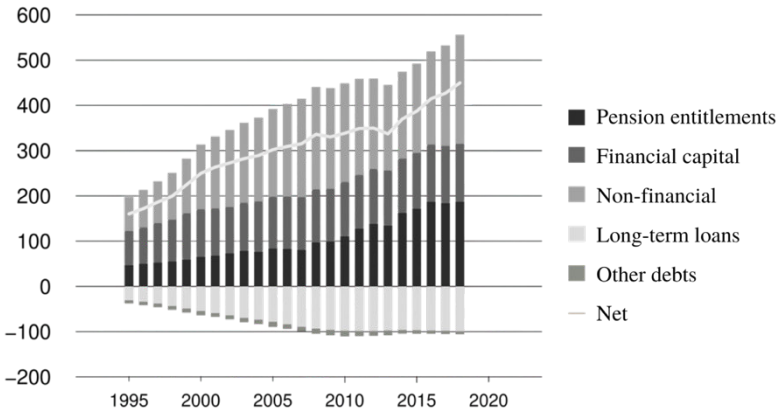

Figure 1.1: Assets and liabilities of Dutch households, 1995 – 2020 (average per household in thousands of euros)[3]

[1] OECD, 'Household net worth (indicator)' (2023) <https://doi.org/10.1787/2cc2469a-en> accessed 21 June 2023.
[2] A 'long balance sheet' in this context refers to a household financial position characterised by substantial gross assets (primarily illiquid housing and pension wealth) combined with substantial gross liabilities (mortgage debt). This stands in contrast to a 'short' balance sheet, where assets are utilized to redeem debt, resulting in lower gross values on both sides while net wealth remains unchanged.
[3] R Luginbuhl and B Smid, De verscheidenheid van vermogens van Nederlandse huishoudens: update (CPB Achtergronddocument, May 2021).

From an international perspective, Dutch households stand out for their high level of household debt relative to GDP, as shown in Figure *1.2* (specifically the black dots). In this comparative figure, the Netherlands ranks among the countries with the highest household debt-to-GDP ratios, primarily due to widespread mortgage borrowing. While household assets are significant, they are often accompanied by long-term debt, reinforcing the picture of heavily leveraged wealth.

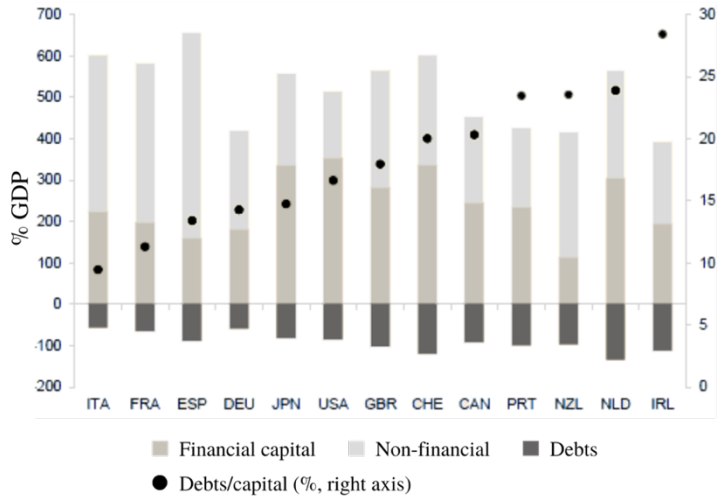

Figure 1.2: Dutch households' balances in international perspective (percentage of GDP)[4]

These long balance sheets mostly occur among households in their thirties and forties.[5] At this stage of the life cycle, most capital is tied up in pension entitlements and housing equity, while financial (i.e. liquid) assets are relatively scarce. At the same time, many of these households carry substantial mortgage debt. The result is a balance sheet that is large in both assets and liabilities but limited in liquidity. This lack of accessible wealth can pose a challenge, particularly in the face of unexpected economic shocks. Liquid assets are the most easily accessed form of wealth and play a crucial role in stabilising household consumption. In contrast, current pension regulations generally prohibit early access, allowing disbursement only at retirement and typically as a fixed annuity.[6] Similarly, home equity can only be made liquid by selling the property or taking out an additional mortgage – both of which are practically and economically constrained.

[4] CPB Netherlands Bureau for Economic Policy Analysis, *De verscheidenheid van vermogens van huishoudens* (CPB Notitie, 29 March 2018).

[5] R Luginbuhl and B Smid, De verscheidenheid van vermogens van Nederlandse huishoudens: update (CPB Achtergronddocument, May 2021), 9.

[6] There is a possibility of a so called high/low construction, whereby one can receive high(er) pension benefits at the beginning of retirement and lower pension benefits later. Furthermore, there are plans to introduce a 10% lump sum at retirement. However, this introduction keeps being delayed. For now, the entry into force of the right to choose a lump sum amount is postponed to July 1, 2026 (source: Ministerie van Sociale Zaken en Werkgelegenheid, *'Uitstel beoogde inwerkingtreding bedrag ineens en vooronderzoek Nibud naar keuzetool bedrag ineens'* (Kamerstuk 2025-0000040946, 13 March 2025)).

Financial assets, by contrast, are more flexible and accessible, yet are often minimal during this phase of the life course.[7]

A mismatch between savings, financing needs, and income and expenses over the life cycle increases exposure to the financial market, therefore making households more vulnerable to financial shocks. The long balances make households especially vulnerable to fluctuations in the interest rate and asset prices, specifically real-estate prices.[8] Simultaneous accumulation of illiquid assets and a large debt burden is risky because capital is exposed to risks on financial markets, illiquid assets limit disposable income while liabilities carry out credit risk, and the high debt burden also reduces disposable income.[9]

Basic microeconomic models assume perfect capital markets without any liquidity restrictions. Any individual can easily borrow money (at the same interest rate that he/she can save) when needed to optimally spread consumption over the life cycle. This would eliminate the liquidity problem. However, in practice this is obviously not the case. It is not possible for a consumer to just take out a (substantial) loan without any collateral. One (hypothetical) possibility to offset assets and debts against each other is to use pension assets to pay off mortgage debts and hence free up (some) disposable income. Let us assume that an individual has a mortgage of €100,000, retirement savings equal to €200,000 and it is possible to use one's retirement savings (freely) to redeem the mortgage.[10] In this case, €100,000 of the individual's total retirement savings of €200,000 will be used to pay back the mortgage loan. As a result, the individual no longer has a debt and still has €100,000 left in retirement savings as well as a significantly shorter balance sheet (Figure *1.3*). Even though in both cases the individual has net savings equal to €100,000, and hence the net asset position of the household does not change, the balance sheet is reduced. This makes households less sensitive to shocks that hit either side of the balance sheet.

[7] R Luginbuhl and B Smid, *De verscheidenheid van vermogens van Nederlandse huishoudens: update* (CPB Achtergronddocument, May 2021), 9–10.

[8] Wetenschappelijke Raad voor het Regeringsbeleid, *Samenleving en financiële sector in evenwicht* (WRR 2016) 121–130. This vulnerability is exacerbated by the fact that the value of the assets and the liabilities does not move synchronously. For instance, while the market value of the home is subject to fluctuation, the nominal value of the mortgage debt remains fixed. Consequently, a shock to asset prices has a leveraged impact on the household's net equity.

[9] M Kerste and others, *Evenwichtige vermogensopbouw: Hoe is de financiële weerbaarheid van Nederlandse huishoudens te vergroten?* (SEO Economisch Onderzoek 2017), 5.

[10] This is a stylised example intended solely to illustrate the arithmetic mechanism of balance sheet shortening. For a comprehensive quantitative analysis based on more realistic life-cycle income and asset accumulation, see Chapter 6.

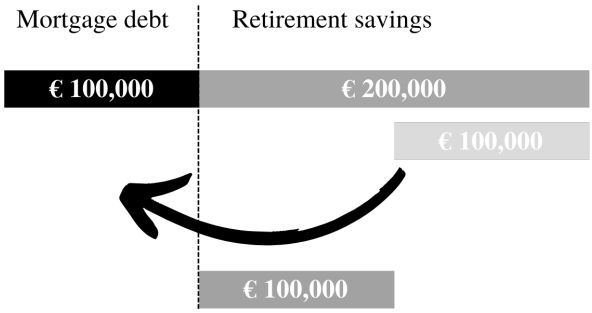

Figure 1.3: Using retirement savings to redeem mortgage

Households are also exposed to the dynamics of the financial system through the pension system. The design of the Dutch system namely contributes to fluctuations in the economy.[11] Disappointing developments in financial markets affect the value of investments of pension funds. In particular, the stock market plays an important role in this context. Volatility in equity markets can lead to significant swings in the valuation of pension fund assets, impacting their overall performance and funding status. [12]

Due to aging populations, lower-than-expected returns, and prolonged low interest rates over, pension funds have become less well-funded than before the 2008 financial crisis was assumed.[13] This underfunding has been exacerbated by fluctuating stock market returns, which directly affect the asset side of pension fund balance sheets.[14] When stock markets underperform, the value of pension fund investments declines, necessitating adjustments[15] to maintain solvency and meet future obligations.

Developments in interest rates have a profound effect on the financial position of pension funds. In the Dutch system, market interest rates play a central role in determining funding ratios. When interest rates fall, the present value of future pension liabilities increases, which puts pressure on funding ratios – even when asset returns are stable or positive.[16] Prolonged periods of low interest rates have therefore challenged the solvency position of pension funds and prompted

[11] Wetenschappelijke Raad voor het Regeringsbeleid, *Samenleving en financiële sector in evenwicht* (WRR 2016), 129; Jante Parlevliet and Thomas Kooiman, *De vermogensopbouw van huishoudens: is het beleid in balans?* (DNB Occasional Studies Vol 13–1, De Nederlandsche Bank 2015), 39.
[12] Wetenschappelijke Raad voor het Regeringsbeleid, *Samenleving en financiële sector in evenwicht* (WRR 2016), 129.
[13] J Parlevliet and T Kooiman, *De vermogensopbouw van huishoudens: is het beleid in balans?* (DNB Occasional Studies Vol 13–1, De Nederlandsche Bank 2015), 39.
[14] J Parlevliet and T Kooiman, *De vermogensopbouw van huishoudens: is het beleid in balans?* (DNB Occasional Studies Vol 13–1, De Nederlandsche Bank 2015), 39.
[15] While the regulatory framework (FTK) theoretically mandated nominal benefit cuts when coverage ratios fell below critical levels, in practice, these cuts were frequently postponed or mitigated through ad hoc policy interventions. The 'adjustment' therefore often took the form of forgone indexation (purchasing power loss) rather than nominal cuts.
[16] Wetenschappelijke Raad voor het Regeringsbeleid, *Samenleving en financiële sector in evenwicht* (WRR 2016), 128–130.

policy adjustments, including higher contribution rates and limits on benefit indexation.[17] Many pension funds have increased their premiums[18], which has come at the expense of households' disposable income and has increased labour costs for the employer.[19] As a result, the financial room for both employees and retirees has declined, which in turn influences consumption patterns.[20]

These dynamics are particularly characteristic of the previous Dutch pension system, where the funding ratio is highly sensitive to changes in market interest rates. This problem was exacerbated by the structural decline in interest rates over the past decades. As Westerhout, Ponds and Zwanenveld[21] show, the downward trend in the risk-free rate – falling to around zero per cent for ten-year bonds – was by far the most important factor behind the deterioration of pension fund funding ratios, more decisive than either the 2008 equity market crash or rising longevity. Between 2007 and 2020, pension fund assets grew at an average annual rate of 6.7 per cent, yet liabilities expanded even faster at 10.1 per cent, primarily due to this decline in discount rates.[22] As a result, average funding ratios dropped from 144 per cent in 2007 to just 95 per cent in 2020, despite higher contributions, curtailed indexation, and even nominal benefit cuts. The effect of lower interest rates also implied redistribution between generations, since the present value of younger workers' pension entitlements is much more sensitive to changes in discount rates than that of retirees.[23] From this perspective, the new Future of Pensions Act (*Wet toekomst pensioenen*, WtP) can be seen as a response to this structural vulnerability: by moving away from coverage-ratio based guarantees towards contribution-based arrangements, this direct link between interest rates and funding ratios will disappear. While market conditions will continue to matter for investment outcomes and retirement income, the reform aims to provide participants with a clearer and earlier insight into their retirement income within a more personalised and transparent system.[24]

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[17] Wetenschappelijke Raad voor het Regeringsbeleid, *Samenleving en financiële sector in evenwicht* (WRR 2016), 129.
[18] J Parlevliet and T Kooiman, *De vermogensopbouw van huishoudens: is het beleid in balans?* (DNB Occasional Studies Vol 13–1, De Nederlandsche Bank 2015), 39.
[19] J Parlevliet and T Kooiman, *De vermogensopbouw van huishoudens: is het beleid in balans?* (DNB Occasional Studies Vol 13–1, De Nederlandsche Bank 2015), 39.
[20] Wetenschappelijke Raad voor het Regeringsbeleid, *Samenleving en financiële sector in evenwicht* (WRR 2016), 129.
[21] E Westerhout, E Ponds and P Zwaneveld, 'Reforming the Dutch pension system to ensure sustainability' (2024) 77 *International Social Security Review* 99.
[22] It should be noted that this asset growth was driven significantly by the secular decline in interest rates, which increased the market value of fixed-income investments (see E Westerhout, E Ponds and P Zwaneveld, 'Reforming the Dutch pension system to ensure sustainability' (2024) 77 *International Social Security Review* 99, 110). Furthermore, under the previous regulatory framework (nFTK), intergenerational risk sharing was executed via the coverage ratio. This mechanism created an extreme financial linkage between younger and older cohorts, as interest rate fluctuations simultaneously dictated the funding levels for both current retirees and the future entitlements of active workers.
[23] E Westerhout, E Ponds and P Zwaneveld, 'Reforming the Dutch pension system to ensure sustainability' (2024) 77 *International Social Security Review* 99, 109–11.
[24] The implications of this systemic change, which moves away from coverage-ratio based guarantees toward a more transparent and personalized contribution-based framework, will be explored in more detail in Section 2.2.5.

Uncertainty surrounding the funding ratios of pension funds undermines participants' confidence in the pension system. This diminished trust can, in turn, have a reinforcing effect on household consumption behaviour and contribute to increased macroeconomic volatility.[25] From the perspective of households, it is particularly unattractive that pension premiums are raised during periods of low investment returns.[26] This issue is compounded by the compulsory nature of Dutch pension savings. Households cannot freely adjust their pension contributions in response to changing economic conditions, limiting their ability to buffer against adverse shocks.

Moreover, from a macroeconomic perspective, we cannot separate the high household debt from high household pension savings. After all, since the majority of the households already save for their pension, they have less need and less financial space to put their own money in their dwelling.[27] Vice versa also applies; in order to be eligible for mortgage interest deduction (*hypotheekrenteaftrek*), one has to repay the mortgage loan at least on an annuity basis (compulsory repayment).[28] This means that next to (quasi) mandatory pension savings, one also obligatory saves by means of mortgage repayments, resulting in even less disposable income.[29] As a result, these compulsory saving mechanisms – pension accrual and mortgage amortisation – crowd out voluntary private savings.[30] This low level of private savings increases household vulnerability to income and price shocks. If there are many households with little or no private savings, income shocks have a greater impact on their consumption behaviour. This dynamic helps explain why household consumption in the Netherlands tends to be more volatile year-on-year compared to neighbouring countries – a pattern that also amplifies macroeconomic volatility overall.[31]

Because of the rise in homeownership and house prices, the size of the mortgage portfolios managed by banks has increased considerably these past decades – and with it, the financial risks

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[25] J Parlevliet and T Kooiman, *De vermogensopbouw van huishoudens: is het beleid in balans?* (DNB Occasional Studies Vol 13–1, De Nederlandsche Bank 2015), 39.

[26] J Parlevliet and T Kooiman, *De vermogensopbouw van huishoudens: is het beleid in balans?* (DNB Occasional Studies Vol 13–1, De Nederlandsche Bank 2015) 39; Wetenschappelijke Raad voor het Regeringsbeleid, *Samenleving en financiële sector in evenwicht* (WRR 2016), 129.

[27] J Parlevliet and T Kooiman, *De vermogensopbouw van huishoudens: is het beleid in balans?* (DNB Occasional Studies Vol 13–1, De Nederlandsche Bank 2015), 21.

[28] Art 3.119a(1)(b) *Wet inkomstenbelasting 2001* (Wet IB 2001, Stb 2000, 215).

[29] This act of saving is structurally distinct due to its illiquidity. In the Dutch context, a significant portion of household wealth is effectively 'locked' (het geld zit vast) within either the pension fund or home equity. This prevents households from accessing their wealth to smooth consumption during the accumulation phase of the life cycle.

[30] Beyond simple crowding out, these mandatory mechanisms may also lead to 'oversaving,' where the aggregate level of saving exceeds the household's life-cycle requirements. Reports on pension adequacy often suggest that while Dutch households are exceptionally wealthy on a total-asset basis, the mandatory nature of the pillars leaves them structurally vulnerable to liquidity shocks because their total savings are poorly balanced between liquid and illiquid forms (see E Westerhout, E Ponds and P Zwaneveld, 'Reforming the Dutch pension system to ensure sustainability' (2024) 77 *International Social Security Review* 99, 110–111; see also R Musgrave and P Musgrave, *Public Finance in Theory and Practice* (5th edn, McGraw-Hill 1989) 448–450 on the risks of intergenerational disequilibrium).

[31] J Lukkezen and A Elbourne, *De Nederlandse consumptie: Goede tijden, slechte tijden* (CPB Policy Brief 2015/03, Centraal Planbureau 2015), 5–13.

for banks – while deposits stayed behind.[32] This is partly because households have largely allocated their savings to pension funds rather than keeping them in bank accounts. The result is a gap between the loans provided, and the deposits – traditionally used to fund the loans – that are held by the bank. A phenomenon also known as the 'deposit gap'. To bridge this gap, Dutch banks have increasingly relied on capital markets for funding. Since the 2008 financial crisis, however, international investors have become more cautious about the Dutch mortgage market[33], leading to greater scrutiny and, at times, tighter financing conditions for banks.[34]

In addition, the high private household debt contributes to fluctuations in the economy. Although, in theory, households should be able to spread the impact of a financial shock like a fall in house prices over the rest of their life cycle, such a shock is often associated with significant macroeconomic effects.[35] Long household balances – characterised by high assets and liabilities – not only expose households to greater financial risk but also exacerbate the procyclicality of the Dutch economy.[36]

Given these vulnerabilities, it is relevant to explore (policy) solutions that could help shorten the balance sheets of Dutch households – making them less sensitive to financial shocks – without sacrificing pension provisions or homeownership. This research aims to identify such solutions by examining ways in which retirement savings and real estate investment might be more effectively integrated in the Netherlands. To find these solutions, the analysis draws on a comparative study of three other European countries that – to varying degrees – allow and/or encourage households to combine retirement savings and real-estate purchases. By examining the institutional designs and policy instruments employed in these countries, this research seeks to assess their potential applicability in the Dutch context.

1.1.1 Relevance

To my knowledge, no existing academic literature offers a fully developed and integrated solution for shortening Dutch household balance sheets through the combination of retirement

[32] J Jansen and others, *Financieringsproblemen in de hypotheekmarkt* (DNB Occasional Studies Vol 11–1, De Nederlandsche Bank 2013), 9.
[33] J Jansen and others, *Financieringsproblemen in de hypotheekmarkt* (DNB Occasional Studies Vol 11–1, De Nederlandsche Bank 2013), 7.
[34] J Parlevliet and T Kooiman, *De vermogensopbouw van huishoudens: is het beleid in balans?* (DNB Occasional Studies Vol 13–1, De Nederlandsche Bank 2015), 38.
[35] F van Es and H Kranendonk, *Vermogensschokken en consumptie in Nederland* (CPB Achtergronddocument, 18 March 2014), 12–15. While the life-cycle hypothesis suggests that households should be able to smooth consumption over time, this assumes perfect capital markets and asset liquidity. In practice, the 'theory' often fails because housing wealth is illiquid. A decline in house prices becomes macroeconomically significant when it coincides with individual-level shocks, such as unemployment or divorce – often referred to as the 'double trigger' effect. When a large cohort of households is simultaneously unable to access their 'locked' wealth to buffer income shocks, individual heterogeneity aggregates into the observed procyclicality of the Dutch economy.
[36] J Parlevliet and T Kooiman, *De vermogensopbouw van huishoudens: is het beleid in balans?* (DNB Occasional Studies Vol 13–1, De Nederlandsche Bank 2015), 5.

savings and real estate ownership. Most studies address either pensions or the housing market in isolation.[37] Some consider both domains, but typically within the broader context of long-term care systems.[38] Several policy proposals do touch on the intersection of the two – for example, the legislated but delayed lump sum withdrawal option at retirement (*Wet bedrag ineens*) and the development of participation mortgages to mobilise housing equity.[39] However, these initiatives either target a narrow window (e.g., retirement only) or introduce supplementary debt instruments rather than reducing overall household leverage.[40] Moreover, they do not provide a structural framework for integration throughout the life course. Chapter 2 returns to these proposals in greater detail, situating them within the broader Dutch policy context.

While Dutch households appear wealthy on an aggregate basis, the structural illiquidity of this wealth – concentrated in pension entitlements and home equity – creates a dual-layered problem.[41] At the micro level, individuals lack the liquid buffers to handle 'double trigger' shocks, where a house price drop coincides with a life event like job loss or divorce. At the macro level, these individual constraints aggregate into significant consumption volatility and economic procyclicality.[42] The 'average' well-being thus masks a structural financial rigidity that this research seeks to address.[43] Effectively addressing the issue of long household balance sheets requires a coherent approach that considers both the pension system and homeownership in tandem.

Effectively addressing the issue of long household balance sheets requires a coherent approach that considers both the pension system and homeownership in tandem. This thesis specifically investigates how combining retirement savings with real estate purchases can contribute to shortening household balance sheets in the Netherlands, thereby reducing financial vulnerability without undermining pension adequacy or homeownership levels.

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[37] See e.g., GMCM Staats, *Personal Pensions in the EU: Guidelines for an Integrated Model* (Wolf Legal Publishers 2014); PHJ Essers, 'Stop fiscaal ontmoedigen aflossen hypotheekschuld' (2007) NTFR 2007/1896; AMA Bijvoet, *Owner-Occupied Dwelling and Income Taxes: A Synopsis of Eight European Countries* (Uitgeverij Eburon 2001).

[38] See e.g., F Bart, B Boon, L Bovenberg, C van Ewijk, N Kortleve, E Rebers and M Visser, *De routekaart naar een meer integrale benadering van wonen, zorg en pensioen* (Netspar, January 2016); J Conijn, B Kramer, J Rouwendal and F Schilder, *Verzilveren van overwaarde: De mogelijkheden van het woninghezit in de bekostiging van wonen, zorg en pensioen* (ASRE Research Paper DP 03/2014–034, Amsterdam School of Real Estate 2014).

[39] Commissie Draagkracht, *Rapport van de Commissie Draagkracht* (Ministerie van Financiën 2021) <https://open.overheid.nl/documenten/ronl-ae333b50-ca92-4207-b0fa-2b94bee002fc/pdf> accessed 22 April 2025.

[40] C van Ewijk, A Gielen, M Knoef, M Mastrogiacomo and A Slager, Participatiehypotheken als impuls voor mobiliseren woningkapitaal: een interessante optie voor pensioenfondsen (Netspar Design Paper No 220, 2023).

[41] See e.g., J Parlevliet and T Kooiman, 'De vermogensopbouw van huishoudens: is het beleid in balans?' (DNB Occasional Studies Vol 13–1, De Nederlandsche Bank 2015).

[42] F van Es and H Kranendonk, 'Vermogensschokken en consumptie in Nederland' (CPB Achtergronddocument, 18 March 2014) 12–15.

[43] E Westerhout, E Ponds and P Zwaneveld, 'Reforming the Dutch pension system to ensure sustainability' (2024) 77 *International Social Security Review* 99, 110–111.

Although frequently cited as one of the strongest globally[44], the Dutch pension system has increasingly placed responsibility on individuals to secure adequate retirement income – a trend further institutionalised by the recent introduction of the Future of Pensions Act (*Wet toekomst pensioenen*, Wtp). This shift is partly driven by structural challenges faced by all EU Member States in financing their retirement systems – including demographic ageing and shrinking workforces, which place pressure on traditional pay-as-you-go models. At the same time, societal preferences have shifted toward greater individual autonomy in pension planning. These developments have made second- and third-pillar pension provisions increasingly important in the Netherlands.

In recent years, approximately two-thirds of Dutch households have owned their primary residence.[45] This relatively high level of homeownership can be partly explained by the favourable treatment of owner-occupied housing in the Dutch tax system. For example, the Netherlands has long offered mortgage interest deduction (MID), encouraging households to take on mortgage debt. In addition, the use of an imputed rental value (*eigenwoningforfait*) and the classification of owner-occupied dwellings under Box 1 – rather than Box 3, where most other forms of capital are taxed – result in a relatively low effective tax burden on housing wealth.[46] As a result, it is common practice to finance home purchases through substantial mortgage loans, with the majority of homeowners benefiting from this preferential tax treatment.[47]

Since the introduction of the Dutch income tax system in the early twentieth century, the classification of the owner-occupied dwelling has been a recurring subject of debate.[48] In particular, the treatment of homeownership under Box 1 of the Income Tax Act – which traditionally applies to labour and primary income – has drawn criticism. Both the Tax System Study Committee (*Studiecommissie Belastingstelsel*[49]) and the Income Tax and Allowances Committee (*Commissie Inkomstenbelasting en Toeslagen*[50]) have questioned whether this placement is consistent with the principle of fiscal neutrality, given that the resulting debt bias encourages the maintenance of long household balance sheets.[51]

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[44] In 2022, the Australian Centre for Financial Studies and Mercer rated the Dutch pension system second in the world (only slightly surpassed by Iceland), while in 2023 the Netherlands regains the top spot again (and still has it in 2024).
[45] Centraal Bureau voor de Statistiek (CBS), 'Voorraad woningen; eigendom, type verhuurder, bewoning, regio' (StatLine, last updated 8 October 2024) <https://opendata.cbs.nl/statline/#/CBS/nl/dataset/82900NED/table?fromstatweb> accessed 14 May 2025.
[46] More about the tax treatment of the owner-occupied dwelling in the Netherlands can be found in para 2.3.3.
[47] See also PHJ Essers, 'Stop fiscaal ontmoedigen aflossen hypotheekschuld' (2007) NTFR 2007/1896.
[48] See e.g., Studiecommissie Belastingstelsel, *Continuïteit en vernieuwing: Een visie op het belastingstelsel* (Ministerie van Financiën 2010) <https://zoek.officielebekendmakingen.nl/blg-60928.pdf> accessed 14 May 2025; Commissie Inkomstenbelasting en Toeslagen, *Naar een activerender belastingstelsel. Eindrapport* (Ministerie van Financiën 2013) <https://www.tweedekamer.nl/downloads/document?id=2013D25548> accessed 14 May 2025.
[49] Also known as the *Commissie van Weeghel* (2010).
[50] Also known as the *Commissie van Dijkhuizen* (2013).
[51] Studiecommissie Belastingstelsel, *Continuïteit en vernieuwing: Een visie op het belastingstelsel* (Ministerie van Financiën 2010) <https://zoek.officielebekendmakingen.nl/blg-60928.pdf> accessed 14 May 2025, 33–34, 50, 74–77; Commissie Inkomstenbelasting en Toeslagen, *Naar een activerender belastingstelsel. Eindrapport* (Ministerie van Financiën 2013) <https://www.tweedekamer.nl/downloads/document?id=2013D25548> accessed 14 May 2025, 71–72.

In the current literature, two distinct perspectives can be identified. One strand argues that the owner-occupied dwelling does not belong in the income tax system at all. Proponents of this view advocate for defiscalisation, often arguing that owner-occupied dwellings function primarily as private assets for consumption rather than as a source of taxable income. The opposing view holds that owning a home does generate income – specifically in the form of imputed rent – and therefore maintains that its inclusion in the tax base is a requirement of the ability-to-pay principle. However, many of these authors identify a misalignment with its current classification under Box 1 and argue that a move to Box 3, alongside other forms of capital, would restore fiscal neutrality.[52]

Over the past years, several studies have also assessed the owner-occupied home scheme (*eigenwoningregeling*). SEO concluded that the current scheme is neither efficient nor demonstrably effective.[53] Panteia went further, stating that its complexity not only undermines efficiency but also hinders correct application in practice.[54]

While owner-occupied dwellings function as both investments and durable consumer goods, and debates continue regarding the implications of full mortgage interest deduction, an additional – and increasingly relevant – question has emerged: *how can Dutch household balance sheets be shortened through the integration of retirement savings with real-estate ownership?* Lessons can be drawn from international approaches, where many European systems allow for the integration of retirement savings with homeownership. The lack of such options characterises the Netherlands as an international outlier regarding household leverage. While a unique institutional path in not inherently disadvantageous, this research seeks to determine if such integration could alleviate the structural financial rigidity that leaves Dutch households vulnerable to economic shocks.

However, it is important to recognise that each national system has been shaped by unique historical, cultural, and demographic developments. Nonetheless, examining approaches in other countries offer useful insights for improving the Dutch system. Given the semi-mandatory nature of pension participation and the fact that most residences are privately owned, any reform in this area would have widespread implications for Dutch households.

The absence of clear solutions in existing literature, the growing policy relevance of this issue, and my personal interest in this intersection form the motivation for this research. Several

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[52] See e.g., GMCM Staats, *Personal Pensions in the EU: Guidelines for an Integrated Model* (Wolf Legal Publishers 2014); RHJM Gradus, 'Aan overheveling van eigen woning naar box 3 kleven forse risico's' (2022) *WFR* 2022/14; C Bruijsten, 'Eigenwoningregeling: tijd voor een algehele herziening?' (2018) *WFR* 2018/148; IJFA van Vijfeijken and MMFJ van Bakel, 'De fiscale subsidiëring van de eigen woning onder vuur' (2011) *WPNR* 6903, 861–868; AMA Bijvoet, *Owner-Occupied Dwelling and Income Taxes: A Synopsis of Eight European Countries* (Uitgeverij Eburon 2001).
[53] SEO Economisch Onderzoek, *Evaluatie doeltreffendheid en doelmatigheid eigenwoningregeling* (Report no 2019–61, August 2019) <https://www.seo.nl/wp-content/uploads/2020/07/2019-61-Evaluatie-doeltreffendheid-en-doelmatigheid-eigenwoningregeling.pdf> accessed 16 May 2025.
[54] Panteia, *Evaluatie complexiteit fiscale eigenwoningregeling* (Zoetermeer, July 2019), 102 <https://www.eerstekamer.nl/overig/20191213/bijlage_2_evaluatie_complexiteit/document> accessed 16 May 2025.

options for shortening household balance sheets could be considered, such as reducing the maximum loan-to-value (LTV) ratio for mortgages or eliminating mandatory pension participation. However, while such measures may be effective in isolation, they involve structural trade-offs regarding the long term adequacy of retirement income and the accessibility of the owner-occupier market.

This research therefore explicitly seeks solutions that integrate retirement savings with homeownership, while maintaining both a high level of pension security and widespread homeownership. By exploring ways to combine the housing and pension domains, this thesis aims to develop a policy model that could shorten household balance sheets while safeguarding pension adequacy and housing affordability. To that end, the study offers an in-depth analysis of the Dutch pension system, the owner-occupier housing market, and relevant international experiences, with the goal of identifying directions for reform and proposing an integrative model tailored to the Dutch context.

1.2 Research purpose, problem, and criteria

The main aim of this research is to design and evaluate a practical model for shortening the long household balance sheets in the Netherlands – addressing both micro-level household vulnerability and macro-level systemic risk – through the integration of retirement savings with real estate ownership. To achieve this, the study undertakes a comparative legal analysis of three European countries that (to varying degrees) combine retirement savings and homeownership. By learning from these systems, the study explores whether and how such approaches could help address the long balance sheet problem in the Netherlands, while balancing the continued adequacy of pensions with the accessibility of the owner-occupier market.

The goal is to arrive at concrete policy recommendations that mitigate the financial vulnerabilities associated with long household balance sheets, without diminishing pension accrual or reducing homeownership rates. These proposed solutions will be evaluated using the review framework presented in section 1.2.3. While an in-depth benchmarking of the current Dutch system against the review framework is not the main objective, the analysis in Chapter 2 provides a substantive foundation for contextualising the Dutch pension and housing systems in light of the proposed criteria.

1.2.1 Comparative perspective

This research seeks solutions to a specific (tax) issue: combining retirement savings and real estate ownership. Comparative analysis offers a valuable method for identifying potential

innovations in this area, as legal systems abroad may contain alternative approaches that could inspire improvements or adaptations within the Dutch framework.[55]

The study focuses on a comparison of the legal and policy frameworks governing retirement provisions and owner-occupied housing in the Netherlands, Germany, the United Kingdom, and Switzerland – with particular attention to how these systems enable (or restrict) the use of pension assets for homeownership. While the Netherlands serves as a benchmark for which I search for solutions to shorten long household balance sheets, I look for inspiration in the three other countries.

Germany, the UK, and Switzerland are all high(er)-income European democracies with developed welfare states and tax systems. Their socio-legal contexts provide a sound basis for meaningful legal and policy comparison. Each operates a mature, three-pillar pension system structurally similar to the Dutch model. However, they diverge in terms of flexibility, personal responsibility, and the role of pensions in household asset formation – making them especially relevant comparators. Moreover, Germany and Switzerland are frequently identified in the literature as paradigmatic European cases of institutionalised arrangements linking long-term savings and housing finance, most notably through contractual savings schemes and regulated early access to pension assets.[56] The United Kingdom is included as the historical point of departure, as mutual housing finance originated there through the emergence of building societies, which later inspired comparable saving-for-housing models elsewhere in Europe – including the German *Bausparen*.[57]

Against this background, the research initially focused on Germany's *Bausparen* system, analysed as the archetypal example of contractual housing savings extensively discussed in the housing finance literature.[58] However, as the research progressed, it became evident that *Bausparen* alone could not address the broader financial rigidity of Dutch household balance sheets. Subsequent case studies of Switzerland and the United Kingdom – including field visits – revealed more flexible approaches. Switzerland was selected as the prominent case study for the direct

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[55] M Van Hoecke, 'Methodology of Comparative Legal Research' (2015) *Law and Method* <https://doi.org/10.5553/REM/.000010>, 2; HP Glenn, 'Aims of Comparative Law' in JM Smits (ed), *Elgar Encyclopedia of Comparative Law* (Edward Elgar 2006), 57.

[56] See U Scholten, 'Rotating Savings and Credit Associations in Developed Countries: The German–Austrian Bausparkassen' (2000) 28(2) *Journal of Comparative Economics* 340; AH Börsch-Supan and K Stahl, 'Do savings programs dedicated to homeownership increase personal savings? An analysis of the West German Bausparkassen system' *Journal of Public Economics* (1991) 265; M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 10026; SC Bourassa and M Hoesli, 'Why Do the Swiss Rent?' (2010) 40 *Journal of Real Estate Finance and Economics* 286.

[57] Verband der privaten Bausparkassen e.V., 'The Bauspar System in Germany' (June 2023) 5; see also J Braun, H-P Burghof, M Gehrung and D Schmidt, 'Contractual Saving for Housing as Early Financial Development and Its Clients in Weimar Germany' (2021) *SSRN Electronic Journal* <https://doi.org/10.2139/ssrn.3805839>.

[58] See U Scholten, 'Rotating Savings and Credit Associations in Developed Countries: The German–Austrian Bausparkassen' (2000) 28(2) *Journal of Comparative Economics* 340; AH Börsch-Supan and K Stahl, 'Do savings programs dedicated to homeownership increase personal savings? An analysis of the West German Bausparkassen system' *Journal of Public Economics* (1991) 265.

mobilisation of occupational pension assets,[59] while the United Kingdom was included not only as the historical point of departure, but also as the pioneer of recent flexibility reforms, initiating the shift toward dual-purpose savings vehicles.[60] These insights shaped the eventual comparative design, allowing pension savings to support homeownership across different life stages.

The selected countries represent a spectrum of owner-occupation. The Netherlands has one of the highest homeownership rates in Europe at around 70%. However, over 90% of Dutch homeowners hold an outstanding mortgage – one of the highest shares in the OECD, reflecting elevated leverage levels among households.[61] By contrast, Germany and Switzerland exhibit some of the lowest owner-occupancy rates in Europe (approximately 50% and 42%, respectively[62]), yet both maintain targeted systems for integrating pensions with home financing. Germany's use of *Wohn-Riester* subsidies and *Bausparen* shows how pension-linked savings and homeownership can coexist even in low-ownership contexts. The UK, with a homeownership rate of approximately 65% and a high proportion of mortgaged homeowners[63], complements its occupational pension system with policy instruments that incentivise long-term savings for housing. This diversity allows for a richer understanding of how pension–housing links can operate under varying tenure structures and policy philosophies. As the OECD notes, these systems illustrate how housing is not only a social goal but also a financial instrument embedded in long-term household planning strategies.[64]

Germany, Switzerland, and the UK offer distinct pathways for linking pension savings and homeownership and each country provides specific tools and lessons:

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[59] See M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 10026; SC Bourassa and M Hoesli, 'Why Do the Swiss Rent?' (2010) 40 *Journal of Real Estate Finance and Economics* 286.

[60] Taxation of Pensions Act 2014; see also J Cribb and P Simpson, 'Barriers to Homeownership for Young Adults' in C Emmerson, C Farquharson and P Johnson (eds), *The IFS Green Budget: February 2018* (Institute for Fiscal Studies 2018).

[61] Eurostat, 'Distribution of population by tenure status, type of household and income group – EU-SILC survey, table ILC_LVHO02, custom extract 2025' (Eurostat Data Browser) <https://ec.europa.eu/eurostat/databrowser/view/ilc_lvho02__custom_17386467/default/table> accessed 9 July 2025.

[62] Eurostat, 'Distribution of population by tenure status, type of household and income group – EU-SILC survey, table ILC_LVHO02, custom extract 2025' (Eurostat Data Browser) <https://ec.europa.eu/eurostat/databrowser/view/ilc_lvho02__custom_17386467/default/table> accessed 9 July 2025.

[63] Eurostat, 'Distribution of population by tenure status, type of household and income group – EU-SILC survey, table ILC_LVHO02, custom extract 2025' (Eurostat Data Browser) <https://ec.europa.eu/eurostat/databrowser/view/ilc_lvho02__custom_17386467/default/table> accessed 9 July 2025; see also Eurostat, 'Tenure status with and without mortgage/housing loan, table ilc_lvho02__custom_17386590' (Eurostat Data Browser) <https://ec.europa.eu/eurostat/databrowser/view/ilc_lvho02__custom_17386590/default/table> accessed 9 July 2025.

[64] D Andrews and A Caldera Sánchez, *Drivers of Homeownership Rates in Selected OECD Countries* (OECD Economics Department Working Papers No 849, 18 March 2011) <https://dx.doi.org/10.1787/5kgg9mcwc7jf-en> accessed 30 June 2025, 5, 7, 23.

- Germany combines state-subsidised schemes like *Wohn-Riester* with *Bausparen* – a hybrid savings-financing model that supports long-term asset building (see chapter 3).
- Switzerland allows early withdrawal of second- and third-pillar pension savings for owner-occupied housing and commonly uses pension-backed mortgages (see chapter 5).
- The UK, while generally prohibiting early pension withdrawal, offers Lifetime ISAs as a parallel track that supports both retirement saving and first-time home purchase through tax incentives and state co-financing (see chapter 4).

Other countries, such as the United States and Australia, also offer examples of pension–housing integration – including early access to 401(k) plans and superannuation-linked homebuyer schemes. However, they were not included in this study for a couple of reasons. First, countries like the United States and Australia rely predominantly on capital-funded, individual account-based pension systems, placing greater emphasis on private provision and market returns than many continental European countries, which tend to combine collective and earnings-related public schemes with occupational pensions.[65] Second, including additional non-European countries would have broadened the comparative framework excessively, diluting the depth of the comparative analysis with systems more closely aligned to Dutch legal and policy traditions. Finally, since this thesis also considers compliance with EU law, focusing on countries within – or closely associated with – the EU ensures greater normative and regulatory alignment. Switzerland, though not an EU Member State, participates in the Single Market through a series of bilateral agreements with the EU, which align many of its regulatory frameworks with EU standards, including in areas such as free movement, financial services, and taxation.[66]

By comparing the pension systems, the owner-occupied housing markets, the opportunities for combining retirement savings with real-estate purchases in these four countries – and contextualising them within each jurisdiction's tax and legal framework – this research aims to identify lessons and formulate a viable solution for addressing the long household balance sheets in the Netherlands.

[65] R Holzmann, 'Global Pension Systems and Their Reform: Worldwide Drivers, Trends and Challenges' (2013) 66(2) *International Social Security Review* 1 <https://doi.org/10.1111/issr.12007>.
[66] European Commission, 'Switzerland – EU Relations' (2024) <https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/switzerland_en> accessed 7 July 2025.

1.2.2 Research problem

The central research problem in this dissertation is:

Is it possible to shorten the long balance sheets of Dutch households by combining retirement savings and real estate purchases, while safeguarding pension adequacy and maintaining housing affordability? If so, what could such a system look like?

The research objective set out above can be divided into three sub-objectives, each with corresponding sub-questions:

1. To provide insight into the characteristics that contribute to the long balance sheets of Dutch households (chapter 2):
   1.1. Which elements are characteristic of the Dutch pension system?
   1.2. Which elements are characteristic of the Dutch owner-occupier housing market?
   1.3. What role do taxes and tax policies play herein?
2. To provide insight into the design and background of the pension systems and owner-occupier housing markets – and how these domains are integrated – in Germany, the United Kingdom, and Switzerland (chapters 3, 4, and 5):
   2.1. Which elements are characteristic of the pension systems in Germany, the United Kingdom, and Switzerland?
   2.2. Which elements are characteristic of the owner-occupier housing market in Germany, the United Kingdom, and Switzerland?
   2.3. How do these countries combine retirement savings with real-estate purchases?
   2.4. What role do taxes and tax policies play herein?
3. To develop and evaluate a potential model for integrating retirement savings with real-estate purchases in the Netherlands from insights gained from international comparison (Germany, the United Kingdom, and Switzerland), to address the problem of long household balance sheets in the Netherlands (chapter 6):
   3.1. What are the key design elements of a Dutch model that would enable the use of retirement savings for owner-occupied housing, while safeguarding pension adequacy and housing affordability?
   3.2. To what extent does this model meet the institutional, legal, and macroeconomic requirements for implementation in the Dutch context?

The sub-questions under sub-objectives 1 and 2 are descriptive and explanatory in nature. The sub-questions under sub-objective 3 form the evaluative and design-oriented part of this dissertation. This includes a comparative legal analysis, the development of a potential Dutch model, and an assessment of its suitability for addressing the problem of long household balance sheets in the Netherlands.

1.2.3 Elements of the review framework

In answering the research questions, the following criteria will be dealt with:

1. The proposed model shortens Dutch household balance sheets by combining retirement savings and real estate purchases.
2. The solution maintains fair taxation (based on the ability to pay principle) and efficient taxation (minimizing deadweight loss), as further detailed in section 1.2.3.2 below.
3. The pension system remains adequate (maintaining a sufficient replacement rate), safe (protected against market volatility) and sustainable (financially viable for future generations) after the proposed changes. It is accessible for all individuals to maintain their standard of living after retirement and does not undermine the current (quasi-) mandatory participation, as further detailed in section 1.2.3.3 below.
4. The solution is feasible to implement within the existing Dutch regulatory framework, avoiding excessive complexity or the need for major system changes.
5. The solution supports, or at least does not further tighten, the accessibility of the owner-occupier housing market.
6. The solution complies with EU law.

The assessment will consider both the perspective of individual taxpayers (with pension entitlements and an owner-occupied home) and the government. The following sections further elaborate on each criterion.

1.2.3.1 Shortening household balance sheets

A key criterion for evaluating the proposal is its ability to integrate retirement savings and real estate purchases effectively. The solution should provide structured purpose-bound mechanisms that allow and incentivise Dutch households to leverage their retirement funds for qualified real estate investments, resulting in a shorter household balance sheet. This criterion emphasises the need for a solution that reduce households' financial liabilities and streamline their financial positions. By focussing on this integration, it highlights the importance of approaches that enhance financial stability and resilience at both the individual and macroeconomic levels. While such flexibility introduces an inherent risk that funds could be used to satisfy present-biased consumption preferences, the evaluation will focus on whether the proposed model incorporates effective safeguards to protect long-term pension adequacy. The ability to align retirement savings and real estate investments more efficiently is expected to contribute to a stronger financial foundation for households, ultimately supporting broader economic well-being and security.

1.2.3.2 Fair and efficient taxation

The proposal arising from this research are tested against the concepts of *fairness* and *efficiency*. Taxation must be efficient, meaning that the costs of the taxation should be as low as possible in relation to the tax revenue.

The efficiency requirement also means that taxation must not frustrate economic life.[67] Taxes also impose a cost on the taxpayer. These costs do not simply entail the amount of the tax but also the fact that a tax distorts economic decisions: it creates an excess burden. An excess burden is a loss of welfare above and beyond the tax revenues collected – also known as welfare cost or deadweight loss.[68]

The principle of justice concerns the question of how to achieve fair taxation, i.e., how the burden should be shared among taxpayers.[69] Everyone can think of something when hearing the word *justice*: *fair, acceptable, right,* etc. This seems to be rather subjective and therefore not suitable as an assessment criterion. However, Gribnau states that by developing several assessment criteria in the form of principles from the central idea of justice, coupled with certain aspects of legal equality and legal certainty, the "great" ideal justice is operationalised in more tangible, but still general, elements or assessment criteria. These elements, in the form of legal principles – mostly general principles of law – can then be used in the various parts of the evaluation.[70] In other words, by formulating further – concrete – principles, it is possible to develop useable assessment criteria.

For me, and therefore in this research, fair taxation is synonymous with the principle of ability to pay. This principle serves as the main starting point for evaluating tax fairness. However, other principles must also be respected: equality, legal certainty, and practicability and enforceability. Each of these concepts is elaborated below. In testing the proposed solution against these principles, the primary focus will be on income taxation. [71]

A fair and efficient tax system is assessed from two perspectives: that of the Dutch government, and that of the taxpayer. Not all concepts or evaluation criteria apply equally to both perspectives. Accordingly, some are assessed primarily from the government's standpoint, while others are considered mainly from the taxpayer's point of view.

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[67] RMPG Niessen-Cobben and RECM Niessen, *Wegwijs in de Fiscaliteit* (Wegwijs Reeks no 02, Sdu 2014), para 2.4.1.
[68] HS Rosen and T Gayer, *Public Finance* (9th edn, McGraw-Hill International 2010), 329.
[69] RMPG Niessen-Cobben and RECM Niessen, *Wegwijs in de Fiscaliteit* (Wegwijs Reeks no 02, Sdu 2014), para 2.4.2.
[70] JLM Gribnau, 'Rechtsbeginselen en evaluatie van belastingwetgeving' in *Vijf jaar Wet IB 2001* (Kluwer 2006), 27-28.
[71] A detailed examination of other taxes – such as VAT, capital gains tax, and transfer tax – falls outside the scope of this research.

Ability to pay

Ability to pay is one of the most important principles when it comes to shaping income taxes. The idea behind the ability to pay principle is simple. If someone has no ability to pay, this person cannot pay taxes. If a person does have the capacity to pay, he/she must contribute to the treasury.[72] The ability to pay principle is primarily based on the principle of equality. This means that persons with the same ability to pay (e.g., equal income), pay an equal amount in taxes. This is also known as horizontal equality. However, when they have an unequal income, their ability to pay is unequal. The question is, *how* unequal? This concerns the proportional application of the principle of equality, also known as vertical equality.[73] According to the ability to pay principle, the tax burden must be distributed among individuals in such a way that the load capacity ratio before- and after taxation is equal.[74] In other words, it aims to realize taxation on the increase in income[75] in a way that asks all taxpayers for an equal contribution.[76] What is meant by *equal contribution* is not defined by the ability to pay principle. It cannot be assessed solely on income taxes or taxes in general. Ideally, the whole of institutions, provisions and expenditures for social justice should be included in the assessment. The principle of ability to pay should thus be projected on the total tax system and not just on one part of it. Nevertheless, the ability to pay principle is very important when looking at income tax.[77]

In the context of this research, the above implies that the ability to pay principle as such does not dictate in advance *how* pension benefits and homeownership are taxed, it merely dictates *that* it will be taxed.[78] Within the Dutch tax system, income is also seen as a form of ability to pay. The Dutch income tax therefore takes "income" as a measure of the levy.[79] Both pension benefits and income from homeownership are part of the Dutch income tax system.[80]

With respect to pensions, the EET system seems a logical consequence of the ability to pay principle, since income that is set aside for retirement provision is no income that can be consumed and hence should not be taxed at that moment. In other words, it is no current taxable income in this view. When the pension benefit is received, this does qualify as income that can be consumed and hence is taxed. With respect to homeownership, imputed rental income is an increase in ability to pay, whereas the payment of mortgage interest is considered a decrease in ability to pay in the Dutch income tax system.

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[72] GMCM Staats, Personal Pensions in the EU: Guidelines for an Integrated Model (Wolf Legal Publishers 2014), 42.
[73] LGM Stevens and RC de Smit, *Elementair Belastingrecht: Theorieboek* (30th rev edn, Wolters Kluwer 2014), 11.
[74] CA de Kam, *Overheidsfinanciën* (15th edn, Noordhoff Uitgevers 2018), 252.
[75] This can be e.g., an increase labour income but also a capital gain.
[76] B Starink, Belastingheffing over particulierpensioen en overheidspensioen in grensoverschrijdende situaties (PhD thesis, Tilburg University 2015), 16.
[77] JLM Gribnau, 'Rechtsbeginselen en evaluatie van belastingwetgeving' in *Vijf jaar Wet IB 2001* (Kluwer 2006), 63.
[78] Due to the scope and focus of this study, I deliberately refer to pension benefits and homeownership, rather than income in general.
[79] GMCM Staats, Personal Pensions in the EU: Guidelines for an Integrated Model (Wolf Legal Publishers 2014), 43.
[80] Both are included in Box 1: taxable income from labour and the main residence, under chapter 3 of the Dutch Income Tax Act 2001 (*Wet inkomstenbelasting 2001*, Wet IB 2001, Stb 2000, 215).

Equality

The principle of equality is based on the well-known adage that equal cases should be treated equally, and unequal cases should be treated differently according to their degree of inequality. Equal treatment of equal cases is a fundamental principle of the Dutch legal order. Since 1983, this has been explicitly enshrined in Article 1 of the Dutch Constitution, which states:

> *All persons in the Netherlands shall be treated equally in equal circumstances (…).*

In practice, the principle of equality can be difficult to apply as an objective assessment criterion. It requires further specification in concrete applications, as what matters is not absolute equality, but equality as defined in the context of the specific regulation under consideration.

In this research, the focus lies on combining retirement savings with real estate purchases to shorten the long household balance sheets of Dutch households. Dutch taxpayers with retirement savings (in the second and/or third pillar) and an owner-occupied dwelling should therefore be treated equally in this respect. However, distinctions may be drawn within this group based on, for example, income level, savings, or the value of the dwelling.[81]

Legal certainty

People want to know where they stand in relation to their legal position. Clear and concrete legislation contributes to this. Taxpayers must be able to obtain reliable information about their rights and obligations. They must not only be able to locate the relevant rules, but those rules must also be formulated in an understandable way that avoids ambiguity. Legal certainty therefore requires that taxpayers can know, at any given moment, what is expected of them. The lack of transparency in today's often complex tax legislation can hinder taxpayers from aligning their behaviour with the law. Legal certainty is thus promoted by clear and, where possible, simple legislation.[82]

Within this research, the principle of legal certainty is understood in terms of *simplicity*, *clarity*, and *accessibility* – in line with the requirements set by the Dutch legislator in its memorandum on legislation. The memorandum stresses that those confronted with the rules (the taxpayer), and those applying them (administration and judiciary), must have a clear understanding of what the legislator intends, and of what they may, must, or must not do. This places high demands on the wording, structure, and design of legislation.[83] Accordingly, in the context of combining retirement savings and real estate ownership, tax rules must be formulated as clearly and simply as possible, to ensure legal certainty for taxpayers.

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[81] This is already reflected in the current Dutch legal framework. Hence, the aim of this research is not to alter these legal principles, but rather to explore how household balance sheets might be shortened by combining retirement savings with real estate purchases – while safeguarding pension adequacy and maintaining housing affordability.
[82] JLM Gribnau, 'Rechtsbeginselen en evaluatie van belastingwetgeving' in *Vijf jaar Wet IB 2001* (Kluwer 2006), 42-43.
[83] Kamerstukken II 1990/91, 22 008, nrs 1–2, 'Zicht op wetgeving 1991' 30.

Practicability and enforceability

Legal rules – including those governing retirement savings and real estate ownership – must strike a balance between fairness and efficiency.[84] The quality requirement of practicability and enforceability is closely linked to the principle of legal certainty. The legislator emphasises that legislation must be both practicable and enforceable. For enforceability, it is crucial that adequate capacity and expertise are available within the responsible executive bodies.[85]

Practicability and enforceability also form part of the broader principle of efficiency. These qualities are essential for any legal rules that aim to shape behaviour among citizens, companies, institutions, and government. Laws that are insufficiently practicable or unenforceable risk becoming mere symbolic gestures or "dead letters." Enforceability refers not only to the legal capacity to respond to non-compliance, but also to the actual ability to take effective action. In this regard, digitalisation and the level of system automation have become increasingly important.[86]

From the perspective of taxpayers, enforceability is particularly relevant to tax returns and administrative burdens. This is often referred to as the "principle of least pain" – meaning that tax systems should be organised as efficiently as possible, with procedures designed to minimise resistance to tax compliance through a smooth and straightforward levy process.[87]

1.2.3.3 Adequate, safe, and sustainable pension system

Following the proposed changes, the pension system must remain adequate, safe, and sustainable. It must continue to provide sufficient income for retirees to maintain their standard of living, while offering protection against financial risks such as market volatility and economic downturns. Sustainability is also essential – ensuring that pension funds remain viable over the long term, without placing undue burdens on future generations and maintaining intergenerational solidarity. In line with the evolving Dutch pension landscape, this criterion focuses on supporting the equitable sharing of financial risks between generations rather than maintaining traditional collective buffers. Additionally, the system should remain accessible to all individuals, retaining its quasi-mandatory character to ensure broad participation, which is essential for its long-term viability and solidarity.

View of the European Commission and the European Semester

Ageing populations present major challenges for pension systems across Europe. Both pay-as-you-go (PAYG) and funded schemes face pressures: PAYG schemes are directly affected by demographic shifts, while funded schemes are impacted indirectly, for example through lower

[84] RMPG Niessen-Cobben and RECM Niessen, *Wegwijs in de Fiscaliteit* (Wegwijs Reeks no 02, Sdu 2014), para 2.4.
[85] Kamerstukken II 1990/91, 22 008, nrs 1–2, 'Zicht op wetgeving 1991' 27.
[86] Kamerstukken II 1990/91, 22 008, nrs 1–2, 'Zicht op wetgeving 1991' 27-29.
[87] LGM Stevens and RC de Smit, *Elementair Belastingrecht: Theorieboek* (30th rev edn, Wolters Kluwer 2014), 15.

interest rates resulting from ageing trends. These pressures affect all EU Member States and, as their economies and societies become more integrated, the outcomes of national pension policies increasingly have cross-border implications. For this reason, pensions have become an important item on the European Commission's policy agenda.

The Stability and Growth Pact of 1997 and its monitoring of public finances have already placed indirect pressure on Member States to address long-term budgetary challenges. The 2008 financial crisis further sharpened this focus. In response, the European Commission launched a Europe-wide debate on pension reform through the *Green Paper Towards Adequate, Sustainable and Safe European Pension Systems*, which emphasised the role of private pensions in responding to demographic pressures.[88] The responses to the Green Paper informed the subsequent 2012 White Paper *An Agenda for Adequate, Safe and Sustainable Pensions*.

The 2012 White Paper reflects common concerns about problems in the various pension systems of all Member States and sets out an agenda for making pensions adequate, safe, and sustainable in the long run. It tries to do so by suggesting policy orientations and initiatives at the European level through which the EU can support national policymakers.[89]

Béland and Orenstein view this White Paper as an EU effort to balance sustainability with adequacy, positioning private pensions as complementary to, rather than a replacement for, PAYG systems.[90] In contrast, Natali argues that the White Paper reflects a shift to governance away from a balance between social and economic concerns, to one with a prominent focus on the EU's economic and financial objectives, which is particularly ominous for the progress of social rights.[91] Supporting the latter's assertion is the prominence given in the 2012 White Paper to the European Commission's Annual Growth Surveys, which are part of the European Semester.

The *European Semester* is the EU's annual process for coordinating economic and budgetary policies. Each cycle begins with the *Annual Growth Survey* (AGS), replaced since 2020 by the *Annual Sustainable Growth Strategy* (ASGS), which sets out economic and social priorities for the coming year. These priorities are supported by *Country Specific Recommendations* (CSRs), published annually, which advise Member States on reforms to promote economic growth, employment,

[88] D Béland and MA Orenstein, 'International Organizations as Policy Actors: An Ideational Approach' (2013) 13 *Global Social Policy* 125, 132.
[89] European Commission, *White Paper: An Agenda for Adequate, Safe and Sustainable Pensions* (16 February 2012) COM(2012) 55 final, 2–3.
[90] D Béland and MA Orenstein, 'International Organizations as Policy Actors: An Ideational Approach' (2013) 13 *Global Social Policy* 125, 132.
[91] D Natali, 'The White Paper on Pensions: A Critical Reading' (2012) 18 T*ransfer: European Review of Labour and Research* 355, 356–357.

and fiscal stability.[92] The AGS/ASGS and CSRs provide a valuable lens for understanding the EU's evolving approach to pension reform.

While Member States retain primary responsibility for the design of their pension systems, the EU plays a complementary and supportive role. Historically, its involvement has been somewhat fragmented. However, due to the above-mentioned challenges related to pensions, the EC decided it is necessary to take a more comprehensive approach. The Europe 2020 strategy and the strengthening of economic governance at EU level, provide a strong framework to examine pension systems.

The biggest challenge for pension policies is to create a system that is financially sustainable so that it can deliver adequate retirement incomes and allows older people to enjoy decent living standards and economic independence. To achieve this, the EC has identified the following priorities for reform[93]:

1. Link the retirement age with increases in life expectancy
2. Restrict access to early retirement schemes and other early exit pathways
3. Support longer working lives
4. Equalise the pensionable age between men and women
5. Support the development of complementary retirement savings to enhance retirement incomes

Implementing pension reforms along these lines will contribute to a more sustainable path and adequate incomes in old age in a much less favourable demographic context.

Adequate pensions

Although each EU Member State maintains its own pension system, the European Commission considers ensuring *adequate pensions* for all workers a key priority. However, it has not provided a precise definition of what constitutes an "adequate" pension. The OECD has sought to fill this gap. Its *Pensions Outlook 2020* provides a framework for assessing whether pension systems are likely to deliver adequate retirement incomes.

From a policy perspective, adequacy relates to the system's capacity to meet broad objectives – for example, alleviating poverty or maintaining post-retirement living standards. Individual perceptions of adequacy, by contrast, reflect personal retirement goals and circumstances.

[92] T Costello, *Six Years On: Assessing the Impact of Country Specific Recommendations* (Institute of International and European Affairs 2017), 1.
[93] European Commission, White Paper: An Agenda for Adequate, Safe and Sustainable Pensions (16 February 2012) COM(2012) 55 final, 9.

Nevertheless, the OECD has developed a framework for defining and assessing pension adequacy.

The OECD framework identifies four components for assessing adequacy: objective, indicator, target, and overall assessment. For example, if the objective is to maintain living standards in retirement, an appropriate indicator might be the replacement rate — i.e., pension income as a percentage of pre-retirement earnings. Policymakers must then set targets (such as an appropriate replacement rate) to assess whether their system meets this objective. How policymakers might respond to findings of pension adequacy may vary, depending on the structure of pension systems and normative views on the role of government in achieving this adequacy. But what all countries have in common is that failing to respond adequately to short-term pension income adequacy deficiencies has serious consequences for the population. As such, it is essential that policymakers anticipate and respond to these shortcomings before the adequacy challenges become too great.[94]

Of course, the definition of an "adequate" pension varies across countries, shaped by differing economic, social, and cultural contexts. In this research – following the OECD approach – an adequate pension is defined as the extent to which expected pension income is sufficient to maintain an individual's pre-retirement standard of living. This is typically expressed through a replacement rate. As a rule of thumb, a replacement rate of around 70% (or two-thirds of final salary) is often cited – assuming that certain expenses (such as mortgage payments, taxes and social security obligations) are lower in retirement.[95]

1.2.3.4 Feasibility of implementation

The proposed solution must be feasible to implement without requiring major changes to the existing pension system, owner-occupier housing market, or tax system. It should integrate smoothly with current financial and administrative structures, particularly in the management of taxes, pensions, and real estate transactions.

Compatibility with existing systems is crucial to avoid significant disruptions for stakeholders such as government agencies, financial institutions, pension funds, and homeowners. The solution should also minimise additional administrative burdens and ensure that processes remain clear and manageable for all involved.

A well-designed implementation plan should provide practical steps that can be executed within a reasonable timeframe, facilitating an orderly transition. Emphasising ease of implementation

[94] OECD, *OECD Pensions Outlook 2020* (OECD Publishing 2020) <https://doi.org/10.1787/67ede41b-en>.
[95] OECD, *OECD Pensions Outlook 2020* (OECD Publishing 2020) <https://doi.org/10.1787/67ede41b-en>; OECD, *OECD Pensions Outlook 2012* (OECD Publishing 2012) <https://doi.org/10.1787/9789264169401-en>.

will help ensure broad political and public support, enabling the proposed changes to deliver their intended benefits effectively and without unnecessary delays.

1.2.3.5 Impact on the owner-occupier housing market

The proposed solution should strengthen the owner-occupier housing market – or, at the very least, avoid exacerbating the current tightness in the market. In other words, it must not contribute to further shortages in the owner-occupier segment.

Ideally, the solution should support a balanced relationship between housing supply and demand, helping to prevent sharp fluctuations in property prices and ensuring continued affordability for prospective homeowners. Measures that promote sustainable homeownership and assist first-time buyers can also enhance market liquidity and resilience.

It is equally important that the solution avoids creating new barriers or constraints that could prevent individuals from entering or remaining in the owner-occupier housing market. A well-functioning and balanced housing market contributes not only to individual welfare but also to broader economic stability – by mitigating risks of economic downturns, speculative bubbles, and housing market crises.

1.2.3.6 Compliance with EU law

Compliance with EU law is an essential requirement for the proposed solution, as EU law takes precedence over national law. This means that Member States must adhere to EU rules and regulations. Under Article 260 of the Treaty on the Functioning of the European Union (TFEU), Member States must also respect the case law of the Court of Justice of the European Union (CJEU) and amend national legislation where necessary to comply with Treaty obligations. EU tax law thus directly influences national legislation. Accordingly, this section highlights those aspects of EU (tax) law that are relevant for the proposed integration of retirement savings and real estate ownership. A full analysis of EU legal developments lies beyond the scope of this thesis, but legally relevant elements are considered to ensure compliance.

The EU's Internal Market and Fundamental Freedoms

The European Union's Single Market provides access to goods, services, employment, business opportunities, and culture across Member States.[96] Its primary objective is to promote economic prosperity and foster "an ever-closer union among the peoples of Europe."[97] The internal market is based on four fundamental freedoms:

[96] Most of the information in this paragraph is derived from European Parliament, 'The Internal Market' (2024) <https://www.europarl.europa.eu/factsheets/en/section/189/the-internal-market> accessed 18 June 2024.
[97] Treaty establishing the European Economic Community (Treaty of Rome) (signed 25 March 1957) 298 UNTS 11.

- *Free movement of goods*: eliminating customs duties and other trade barriers between Member States through mutual recognition and harmonisation of national legislation.
- *Free movement of capital*: removing restrictions on cross-border capital flows – for both private individuals and companies – including investments, loans, and other financial transactions.
- *Freedom of establishment and freedom to provide services*: enabling EU citizens and businesses to establish themselves and provide services in any Member State on equal terms.
- *Free movement of workers*: guaranteeing that EU citizens can seek and take up employment across the EU without discrimination based on nationality. This includes the right to apply for a job, work and stay in another Member State for work.

The open method of coordination

Rather than relying solely on binding regulation, the EU also uses the Open Method of Coordination (OMC) to guide reforms in sensitive policy areas.[98] The OMC promotes voluntary policy alignment through the identification and diffusion of best practices across Member States. Launched by the Lisbon European Council in 2000, it aims to foster progress in areas where direct EU regulatory intervention is limited.[99]

In the area of pensions, scholars have noted tensions between economic and social priorities within the OMC process. Eckardt observes that "advocates of the principle of financial sustainability seem to be in a stronger position within the OMC on pensions".[100] Radaelli highlights the greater participation of business interests compared to social actors.[101] De la Porte and Nanz note that social partners lack a formal role in pension-related OMC discussions.[102] Stepan and Anderson further observe that the Commission's use of this soft coordination has often met resistance from Member States.[103] In sum, scholarship agrees that the importance of the OMC in pensions across Europe has not been significant. The limited influence of the pensions OMC is also reflected in the European Commission's 2012 White Paper on pensions, which makes only ambiguous references to coordination of national pension programmes.[104]

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[98] C de la Porte, 'Is the Open Method of Coordination Appropriate for Organising Activities at European Level in Sensitive Policy Areas?' (2002) 8 *European Law Journal* 38, 39 <https://doi.org/10.1111/1468-0386.00141>.
[99] D Natali, 'The Open Method of Coordination on Pensions: Does it De-politicise Pensions Policy?' (2009) 32 *West European Politics* 810, 814.
[100] M Eckardt, 'The Open Method of Co-ordination on Pensions: An Economic Analysis of Its Effects on Pension Reforms' (2005) 15 *Journal of European Social Policy* 247, 261 <https://doi.org/10.1177/0958928705054088>.
[101] C Radaelli, The Open Method of Coordination: A New Governance Architecture for the European Union? (Swedish Institute for European Policy Studies 2003), 33.
[102] C de la Porte and P Nanz, 'The OMC – A Deliberative Democratic Mode of Governance? The Cases of Employment and Pensions' (2004) 11 *Journal of European Public Policy* 267, 281 <https://doi.org/10.1080/1350176042000194430>.
[103] M Stepan and KA Anderson, 'Pension Reform in the European Periphery: The Role of EU Reform and Advocacy' (2014) 34 *Public Administration and Development* 320 <https://doi.org/10.1002/pad.1690>.
[104] D Natali, 'The White Paper on Pensions: A Critical Reading' (2012) 18 T*ransfer: European Review of Labour and Research* 355, 356.

Constitutional framework: EU competences

Whether the EU is competent to regulate pensions and housing – and to what extent – depends on the constitutional framework governing EU competences. This section focuses on legislative competences as judicial competences fall outside the scope of this research.

The subsidiarity principle

The subsidiarity principle requires decisions to be taken at the lowest level possible. The goal is to ensure that national, regional, and local preferences are considered and that decisions are taken as closely to the citizens as possible. More specifically, this principle ensures that the EU does not act unless it is more effective than action taken at the national, regional, or local level.[105] The starting point for the subsidiarity principle is article 5 of the Treaty on European Union (TEU), which states that:

> *"Under the principle of subsidiarity, in areas which do not fall within its exclusive competence, the Union shall act only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States, either at central level or at regional and local level, but can rather, by reason of the scale or effects of the proposed action, be better achieved at Union level."*

The subsidiarity principle is an important tool to protect Member States against undesirable EU influence. On the other hand, the principle also has the exact opposite effect: it justifies EU action if and in so far as the EU is better able to achieve policy objectives. Next to that, the subsidiarity principle also functions as a constitutional principle by making sure that decisions are made as closely to the citizens as possible. The subsidiarity principle is thus a dynamic principle, i.e., if circumstances require an expansion of EU action, the principle justifies such an expansion. This implies that it can change over time which actions at the EU level comply with the subsidiarity principle.[106]

The competences principle

The competences principle states that the EU has legislative powers if, and only if, its Member States give these powers to the EU. The subsidiarity and competences principles are often confused, as both principles look at the question whether the EU can regulate in a specific domain. However, the EU's constitutional system applies them sequentially: first, it must be established whether the EU has competence in a given field. Only then does the subsidiarity principle requires an assessment whether the EU *should* exercise such a power. The subsidiarity principle thus governs the exercise of competences, not their establishment.[107]

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[105] Y Stevens, 'Legal competences in pension matters' in *EU Pension Law* (Edward Elgar 2022) 11.
[106] Y Stevens, 'Legal competences in pension matters' in *EU Pension Law* (Edward Elgar 2022) 12.
[107] H van Meerten, T van den Brink and SA de Vries, *Regulating Pensions: Why the European Union Matters* (Netspar Discussion Paper, 28 October 2011) <https://ssrn.com/abstract=1950765> accessed 30 June 2025, 3.

The attribution principle

As stated before, all EU powers must have been attributed by its Member States. The EU is thus considered not to possess any "natural" powers. The attribution principle is important because Member States have only attributed powers regarding specific policy domains, or parts thereof, and no general legislative powers.[108]

Consequences for pensions and housing

For the development of EU pension law, two consequences follow:

1. Common action may only advance where most Member States agree on the need for further steps – even where this affects the organisation of national pension systems or pension pillars.
2. Subsidiarity will play an increasingly important role in justifying EU action – not as a barrier to further integration, but as a means of enhancing its legitimacy.

Housing, meanwhile, is not a formal EU competence. However, the Charter of Fundamental Rights of the European Union (EUCFR) enshrines certain personal, civil, political, social, and economic rights — including, indirectly, housing-related rights. While the Charter does not explicitly guarantee a right to housing, Article 34(3) provides that:

> *"In order to combat social exclusion and poverty, the Union recognises and respects the right to social and housing assistance so as to ensure a decent existence for all those who lack sufficient resources, in accordance with the rules laid down by Community law and national laws and practices."*

This provision draws on Articles 13, 30, and 31 of the revised European Social Charter. On this basis, EU influence on housing policy is limited to three areas:

1. Promoting access to housing of an adequate standard;
2. Preventing and reducing homelessness;
3. Improving housing affordability for those with insufficient resources.

In relation to owner-occupied housing, only the first of these areas is directly relevant. The latter two relate more to social rental housing, which lies beyond the scope of this research.

[108] H van Meerten, T van den Brink and SA de Vries, *Regulating Pensions: Why the European Union Matters* (Netspar Discussion Paper, 28 October 2011) <https://ssrn.com/abstract=1950765> accessed 30 June 2025, 3.

1.3 Research method and design

This dissertation is a comparative study of the legal, tax, and policy frameworks governing pensions and the owner-occupied housing market, with a particular focus on the combination of retirement savings and real estate ownership in four European countries. The aim is to explore whether such approaches could help shorten Dutch household balance sheets, while safeguarding pension adequacy and housing affordability.

The study draws on a broad range of sources. It analyses relevant tax legislation, pension laws, housing regulations, and policy frameworks in the Netherlands, Germany, the United Kingdom, and Switzerland. This includes statutory texts, parliamentary materials, official EU and national documents, and academic literature.

To further support the comparative analysis, the study also develops quantitative illustrations of the potential financial effects of integrating retirement savings with homeownership for the model in Germany, the UK and Switzerland, and for the proposed Dutch model.

While the policy recommendations are designed specifically for the Netherlands, the findings may also offer insights for other jurisdictions and for EU-level discussions.

The following section explains in more detail the comparative research approach applied in this study.

1.3.1 Comparative legal research

Law is a dynamic discipline, constantly adapting to the evolving needs of society. Comparative legal research offers a well-established method for exploring how legal systems can adapt to such developments.[109] This research focusses on comparing national legal systems – more specifically, a legal comparison of national tax systems – with a focus on pension provisions and the owner-occupied housing sector. It examines the potential for combining retirement savings with real estate ownership across different jurisdictions.

Why compare legal systems? Over time, the aims of comparative legal research have evolved. In the late nineteenth and early twentieth centuries, it was primarily viewed as a tool for improving domestic law and legal doctrine. By the end of the twentieth century, it was increasingly regarded as a key instrument in the harmonisation of law within the European Union.[110] As Glenn notes in his *Aims of Comparative Law*, the motivations for such research are diverse: it can serve as (a) a means of learning and knowledge-building, (b) an instrument of legal taxonomy and

[109] Glenn, 'Aims of Comparative Law' in JM Smits (ed), *Elgar Encyclopedia of Comparative Law* (Edward Elgar 2006), 63.
[110] M Van Hoecke, 'Methodology of Comparative Legal Research' (2015) *Law and Method* <https://doi.org/10.5553/REM/.000010>, 2.

evolutionary understanding, or (c) a pragmatic tool – whether to improve domestic law or to support legal harmonisation across systems.[111]

Looking to other systems can also reveal solutions that have already been tested elsewhere, or doctrines that respond more flexibly to social and economic changes.[112] In this study, comparative analysis serves to generate ideas for adapting and improving the Dutch legal framework concerning pensions and the owner-occupied dwelling – with a specific focus on the combination of retirement savings and real estate ownership. The goal is not to transplant foreign rules wholesale, but to draw lessons that can inspire the development of Dutch tax law and policy in this area.

1.3.1.1 Choice of comparative law method

The discipline of comparative law has often been criticized for not following any method when conducting comparative legal research.[113] However, Van Hoecke distinguishes several different methods and various levels of depth based on the existing literature about comparative legal research. He distinguishes six different methods: (1) the functional method, (2) the structural method, (3) the analytical method, (4) the law-in-context method, (5) the historical method, and (6) the common-core method.[114]

These approaches are not mutually exclusive – it is even possible to combine all of them in one and the same study.[115] Van Hoecke also identifies five levels of comparative analysis: (1) macro vs micro level, (2) underlying legal cultures and traditions, (3) law in action vs law in the books, (4) surface level vs deep level, and (5) doctrinal frameworks vs legal culture. A detailed discussion of all these methods and levels lies beyond the scope of this dissertation.

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[111] Glenn, 'Aims of Comparative Law' in JM Smits (ed), *Elgar Encyclopedia of Comparative Law* (Edward Elgar 2006), 57-65.

[112] M Van Hoecke, 'Methodology of Comparative Legal Research' (2015) *Law and Method* <https://doi.org/10.5553/REM/.000010>, 2; Glenn, 'Aims of Comparative Law' in JM Smits (ed), *Elgar Encyclopedia of Comparative Law* (Edward Elgar 2006), 57-65.

[113] M Van Hoecke, 'Methodology of Comparative Legal Research' (2015) *Law and Method* <https://doi.org/10.5553/REM/.000010>, 8. Further remarks can also be found in: John C Reitz, 'How to Do Comparative Law' (1998) 46 *American Journal of Comparative Law* 617; Marieke Oderkerk, 'The Importance of Context: Selecting Legal Systems in Comparative Legal Research' (2001) 48 *Netherlands International Law Review* 293; Gert Dannemann, 'In Search of System Neutrality: Methodological Issues in the Drafting of European Contract Law Rules' in Maurice Adams and Jacco Bomhoff (eds), *Practice and Theory in Comparative Law* (Cambridge University Press 2012); Jaakko Husa, 'Methodology of Comparative Law Today: From Paradoxes to Flexibility?' (2006) 4 *Revue internationale de droit comparé* 1096 <https://ssrn.com/abstract=1967406> accessed 30 June 2025; Maurice Adams and John Griffiths, 'Against "Comparative Method": Explaining Similarities and Differences' in Maurice Adams and Jacco Bomhoff (eds), *Practice and Theory in Comparative Law* (Cambridge University Press 2012).

[114] M Van Hoecke, 'Methodology of Comparative Legal Research' (2015) *Law and Method* <https://doi.org/10.5553/REM/.000010>, 8-21.

[115] M Van Hoecke, 'Methodology of Comparative Legal Research' (2015) *Law and Method* <https://doi.org/10.5553/REM/.000010>, 9.

For this study, four of Van Hoecke's methods are applied: the functional method, the historical method, the law-in-context method, and the common-core method. These approaches were selected because they best align with the interdisciplinary and problem-oriented nature of this research. They support the evaluation of pension and housing systems not only as legal constructs but also as socio-economic mechanisms embedded in broader national contexts. Each of these four methods is briefly explained below:

- The functional method focuses on a specific societal problem and examines how different jurisdictions address it – along similar roads and with similar or different results – to identify potential improvements in legal solutions.[116]
- The historical method It is an essential tool for understanding differences and similarities between systems, and whether they reflect long-standing traditions or are the result of accidental historical events.[117]
- The law-in-context method also considers the broader societal environment – cultural, economic, psychological, and political factors – that shapes legal frameworks. It thus contributes to explaining why certain legal approaches have developed in particular ways and how they relate to their societal context – also considering non-taxation factors.[118]
- The common-core method seeks to identify areas of convergence across legal systems. It asks to what extent harmonisation of approaches might be possible, and where differences are rooted in deeper structures.[119]

Since this dissertation examines the integration of retirement savings and real estate ownership in four European countries, the comparative analysis operates at multiple levels. While the primary focus is on tax rules and regulations, additional aspects – where relevant – will be discussed in more detail.

A key risk of comparative legal research is that foreign models cannot simply be transplanted into another legal and societal context. To mitigate this, the study begins by analysing the specific factors that contribute to long household balance sheets in the Netherlands – focusing on the Dutch pension system, the owner-occupied housing market, and the current scope for combining retirement savings with real estate purchases. This is followed by a contextual analysis of how these domains – and their interaction – are structured in Germany, the United Kingdom, and Switzerland, to provide a well-grounded basis for comparison.

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[116] M Van Hoecke, 'Methodology of Comparative Legal Research' (2015) *Law and Method* <https://doi.org/10.5553/REM/.000010>, 9-11.
[117] M Van Hoecke, 'Methodology of Comparative Legal Research' (2015) *Law and Method* <https://doi.org/10.5553/REM/.000010>, 18-19.
[118] M Van Hoecke, 'Methodology of Comparative Legal Research' (2015) *Law and Method* <https://doi.org/10.5553/REM/.000010>, 16-18.
[119] M Van Hoecke, 'Methodology of Comparative Legal Research' (2015) *Law and Method* <https://doi.org/10.5553/REM/.000010>, 19-21.

1.3.2 Language choice

Although this research addresses a problem specific to the Netherlands, I have chosen to present the dissertation in English. While this is less common within the Dutch legal discipline, it aligns with the norms of the field of economics – which also informs parts of this study – where English is the standard language of academic publication. Moreover, this choice reflects the broader internationalisation of both academia and education, where ensuring accessibility to a wide audience is increasingly important. As the research takes a cross-border perspective, presenting it in English also makes it accessible to international colleagues and scholars.

1.3.3 Research design

This dissertation addresses a predominantly Dutch issue. The research therefore begins with an analysis of the Dutch pension system and owner-occupied housing market in chapter 2, identifying key features that contribute to the long balance sheets of Dutch households.

Chapters 3, 4, and 5 provide insights into the pension systems and owner-occupied housing markets of Germany, the United Kingdom, and Switzerland. Each chapter examines the core elements of these systems – focusing on the structure of their three-pillar pension models and the distinctive characteristics of their owner-occupier housing markets – with particular attention to how these systems enable the combination of retirement savings and real estate ownership.

Building on these insights, chapter 6 synthesises the comparative findings to formulate a policy proposal for the Dutch context. It offers a comparative analysis and proposes a legally and institutionally feasible model that enables the use of pension savings for owner-occupied housing, while safeguarding pension adequacy and housing affordability.

Finally, chapter 7 presents the overall conclusion, answers the central research question, and offers suggestions for further research.

1.3.3.1 Schematic representation of the research

Problem statement
Is it possible to shorten the long balance sheets of Dutch households by combining retirement savings and real estate purchases, while safeguarding pension adequacy and maintaining housing affordability? If so, what could this system look like?

Chapter 1: Why, what, and how?
Explanation of the research rationale, relevance, objectives, problem statement and criteria, assessment framework, and research method and design.

Chapters 2 - 5: Comparative legal research
A comparative study of pension systems and housing markets in selected jurisdictions, focusing on how each system facilitates or restricts the integration of retirement savings and home ownership.

- **Chapter 2: The Netherlands**
  Providing insight into the characteristics that contribute to the long balance sheets of Dutch households, by analysing the Dutch pension system and owner-occupied housing market.

- **Chapter 3: Germany**
  Providing insight into the design and background of the pension system and owner-occupied housing market – with particular attention to how these systems enable the combination of retirement savings and real estate ownership – in Germany.

- **Chapter 4: The United Kingdom**
  Providing insight into the design and background of the pension system and owner-occupied housing market – with particular attention to how these systems enable the combination of retirement savings and real estate ownership – in the United Kingdom.

- **Chapter 5: Switzerland**
  Providing insight into the design and background of the pension system and owner-occupied housing market – with particular attention to how these systems enable the combination of retirement savings and real estate ownership – in Switzerland.

Chapter 6: Proposal for an integrated real estate and pensions model for the Netherlands
Providing a comparative analysis and proposing a potential solution for shortening household balance sheets in the Netherlands – based on the comparative findings – assessed against the review framework.

Chapter 7: Conclusion
Answers the research question and includes policy recommendations and suggestions for further research.

2. The Netherlands

2.1 Introduction

This chapter provides a description of the Dutch pension system and owner-occupier housing market. It explores the Dutch financial landscape and examines the structural features that contribute to the long balance sheets of Dutch households. The analysis seeks to answer the following questions:

1. Which elements are characteristic of the Dutch pension system?
2. Which elements are characteristic of the Dutch owner-occupier housing market?
3. What role do taxes play herein?

Each of the following sections addresses one of these core topics. The chapter begins with an analysis of the three pillars of the Dutch pension system, followed by a discussion of the owner-occupied housing market. It concludes by revisiting and synthesising the answers to the questions outlined above.

2.2 The Dutch pension system

2.2.1 Introduction

The Netherlands can be characterised as one of the original multi-pillar systems in Europe. It consists of three pillars: (i) basic state old age pension under a statutory insurance scheme (AOW), (ii) quasi-mandatory occupational pension schemes through the employer, and (iii) voluntary private pension schemes – like individual pension insurances (e.g., annuities and life insurance). The three pillars together determine the level of one's pension.[120]

[120] Ministerie van Sociale Zaken en Werkgelegenheid, *The Old-Age Pension System in the Netherlands* (Publicatie-nr SZW 74r610, Rijksoverheid, Den Haag, June 2008), 5.

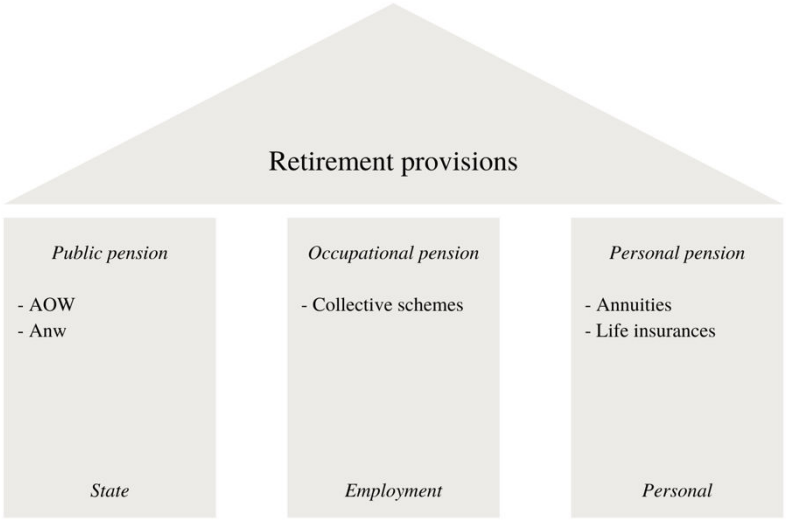

Figure 2.1: The three pillars of retirement provision in the Netherlands

While the AOW is a typical pay-as-you-go insurance scheme (today's contributors finance the pension payments made to today's retirees[121]), second and third pillar pensions are capital-funded. Meaning that pension benefits are financed by pension contributions paid in the past plus the accumulated investment yields over time.[122]

2.2.2 Public pensions

In 1913, the first Invalidity and Old Age Act was introduced in the Netherlands. This law served as a compulsory pay-as-you-go insurance scheme for employees. The premium was borne by both employer and employee. On December 9, 1913, the first 70-year-olds received their retirement income. However, this first demographic group never paid any contributions.[123]

2.2.2.1 AOW (General Old Age Pensions Act)

By 1947, awareness had grown that the Dutch population was ageing. In addition, the real value of benefits was rapidly eroding due to the absence of indexation, which led to calls for reform. An emergency law was introduced that provided both employed and self-employed individuals with an old-age benefit. A new feature of this law was that personal income was deducted from the benefit. In contrast to the former public scheme, the benefit was non-contributory: it was

[121] Ministerie van Sociale Zaken en Werkgelegenheid, *The Old-Age Pension System in the Netherlands* (Publicatie-nr SZW 74r610, Rijksoverheid, Den Haag, June 2008), 6.
[122] L Bovenberg and L Meijdam, 'The Dutch Pension System' in AH Börsch-Supan and M Miegel (eds), *Pension Reform in Six Countries* (Springer 2001), 50; Ministerie van Sociale Zaken en Werkgelegenheid, *The Old-Age Pension System in the Netherlands* (Publicatie-nr SZW 74r610, Rijksoverheid, Den Haag, June 2008), 3, 6.
[123] Pensioenfederatie, *Ontwikkeling en positie van collectieve pensioenen in Nederland* (Spinhex & Industrie Drukkerij 2011), 22.

entirely financed by the government. After these temporary measures, a more permanent public pension scheme was introduced in 1956 with the enactment of the General Old Age Pensions Act (*Algemene Ouderdomswet*, AOW)[124], which replaced the post-war emergency law. This new law established compulsory, pay-as-you-go old-age insurance for all residents, granting entitlement to a benefit from the age of 65. The benefit was no longer means-tested, was not based on contributions paid, and was indexed to contractual wages. The AOW benefit was increased multiple times on top of this statutory indexation. In the early 1970s, the after-tax public pension for a couple was set equal to the after-tax minimum wage.[125]

This basic state old age pension, established under the AOW, forms the first pillar of the Dutch pension system. It was introduced as the basic income to suffice the necessary cost of living after retirement. It is part of the so-called "national insurance schemes" and the insurance obligation is – in principle – determined based on residency.[126] As such, retirement from the labour force is not required to receive an AOW benefit. Individuals who have never participated in the formal labour market can still qualify.[127] Moreover, it nationality is irrelevant: if you live or work in the Netherlands, you automatically accrue AOW entitlement. However, the main rule is that you are insured in the country of employment. Neither early retirement nor opting out of the basic state old age pension scheme is possible.[128] The benefit begins at the statutory retirement age and ends upon detention or death.

For decades, the state pension age was fixed at 65. However, demographic developments – including longer life expectancy – placed pressure on the long-term affordability of the scheme. In response, the Increase in AOW and Retirement Age Act (*Wet verhoging AOW- en pensioenrichtleeftijd*, Wet VAP)[129] introduced a phased increase in the pension age, with future adjustments linked to life expectancy. [130]

The AOW-benefit is a lifelong benefit starting from the state pension age.[131] It is a fixed amount and the same for everyone; it does not depend on premiums paid during the working life nor is it means tested. It does, however, depend on two main factors: the recipient's household composition and the number of insured years. A distinction is made between singles and married

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[124] Algemene Ouderdomswet (AOW), Wet van 31 mei 1956, Stb 1956, 281.
[125] Pensioenfederatie, *Ontwikkeling en positie van collectieve pensioenen in Nederland* (Spinhex & Industrie Drukkerij 2011), 39.
[126] art 6 AOW.
[127] Ministerie van Sociale Zaken en Werkgelegenheid, *The Old-Age Pension System in the Netherlands* (Publicatie-nr SZW 74r610, Rijksoverheid, Den Haag, June 2008), 7; L Bovenberg and L Meijdam, 'The Dutch Pension System' in AH Börsch-Supan and M Miegel (eds), *Pension Reform in Six Countries* (Springer 2001), 43-44; M Weerepas, 'AOW en Anw' in AHH Bollen-Vandenboorn (ed), *Pensioen en de belangrijkste toekomstvoorzieningen* (Sdu 2020), 84.
[128] With the exception of the so-called group of conscientious objections; see M Weerepas, 'AOW en Anw' in AHH Bollen-Vandenboorn (ed), *Pensioen en de belangrijkste toekomstvoorzieningen* (Sdu 2020), 77.
[129] Wet verhoging AOW- en pensioenrichtleeftijd, Stb 2012, 328.
[130] art 7a(2) AOW.
[131] art 7 AOW.

couples.[132] Singles receive a net benefit equal to 70% of the net minimum wage, while married couples each receive 50% of the net minimum wage in AOW-benefit (jointly 100%).[133] Full entitlement is accrued over a 50-year period immediately prior to the statutory retirement age[134]; for each year of non-insurance – such as years spent living abroad – the benefit is reduced by 2%.[135]

As of 1 July 2025, the gross AOW-benefit amounts to€ 1,612.44 per month for singles and € 1,103.97 per month for each partner in a couple.[136] The AOW is taxed as "wages from previous employment" under box 1 of the income tax, subject to progressive rates.[137]

The AOW is financed through a pay-as-you-go system, funded by contributions levied on the income in the first bracket of box 1 of the personal income tax, combined with additional State contributions. In 2025, the AOW premium rate is equal to 17.9%[138], payable only by those below the retirement age. For retirees this results in lower rates in the first bracket of the personal income tax. This results in a lower effective tax rate for retirees in the first bracket. Accordingly, the AOW premium can be avoided by shifting taxable income to post-retirement years, for instance through pension savings.[139]

Voluntary AOW insurance is also possible under certain conditions – for example, if a person moves abroad and is no longer mandatorily insured. This is available for a maximum of ten years[140], provided the person had at least one year of prior insurance and registers with the Social Insurance Bank (*Sociale Verzekeringsbank,* SVB) within one year of the end of their mandatory coverage.[141]

Conversely, individuals moving to the Netherlands after long periods abroad may not be entitled to a full AOW benefit. However, Article 38 AOW allows for the retrospective purchase of missing insurance years, provided certain conditions are met, including the absence of any

[132] art 9 AOW.
[133] art 9(5) AOW.
[134] See art 7a(1) AOW.
[135] Ministerie van Sociale Zaken en Werkgelegenheid, *The Old-Age Pension System in the Netherlands* (Publicatie-nr SZW 74r610, Rijksoverheid, Den Haag, June 2008), 7; L Bovenberg and L Meijdam, 'The Dutch Pension System' in AH Börsch-Supan and M Miegel (eds), *Pension Reform in Six Countries* (Springer 2001), 43-44; M Weerepas, 'AOW en Anw' in AHH Bollen-Vandenboorn (ed), *Pensioen en de belangrijkste toekomstvoorzieningen* (Sdu 2020), 88.
[136] SVB, 'AOW-bedragen' (14 July 2025) <https://www.svb.nl/nl/aow/bedragen-aow/aow-bedragen> accessed 14 July 2025.
[137] art 34(1) Wet op de loonbelasting 1964 (Wet LB 1964, Stb 1964, 125) in conjunction with art 11(1)(c) and (2) Uitvoeringsbesluit loonbelasting 1965 (Stb 1965, 567).
[138] art 2.10(1) Wet IB 2001.
[139] L Bovenberg and L Meijdam, 'The Dutch Pension System' in AH Börsch-Supan and M Miegel (eds), *Pension Reform in Six Countries* (Springer 2001), 45.
[140] There are exceptions to this ten-year period, but going into detail about these goes beyond the scope of this research. The exceptions can be found in art 35(3) AOW.
[141] art 35(1) AOW.

comparable foreign mandatory retirement insurance[142] and at least five years of mandatory AOW insurance in the Netherlands.[143]

2.2.2.2 Anw (General surviving relatives act)

On 1 July 1996, the Dutch General surviving relatives act (*Algemene nabestaandenwet*, Anw) came into effect.[144] It concerns an insurance for the surviving relatives of the insured. Surviving relatives are generally understood to mean the partner and children of the deceased. The Anw is a risk insurance. In principle, it does not matter how long the deceased has been insured, if he or she was insured at the time of death. However, he/she must have been insured for at least one year. The Anw consists of two different pension benefits: the survivor's pension and the orphan's pension. A survivor's benefit can be described as a benefit for the surviving partner. Therefore, there must be a partner. However, the Anw does not contain a hardship clause in this regard. A partner can be regarded as the person with whom a person was married, had a registered partnership with, or with whom he/she lived together and with whom a joint household was conducted. Spouses are entitled to an Anw-benefit in the following situations[145]:

- having an unmarried child under the age of 18 who does not belong to another person's household, or;
- being pregnant, or;
- being disabled for at least 45% for at least three months, or;
- being born before 1 January 1950.

There is no entitlement to Anw if the spouse dies in or after the month in which the surviving partner reaches state pension age.[146] The survivor's pension ends when an entitled person reaches the state pension age[147] or after one month's imprisonment.[148]

An orphan's benefit is a benefit to a child who has lost both parents. To be eligible, the orphan must be under 16 years of age. Hence, a child under the age of 16 who has become parentless due to the death of an insured person is entitled to an orphan's benefit.[149] If the child is older than 16 years, additional requirements must be met. These are related to study, or the amount

[142] art 38(1) AOW.
[143] As stated in arts 6 and 6a AOW.
[144] Algemene nabestaandenwet (Anw), Wet van 21 december 1995, Stb 1995, 696.
[145] art 14(1) Anw in conjunction with art 11 Anw.
[146] art 15(3) Anw.
[147] art 16(1)(c) Anw.
[148] art 32d Anw.
[149] art 26(1) Anw.

of time spent on household care and a maximum age of 21 years.[150] The orphan's benefit ends for example when the beneficiary turns 16 or is adopted.[151]

2.2.2.3 Means-tested benefits

There is also a means-tested social-assistance scheme available for the elderly and/or households with less than fifty years of Dutch residency, and which have no other means of support and/or no capital. It supplements the benefits from basic (AOW) and occupational schemes up to a maximum value equal to the net basic pension (the AOW benefit).[152]

2.2.3 Occupational pensions

The second pillar in the Netherlands consists of pension commitments from the employer to the employee. The occupational pension is supplementary to the state pension and aims to maintain the standard of living after retirement. In most cases, this combination of state pension and occupational pension ensures an adequate level of pension income.

The financing method of the second pension pillar differs from the method used in the first pillar. Where the state pension is financed by means of a pay-as-you-go system, it follows from article 127 PW, that financing of occupational pensions takes place via capital funding. Employees and employers "save" for the employee's future pension benefit by paying premiums to a pension provider.

The precursor of occupational pension funds in the Netherlands emerged during the Middle Ages when the guilds created a social security net. This social security net needed to alleviate poverty in case of illness and old age. Like the current pension system, the medieval guild system, in addition to collectivity and solidarity, had compulsory participation and mandatory premium payments by guild members.[153]

The current Dutch occupational pension system originated in the second half of the nineteenth and early twentieth century, during which the industrial revolution was at its height. Several large firms (i.e., Stork and Van Marken) created their own pension funds to "*build up capital for the old age*". In addition to social motives, they hoped to devise lifelong loyalty among their employees so that they could specialize in the knowledge and professional competences required by the firm. At the end of the nineteenth and early twentieth century, more firms followed and created their own pension funds.[154]

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[150] art 26(2) Anw.
[151] art 28 Anw.
[152] OECD, Pensions at a Glance 2021: Country Profile – Netherlands (OECD Publishing 2021), 1.
[153] Pensioenfederatie, *Ontwikkeling en positie van collectieve pensioenen in Nederland* (Spinhex & Industrie Drukkerij 2011), 20.
[154] Pensioenfederatie, *Ontwikkeling en positie van collectieve pensioenen in Nederland* (Spinhex & Industrie Drukkerij 2011), 20–21.

Occupational pension schemes also grew rapidly after the Second World War. Especially the wage policy during the first decades after the war contributed to this growth. While it limited wage increases, it did allow for improvements in secondary conditions of employment, including occupational pensions. Other factors that contributed to the growth were tax benefits for pension saving and the Occupational Pension Act (*Wet verplichte deelneming in een bedrijfstakpensioenfonds,* Wet BPF), which was passed in 1949. This law made the negotiated supplementary pension provisions compulsory for all firms in an industry if requested by the employers' organizations and trade unions.[155]

In 1952, the Pension and Savings Funds Act (*Pensioen en Spaarfondsenwet,* PSW) was established. The PSW regulated several issues that needed to ensure the security of pensions. E.g., to prevent that pension capital in a company is used for other things than pension benefits or that the pension assets are at risk in the event of bankruptcy, the PSW regulates that pension contributions and the accumulation of pension capital is done outside of the company in a pension fund or with an insurance company. By 2007 the PSW was replaced with the Dutch Pensions Act (*Pensioenwet,* PW).[156]

The main characteristics of the current second pillar are mandatory participation, collective risk sharing, and the transfer of pension value.[157] Its conditions are agreed upon during collective bargaining by employers' organisations and trade unions in the private sector. Simultaneously, the government provides a legal framework and fiscal support. Under the PW, and in line with the former PSW, a pension fund must be established as a legal entity that is legally separated from the sponsoring firm.[158]

2.2.3.1 The quasi-mandatory

Participation in a pension scheme may be part of the terms of employment. Although employers are not legally obliged to provide any complementary pension schemes to their employees, there are two major exceptions. First, employers *are* required to provide their employees with a complementary pension scheme if the company operates within an industry with a (mandatory) industry-wide pension fund. This is also called the "big mandatory". If requested by a representative delegation from the sector, this mandatory is issued by the Dutch Minister of Social Affairs and Employment (*Sociale Zaken en Werkgelegenheid*, SZW).[159] Second, if it is included

[155] L Bovenberg and L Meijdam, 'The Dutch Pension System' in AH Börsch-Supan and M Miegel (eds), *Pension Reform in Six Countries* (Springer 2001), 39.
[156] Pensioenfederatie, *Ontwikkeling en positie van collectieve pensioenen in Nederland* (Spinhex & Industrie Drukkerij 2011), 24.
[157] Ministerie van Sociale Zaken en Werkgelegenheid, *The Old-Age Pension System in the Netherlands* (Publicatie-nr SZW 74r610, Rijksoverheid, Den Haag, June 2008), 9.
[158] L Bovenberg and L Meijdam, 'The Dutch Pension System' in AH Börsch-Supan and M Miegel (eds), *Pension Reform in Six Countries* (Springer 2001), 47.
[159] J Boone and EEC van Damme, 'Marktwerking in de pensioensector' (NEA paper, Netspar Conference, Tilburg, 29 March 2007), 9.

in the collective labour agreement of the company, the employer will also have to provide a complementary pension scheme. If this is the case, it also means that the employer must offer the same pension scheme to all its employees. This is also called the "small mandatory".[160] In addition, if the employer offers a pension scheme, the employee is obliged to join this scheme.[161] In total about 87 percent of Dutch employees participate in such a (complementary) employee pension scheme.[162]

2.2.3.2 Pension types

Article 18 of the Dutch Wage Tax act (*Wet LB 1964*) indicates which pension types can be part of a pension scheme. The following types are distinguished:

- Old-age pension
- Partner's pension
- Orphan's pension
- Disability pension
- Years of service pension (*deelnemingsjarenpensioen*)
- Surviving dependants' bridging pension (*Nabestaandenoverbruggingspensioen*)

Within this dissertation, the focus is on the old-age pension, hence, to also discuss the other types of pensions goes beyond the scope of this research.

2.2.3.3 Target retirement age

Until 2013, the retirement age for occupational pensions was closely linked to the AOW age. This changed with the introduction of the AOW and Retirement Age Act (*Wet verhoging AOW- en pensioenrichtleeftijd,* Wet VAP*)*[163]*,* which raised the fiscal target retirement age (*pensioenrichtleeftijd*) in one step to 67. Thereafter, the target age was linked to life expectancy[164], and any further increases were implemented in full years. A formula – previously included in Article 18a(8) of the Dutch Wage Tax Act (*Wet op de loonbelasting 1964*, Wet LB 1964) – determined when this age would need to be adjusted. In contrast, increases to the AOW age were introduced gradually in months.[165]

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[160] Asser/Lutjens 7-XI (2016) para 259.
[161] J Boone and EEC van Damme, 'Marktwerking in de pensioensector' (NEA paper, Netspar Conference, Tilburg, 29 March 2007), 8–9.
[162] CBS, 'Witte vlek op pensioengebied 2016' (2018) < https://www.cbs.nl/nl-nl/maatwerk/2018/45/witte-vlek-op-pensioengebied-2016> accessed 13 September 2019.
[163] Wet verhoging AOW- en pensioenrichtleeftijd (Stb 2012, 328).
[164] Kamerstukken II 2011/12, 33 290.
[165] Kamerstukken II 2011/12, 33 290, nr 3, 2, 12.

With the Future of Pensions Act (*Wet toekomst pensioenen*, WtP[166]), this explicit fiscal target retirement age was abolished. Since only defined contribution schemes may now be offered, a formal target retirement age is no longer required to calculate accrual limits. Nevertheless, a notional retirement age still operates "under the hood" for the purpose of determining the maximum tax-favoured contributions.[167]

Despite the removal of the formal "target" retirement age, the law still defines boundaries for the permissible timing of pension commencement. These rules existed under the old system as well, but have become more operationally relevant under the flexible new, more flexible Wtp framework:

- The earliest possible retirement age is defined in Article 18a(4)(a) *Wet LB 1964:* ten years before the AOW age, unless a pension scheme has an earlier statutory retirement age (e.g., in some occupational pension schemes).
- The latest permissible commencement date is defined in Article 18a(4)(b) *Wet LB 1964*: five years after the AOW age. If benefits have not commenced by that time, they are deemed to be fully commuted for tax purposes at the end of the following calendar year, unless an extension is granted.[168]

Thus, while the terminology has evolved, the legal structure for early and deferred retirement remains intact – now within a system that offers greater individual flexibility. Importantly, pensions commencing before or after the AOW age must be actuarially adjusted.[169]

2.2.3.4 The AOW-offset

As mentioned before, the second pension pillar supplements the first pillar. Consequently, pension accrual in the second pillar only applies to income that exceeds a certain threshold—referred to as the AOW-offset. This offset reflects the portion of income already covered by the basic state pension (AOW), meaning that supplementary pension premiums are levied only on income above this level. While the law does not prescribe a mandatory method of considering the AOW-offset, it does require that the offset amount corresponds to the AOW benefit for a married person.[170]

[166] The Wtp is treated in more detail in para 2.2.5.
[167] Kamerstukken II 2021/22, 36 067, nr 3 (MvT) 139.
[168] art 19b(6) Wet LB 1964.
[169] art 18a(6) Wet LB 1964.
[170] art 18a(7) Wet LB 1964.

2.2.3.5 Pension systems

The expected pension benefit depends, among other factors, on the type of pension system under which accrual takes place. Article 18a of the Wage Tax Act 1964 (Wet LB 1964) distinguishes three systems: the final pay system, the average pay system, and the defined contribution system (DC scheme). The final and average pay systems – along with their variants – are collectively known as defined benefit schemes (DB schemes).

Each system allocates risks differently, with potential exposure for employees, employers, retirees, or former participants. To enhance transparency regarding risk distribution, the Dutch Pensions Act (Pensioenwet, PW) requires that the nature of the pension agreement be formally specified (Article 10 PW). It distinguishes between benefit agreements, capital agreements, and contribution agreements. In practice, however, hybrid arrangements are also possible.[171]

2.2.3.6 Accrual rates, pensionable wage and time of service

The accrual and size of a pension are based on a percentage of the pensionable wage or pension base for each year of service. Under the Witteveen framework, maximum age-independent accrual rates apply to both average pay and final pay schemes. For defined contribution schemes, by contrast, the premium is capped.[172]

Together, these three factors – accrual rate, pensionable wage, and years of service – determine the annual pension accrual, with the AOW-offset also taken into account in this calculation.

2.2.3.7 Tax treatment

Under Article 10 of the Dutch Wage Tax Act 1964 (Wet LB 1964), pension entitlements are in principle considered part of an individual's salary. However, the legislator did not deem it realistic to levy tax on income that has not yet been received, the Netherlands applies the *exempt–exempt–taxed* (EET) system of taxation. This approach – also known as the "delayed taxation system" (*omkeerregel*) in the Netherlands – excludes pension entitlements from salary during the accrual phase.[173] As a result, employee contributions are deductible from taxable income.[174] Pension benefits, on the other hand, are taxed upon disbursement, since wages include all benefits derived from employment or previous employment[175], including entitlements to pension benefits.[176]

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[171] MCD Janse and EHM Janssen, 'Werknemerspensioen in de loonsfeer, beroepspensioen en nettopensioen' in AHH Bollen-Vandenboorn (ed), *Pensioen en de belangrijkste toekomstvoorzieningen* (Sdu 2022) 277.
[172] Ministerie van Sociale Zaken en Werkgelegenheid, 'Perspectiefnota Toekomst pensioenstelsel' (Annex to Kamerbrief of 8 July 2016, 2016-0000162957) 29–30; art 18a(1)–(3) Wet LB 1964.
[173] art 11(1)(c) Wet LB 1968.
[174] art 11(1)(j)(1°) Wet LB 1968.
[175] art 10(1) Wet LB 1968.
[176] art 10(2) Wet LB 1968.

Since 1 January 2015, the pensionable salary has been subject to a cap. For 2025, this cap is set at €137,800 (full-time employment).[177] Pension accrual under the EET system is permitted up to this limit. Above this threshold, employees may accrue pension entitlements through a *net pension* scheme – a voluntary arrangement between the employer and employee. These schemes are only possible where they have been individually offered and agreed upon. In contrast to the standard supplementary pensions, net pensions are taxed under the *taxed–exempt–exempt* (TEE) regime.[178]

2.2.4 Personal pensions

The third pillar of the Dutch pension system consists of individual pension provisions, primarily in the form of annuities. This pillar is characterised by its voluntary nature: both the initiative and responsibility for participation lie with the individual. Its main purpose is to cover any pension shortfalls – particularly in cases where supplementary pension accrual in the second pillar is limited or absent, such as among the self-employed. The scope and necessity of third-pillar arrangements are therefore shaped by the adequacy of the first and second pillars. In practice, the increasing austerity of second-pillar schemes has led more individuals to pursue additional pension savings through annuities. Unlike the first two pillars, the third-pillar annuity market is not managed by pension funds, but instead by life insurers and banks. These arrangements are regulated under the Financial Assessment Framework Act (*Wet op het financieel toezicht*, Wft).[179]

2.2.4.1 Tax treatment

As in the second pillar, third-pillar pension savings are supported by the exempt–exempt–taxed (EET) system of taxation. Contributions to qualifying annuity products are deductible from taxable income as expenses for retirement provision. However, the amount that can be deducted depends, among other things, on the design and adequacy of the individual's second-pillar pension scheme. In practice, tax facilitation is generally available where there is scope for additional retirement savings.[180]

In short, each taxpayer may deduct annuity premiums annually, with the deductible amount determined by two key factors: the income received in the preceding year, and the increase in second-pillar pension entitlements due to active participation during that year. These conditions are intended to ensure that annuity savings function as genuine provisions for old age, rather

[177] art 18ga Wet LB 1964.
[178] MCD Janse and EHM Janssen, 'Werknemerspensioen in de loonsfeer, beroepspensioen en nettopensioen' in AHH Bollen-Vandenboorn (ed), *Pensioen en de belangrijkste toekomstvoorzieningen* (Sdu 2022) 315–324.
[179] GJB Dietvorst, 'Lijfrenten' in AHH Bollen-Vandenboorn (ed), *Pensioen en de belangrijkste toekomstvoorzieningen* (Sdu 2022) 524, 528.
[180] art 3.124 ff Wet IB 2001.

than as general savings instruments. Like other pension benefits, annuity payments are included in the taxable income base upon disbursement. The third pillar thus serves as a compensating layer in the Dutch pension system. Importantly, tax deductibility is only available to individuals with room to supplement their retirement savings – making the system targeted rather than universal.[181]

2.2.5 The Future of Pensions Act

The Dutch pension system has long served as a cornerstone of the country's social security framework, combining state, occupational, and private provisions to ensure comprehensive retirement coverage. However, shifting demographics, economic pressures, and evolving labour market dynamics have necessitated significant reforms to preserve the system's sustainability and fairness. The Future of Pensions Act (*Wet toekomst pensioenen*, WtP), which entered into force on 1 July 2023, represents the most significant reform of the Dutch pension framework in decades.[182] It introduces a comprehensive overhaul of the existing pension framework, aimed at enhancing the system's transparency, flexibility, and equity, while addressing challenges posed by demographic ageing and labour market changes.[183] Key features include a shift from conditional defined benefit (DB) schemes to contribution-based arrangements[184], the introduction of age-independent premiums[185], and the implementation of degressive accrual mechanisms.[186]

2.2.5.1 Key objectives and changes

The WtP seeks to establish a more robust and adaptable pension system that is better aligned with labour market dynamics and societal developments. The main objectives are[187]:

1. An earlier perspective on purchasing power: The new framework aims to provide participants with an earlier and more meaningful perspective on their expected purchasing power after retirement, including projections and the uncertainty surrounding them.
2. More transparency and personalization: Pension schemes must now offer increased clarity and customisation. Participants will have clearer insights into their pension entitlements and the factors influencing their pension outcomes.

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[181] GJB Dietvorst, 'Lijfrenten' in AHH Bollen-Vandenboorn (ed), *Pensioen en de belangrijkste toekomstvoorzieningen* (Sdu 2022) 528–529.
[182] Act of 3 June 2023 amending the Pensions Act, the Income Tax Act 2001 and certain other laws in connection with the revision of the pension system, standardisation of the survivor's pension, adjustment of the tax treatment of pensions and certain other changes regarding pensions (*Wet toekomst pensioenen*, Stb 2023, 216).
[183] Kamerstukken II 2021/22, 36 067, nr 3 (MvT) 16–18.
[184] Consultation draft Future of Pensions Act (Wet toekomst pensioenen), art I(D), proposed art 10(2) PW.
[185] Consultation draft Future of Pensions Act (Wet toekomst pensioenen), art I(J), proposed art 17 PW.
[186] MCD Janse and EHM Janssen, 'Werknemerspensioen in de loonsfeer, beroepspensioen en nettopensioen' in AHH Bollen-Vandenboorn (ed), *Pensioen en de belangrijkste toekomstvoorzieningen* (Sdu 2022) 291.
[187] Kamerstukken II 2021/22, 36 067, nr 3 (MvT) 16–18.

3. Better alignment with labour market developments: The system is designed to reflect the realities of a labour market marked by greater mobility and a growing number of self-employed workers. It introduces more flexible pension arrangements to accommodate these changes.

Each of the following reforms contributes to the achievement of these goals.

Transition to contribution agreements

One of the most significant reforms introduced by the Wtp is the transition from conditional defined benefit schemes to defined contribution schemes. Under the new system, pension accrual is based exclusively on contribution agreements, which may take one of three forms[188]:

1. A solidarity pension scheme (*solidaire premieregeling*, SPR): Pools contributions and investment returns collectively, utilizing a mandatory solidarity reserve (*solidariteitsreseve*).[189] This reserve consists of unallocated capital and is designed for targeted intergenerational risk sharing. It aims to mitigate the impact of financial shocks across different age cohorts while maintaining a collective investment policy. [190]
2. A flexible pension scheme (*flexibele premieregeling*, FPR): This scheme is characterized by a mandatory requirement to provide participants with investment choices, such as different risk profiles tailored to individual preferences.[191] While the SPR is also permitted to offer individual choices, the FPR is legally obliged to do so, giving participants direct control over the allocation of their personal pension capital.[192]
3. A contribution benefit scheme (*premie-uitkeringsovereenkomst*): This scheme offers a fixed contribution rate where the eventual pension benefits are directly linked to the contributions made and the investment returns achieved over the life cycle.[193]

A closely related aspect of the transition is the conversion of accrued rights into individual pension capital (*invaren*). As Brüggen, Van Hekken and Werker explain, this process requires social partners to decide whether and how accrued entitlements are transferred to the new system, effectively determining how collective assets are redistributed among participants. Its

[188] art 10 PW.
[189] E Westerhout, E Ponds and P Zwaneveld, 'Reforming the Dutch pension system to ensure sustainability' (2024) 77 *International Social Security Review* 99, 114.
[190] S van Bilsen and others, 'Kwantificering van het omslagelement van de solidariteitsreserve in het nieuwe pensioenstelsel' (Netspar Industry Paper 2025-06, 2025) 4, 11.
[191] L Brüggen, A van Hekken and B Werker, 'Communicatie over de toedeling van vermogen: of het antwoord op de vraag: Ga ik erop voor- of achteruit?' (Netspar Design Paper 235, November 2023) 12; E Westerhout, E Ponds and P Zwaneveld, 'Reforming the Dutch pension system to ensure sustainability' (2024) 77 *International Social Security Review* 99, 118.
[192] art 10 PW.
[193] art 10 PW; E Westerhout, E Ponds and P Zwaneveld, 'Reforming the Dutch pension system to ensure sustainability' (2024) 77 *International Social Security Review* 99, 114.

legitimacy depends not only on financial and legal calibration, but also on transparent communication: participants must understand the principles and reasoning behind these choices so that the eventual allocation is both explainable and externally verifiable.[194]

Age-independent premiums and degressive accrual

Another key reform is the shift away from the uniform accrual system (*doorsneesystematiek*). Under the current system, participants in mandatory industry-wide pension funds and professional pension funds contribute the same percentage of their pensionable earnings (age-independent premium) and accrue the same pension benefits for each euro contributed, regardless of age. This structure inherently subsidises older participants, as the cost of providing pensions for younger participants is lower due to their longer investment horizons. Consequently, the system facilitates a form of intergenerational solidarity, with younger employees effectively supporting older employees.

The Wtp replaces the uniform accrual system with a framework of age-independent premiums and degressive accrual across all mandatory pension schemes. Under this model, all participants contribute the same proportion of their pensionable income, but younger workers accrue pension value at a higher rate, reflecting their longer investment horizon.[195] While this reform aims to align individual accrual with actual costs, it does not entirely eliminate intergenerational transfers. Instead, it replaces the previous systemic cross-subsidisation with a targeted mechanism for intergenerational risk sharing via the solidarity reserve.[196] Consequently, while the individual life-cycle components are designed to be actuarially neutral, the discretionary implementation and use of the solidarity reserve – as determined by the social partners – introduce a new form of pay-as-you-go logic, where funds are structurally shifted between age cohorts to mitigate nominal benefit reductions.[197]

Lump sum withdrawal

The pension reform package also introduces the option to withdraw part of one's pension as a lump sum at the moment of retirement. This change is part of the Lump Sum Payments, Early Retirement Schemes, and Leave Savings Act (*Wet bedrag ineens, RVU en verlofsparen*), and constitutes a relaxation of Article 32ba of the Wage Tax Act 1964 (*Wet LB 1964*), as well as an

[194] L Brüggen, A van Hekken and B Werker, 'Communicatie over de toedeling van vermogen: of het antwoord op de vraag: Ga ik erop voor- of achteruit?' (Netspar Design Paper 235, November 2023).
[195] MCD Janse and EHM Janssen, 'Werknemerspensioen in de loonsfeer, beroepspensioen en nettopensioen' in AHH Bollen-Vandenboorn (ed), *Pensioen en de belangrijkste toekomstvoorzieningen* (Sdu 2022).
[196] S van Bilsen and others, 'Kwantificering van het omslagelement van de solidariteitsreserve in het nieuwe pensioenstelsel' (Netspar Industry Paper 2025-06, 2025) 4, 11.
[197] E Westerhout, E Ponds and P Zwaneveld, 'Reforming the Dutch pension system to ensure sustainability' (2024) 77 *International Social Security Review* 99, 114; S van Bilsen and others, 'Kwantificering van het omslagelement van de solidariteitsreserve in het nieuwe pensioenstelsel' (Netspar Industry Paper 2025-06, 2025) 4.

expansion of the existing leave savings scheme under Article 11, Section 1, Part r, Subsection 1.[198]

Under this framework, participants in both second- and third-pillar pension schemes may opt to withdraw up to 10% of the value of their accrued pension entitlements as a lump sum on their retirement date. Several safeguards are in place to protect participants:

- The withdrawal is limited to 10% of total pension rights;
- It can only be executed on the retirement date;
- It may not be combined with high/low pension arrangements;
- The remaining lifelong pension must exceed the statutory commutation threshold for small pensions.[199] This means that after the lump sum withdrawal, the remaining lifelong pension entitlement must still be higher than this annual threshold, otherwise the pension fund may commute the remaining amount into a single lump sum – essentially defeating the purpose of maintaining a lifelong pension benefit.

To further protect participants, pension providers are obligated to clearly inform them about the potential consequences of withdrawing a lump sum. This includes the impact on their expected pension benefits and the progressive income tax implications of the withdrawal. There is no mandatory spending goal set by the Dutch government for the lump sum, leaving participants free to decide how to use the funds.[200]

However, the legislative rollout has encountered several delays. The implementation of the lump sum withdrawal provision has been officially postponed. Although the original legislation was adopted in 2021 and the Lump Sum Revision Bill (*Wet herziening bedrag ineens*, Wetsvoorstel 36 154) aimed to enter into force by 1 January 2022, the timeline has since shifted. In a letter dated 13 March 2025, the Minister of Social Affairs and Employment informed the Senate that the provision will not take effect before 1 July 2026. This delay reflects the fact that pension providers require a minimum of nine months to implement the new rules following parliamentary approval. The revised implementation date remains contingent on the further progress of the legislative process.[201]

[198] Wet bedrag ineens, RVU en verlofsparen, Stb 2021, 20.
[199] See art 66(1)(a) PW.
[200] NM Winter and JWMH Heijmans, 'Flexibilisering van pensioen' in AHH Bollen-Vandenboorn (ed), *Pensioen en de belangrijkste toekomstvoorzieningen* (Sdu 2022) 375.
[201] Minister van Sociale Zaken en Werkgelegenheid, 'Brief aan de Tweede Kamer over uitstel beoogde inwerkingtreding bedrag ineens en vooronderzoek Nibud naar tool bedrag ineens ten behoeve van wetsvoorstel herziening bedrag ineens' (13 March 2025) Kamerstukken II 2024/25, 36 154, nr F.

While this provision introduces a degree of flexibility into the Dutch pension framework, its practical use remains narrowly defined. A broader policy evaluation of its implications for housing and household balance sheets is presented in section 2.4.

2.2.6 Interactions between the three pillars

Looking at the Dutch three pillar pension system, we can see that all pillars also interact with one another. Occupational pensions are seen as supplementary to the basic state pension. Moreover, the second pillar – and the third pillar – takes the first pillar into account in defining its aspiration level. Many occupational pension schemes aim to achieve a combined pension (the sum of the benefits from the first and second pillar) of 75% of final earnings (before taxes). Most schemes achieve this by using the AOW-offset on which no additional (occupational) pension rights are accumulated since the government provides the pension on these earnings through the basic state old age pension (AOW).[202] Furthermore, in the Netherlands, the third pillar is used to fill any pension shortfalls. If the pension from the first and second pillars is not sufficient for an individual, he/she can supplement this by means of pension accrual in the third pillar. However, next to AOW-offset, the pension accrual in the second pillar also affects the tax possibilities in the third pillar. The maximum tax deduction is limited when an individual simultaneously builds up an occupational pension.

2.2.7 Taxation and social security contributions

Pensions are not only included at several points within the Dutch Income Tax Act, but for example also within the Dutch Pensions Act, General Old Age Pensions Act (AOW), and Wage Tax Act. This section looks at several laws and regulations regarding pensions – including the Dutch Income Tax Act (ITA), Wage Tax Act (WTA), Pensions Act (PA), Old-age Pensions Act (AOW) and Occupational Pension Act. For this research, however, the focus of this section lies on taxation and social security contributions regarding pensions – specifically on the laws and regulations that influence the implicit subsidy on retirement savings and mandatory participation.

2.2.7.1 Pensions in the Dutch Income Tax Act

Article 1.7 of the Dutch Income Tax Act indicates what is meant by a pension scheme under this law. However, no *substantive* definition is given but instead reference is made to other laws including the Dutch Wage Tax Act[203] and the Occupational Pension Act[204] (each are treated in

[202] L Bovenberg and L Meijdam, 'The Dutch Pension System' in AH Börsch-Supan and M Miegel (eds), *Pension Reform in Six Countries* (Springer 2001), 50-51.
[203] art 1.7(2)(a) Wet IB 2001.
[204] art 1.7(2)(a) Wet IB 2001.

more detail below). The EET system is anchored in various places within the Dutch tax system. Within the Income Tax Act, the system can be found in:

- Art. 3.13 and art. 3.100, paragraph 1, sub b, Dutch Income Tax Act 2001 for entrepreneurs who qualify as entrepreneurs under the Dutch Income Tax Act.
- Art. 3.18 Dutch Income Tax Act 2001 for income tax entrepreneurs who are obliged to participate in an occupational pension scheme.
- Art. 3.67 up to and including art. 3.73 Dutch Income Tax Act 2001 regarding the Fiscal Old Age Reserve (*fiscale oudedagsreserve [FOR]*) for independent entrepreneurs.

Furthermore, before one reaches the statutory pension age, not only income tax is due, but also national social security contributions (including AOW, Anw and Wlz), resulting in higher levied tax rate within the first bracket. Anyone who has reached the statutory retirement age, no longer contributes to the AOW, so that the effective tax rate in the first bracket is lower than for taxpayers who have not yet reached the statutory retirement age.[205] In combination with the EET system, pension benefits are thus taxed against lower tax rates than the "normal" tax rate. Hence the government provides fiscal incentives to delay labour income through occupational or private pension schemes.[206] However, since January 1, 2015, the maximum amount of labour income on which pension may be accrued, is capped.[207] Pension accrual above this limit is possible but limited. The next paragraph goes into more detail about this.

2.2.7.2 Pensions in the Dutch Wage Tax Act

The Dutch Wage Tax Act also gives no *substantive* definition of the concept "pension". It does, however, indicate extensively which characteristics a pension scheme should meet. This can be found in Chapter IIB (article 18 and following) of the Dutch Wage Tax Act 1964.[208] For example, a pension scheme must exclusively – or almost exclusively – refer to a lifetime provision for old age or an income provision in case of disability or death, whereby the group to which this provision is due is again limited (the former partner or the child(ren) under the age of 30).[209] Chapter IIB further stipulates that the provision may not be converted, alienated, renounced, or be the object of a guarantee other than in the cases provided by or under the Dutch Pensions Act.[210] The legislator clearly envisioned a care thought in which the income

[205] L Bovenberg and L Meijdam, 'The Dutch Pension System' in AH Börsch-Supan and M Miegel (eds), *Pension Reform in Six Countries* (Springer 2001), 45; GMCM Staats, *Inleiding Belastingheffing ondernemingen en particulieren* (18th rev edn, Sdu 2018) 45.
[206] L Bovenberg and L Meijdam, 'The Dutch Pension System' in AH Börsch-Supan and M Miegel (eds), *Pension Reform in Six Countries* (Springer 2001), 47.
[207] art 18ga(1) Wet LB 1964.
[208] Uitvoeringsbesluit loonbelasting 1965 (Stb 1965, 567); Uitvoeringsregeling loonbelasting 2001 (Stcrt 2000, 250).
[209] art 18(1)(a) Wet LB 1964.
[210] art 18(1)(b) Wet LB 1964.

provision is seen as compensation for the loss of labour income for certain reasons. The legislator also indicates which forms, up to what level and what can be built up exactly to be considered as a pension scheme. These stipulations show that pensions are related to both income and (labour)time, whereby the norm must be seen as a translation of what used to be expressed in a more general norm of what – according to social views, partly in view of time and income – was considered reasonable.[211]

Furthermore, the EET system can – as with the Dutch Income Tax law – also be found within the Dutch Wage Tax Act. More specifically, art. 11, paragraph 1, sub c in conjunction with art. 11, paragraph 1, sub j, under 1° exclude pension entitlements and contributions for employees and the director-major shareholder.

As touched upon previously, as of January 1, 2015, the maximum amount of labour income on which pension may be accrued, is capped. This is laid down by law in article 18ga, paragraph 1, Dutch Wage Tax Act 1964. The maximum amount for 2025 is set to €137,800. In case of part-time employment, the amount is reduced according to the part-time factor.[212] For income above the limit, the Income Tax Act created the possibility to accrue a pension by means of the so-called "net pension" (*netto pensioen*). This net pension, however, is subject to several conditions as laid out in Section 5.3B of Dutch Income Tax Act 2001 Dutch Income Tax Act.[213]

2.2.7.3 Other tax laws regarding pensions

Other noteworthy laws and regulations regarding pensions are the Dutch Pensions Act (*Pensioenwet*), the General Old Age Pensions Act (*Algemene Ouderdomswet*), and the industry-wide Pension Fund Act (*Wet betreffende verplichte deelneming in bedrijfstakpensioenfonds (Wet Bpf)*). Each are treated below in turn.

The Pensions Act

The predecessor of the Dutch Pensions Act, the Pension and Savings Funds Act (*Pensioen en Spaarfondsenwet [PSW])* was established in 1952. It regulated several issues that needed to ensure the security of pensions. For example, to prevent that pension capital in a company is used for other things than pension benefits or that the pension assets are at risk in the event of bankruptcy, the PSW regulated that pension contributions and the accumulation of pension capital was done outside of the company, e.g. in a pension fund or with an insurance company.[214] Article 1 defines what a "pension" is, however, what is remarkable about this law, is the fact that there was no *substantive* definition of the concept of "pension". By 2007 the PSW was replaced

[211] M Kleuters, 'Wat is pensioen? Een inleidende zoektocht naar een definitie' in AHH Bollen-Vandenboorn (ed), *Pensioen en de belangrijkste toekomstvoorzieningen* (Sdu 2020) 37–38.
[212] art 18ga(1) Wet LB 1964.
[213] To go into further detail about this net pension goes beyond the scope of this research.
[214] Pensioenfederatie, *Ontwikkeling en positie van collectieve pensioenen in Nederland* (Spinhex & Industrie Drukkerij 2011), 24.

with the Dutch Pensions Act (Pensioenwet [PW]). The definition of "pension" has been renewed in article 1 of the PW. Remarkable is the fact that the PW defines a lot more concepts and tries to give a substantive definition of what a "pension" is. However, the PW still does not give a substantive definition of the concept of "pension".[215]

The General Old Age Pensions Act

In 1956, the General Old Age Act (*Algemene Ouderdomswet [AOW]*) succeeded the post-war emergency law. The AOW introduced compulsory pay-as-you-go old age insurance for all residents, providing them with an old age benefit at the age of 65.[216] Remarkable again is the fact that this law also does not include a substantive definition of the concept "pension". However, it does regulate in article 7 who is entitled to an old-age pension. This AOW benefit starts when a person reaches the statutory retirement age[217] and ends upon imprisonment or death. It is a fixed amount and the same for everyone; it does not depend on premiums paid during the working life nor is it means tested. It does depend on the individual's living situation. Single persons receive a higher amount than each person of a couple (married or living together) receives. The amount also depends on how long a person lived in the Netherlands. Each year of living abroad will "cost" you 2% of the AOW benefit.[218] Premiums for the AOW are levied as part of the first bracket of the personal income tax and are only paid by those below the retirement age.[219] For those who have reached the statutory retirement age, this results in lower rates in the first bracket of the personal income tax.[220] Accordingly, the old-age premium can be avoided by shifting one's personal income through pension saving toward retirement where no premium for the AOW has to be paid.[221]

The industry-wide Pension Fund Act

Occupational pension schemes grew rapidly after the Second World War. One of the reasons behind this rapid growth was the establishment of the industry-wide Pension Fund Act (*Wet betreffende verplichte deelneming in bedrijfstakpensioenfonds (Wet Bpf)*), which was passed in 1949. This

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[215] Pensioenfederatie, *Ontwikkeling en positie van collectieve pensioenen in Nederland* (Spinhex & Industrie Drukkerij 2011), 24; M Kleuters, 'Wat is pensioen? Een inleidende zoektocht naar een definitie' in AHH Bollen-Vandenboorn (ed), *Pensioen en de belangrijkste toekomstvoorzieningen* (Sdu 2020) 33–35; AHH Bollen-Vandenboorn, MEC Boumans, G van Ginkel and EHM Janssen, 'Drieluik "De fiscale behandeling van pensioensparen". Deel III: Zelfstandig (pensioen)sparen als alternatief' (2014) MBB 6, 272.

[216] Pensioenfederatie, *Ontwikkeling en positie van collectieve pensioenen in Nederland* (Spinhex & Industrie Drukkerij 2011), 39.

[217] The statutory retirement age increases gradually from 66 years in 2018 to 67 in 2021 and is linked to the life expectancy thereafter.

[218] Ministerie van Sociale Zaken en Werkgelegenheid, *The Old-Age Pension System in the Netherlands* (Publicatie-nr SZW 74r610, Rijksoverheid, Den Haag, June 2008), 7; L Bovenberg and L Meijdam, 'The Dutch Pension System' in AH Börsch-Supan and M Miegel (eds), *Pension Reform in Six Countries* (Springer 2001), 43-44; M Weerepas, 'AOW en Anw' in AHH Bollen-Vandenboorn (ed), *Pensioen en de belangrijkste toekomstvoorzieningen* (Sdu 2020), 88

[219] art 2.10 Wet IB 2001.

[220] art 2.10a Wet IB 2001.

[221] L Bovenberg and L Meijdam, 'The Dutch Pension System' in AH Börsch-Supan and M Miegel (eds), *Pension Reform in Six Countries* (Springer 2001), 45.

law made the negotiated supplementary pension provisions compulsory for all firms in an industry if requested by the employers' organizations and trade unions.[222] This is also known as the "big mandatory".[223] Given the mandatory nature of the Act, one could expect this law to define the concept "pension". However, the law suffices with a reference to the Pensions Act[224]:

(…) the following definitions apply:

c. pension: pension as meant in art. 1 of the Pension Act.

While this law also does not provide a substantive definition of the concept "pension" it does make it clear that this term must be interpreted in the same way as under the Pensions Act.[225]

2.2.8 Freedom of choice

Although benefits from a pension scheme must be lifelong[226], the Dutch system is often considered quite rigid because intermediate drawdowns are generally not allowed. Freedom of choice with respect to one's pension is thus relatively limited in the Netherlands. However, there are several possibilities regarding the withdrawal of the benefit at retirement. It is, for example, possible to trade-off the old-age and partner's pension.[227] Another possibility is the high/low pension.[228] Furthermore, the new pension law makes it possible to withdraw an amount at once as a lump sum (*bedrag ineens*), though the implementation of this choice is currently postponed until at least July 2026.[229] Each of these options is discussed in turn below, followed by an examination of the possibilities of variant careers.

2.2.8.1 Trade-off old-age pension and partner's pension

Trade-off old-age pension for partner's pension

At the end of (active) participation in a pension scheme, the pensionable employee – if he/she has a partner – is entitled to (partially) trade-off his/her old-age pension for a partner's pension.[230] It concerns a legal right to which the pension provider is obliged to cooperate. The provider is also obliged to make these trade-off options know in writing at both the end of participation in the scheme and before the pension commencement date. It should be noted

[222] L Bovenberg and L Meijdam, 'The Dutch Pension System' in AH Börsch-Supan and M Miegel (eds), *Pension Reform in Six Countries* (Springer 2001), 39; M Kleuters, 'Wat is pensioen? Een inleidende zoektocht naar een definitie' in AHH Bollen-Vandenboorn (ed), *Pensioen en de belangrijkste toekomstvoorzieningen* (Sdu 2020) 36–37.
[223] Also refer to para 2.2.3.1.
[224] art 1 Wet Bpf 2000.
[225] M Kleuters, 'Wat is pensioen? Een inleidende zoektocht naar een definitie' in AHH Bollen-Vandenboorn (ed), *Pensioen en de belangrijkste toekomstvoorzieningen* (Sdu 2020) 36–37.
[226] art 18(1)(a)(i) Wet LB 1964.
[227] art 60 and 61 PW.
[228] art 63 PW.
[229] Minister of Social Affairs and Employment, 'Brief aan de Eerste Kamer over uitstel keuzerecht bedrag ineens en ontwikkeling van tool' (13 March 2025) Kamerstukken I 2024/25, 36 154, F.
[230] art 61 PW.

here that in the context of employee protection, if the employee/pensioner does not respond (or does not respond in time) to the provider's offer before the pension commencement date, the provider must automatically proceed with the trade-off if the pension agreement does not provide for an entitlement to a partner's pension from the date on which the old-age pension commences; *and*, the participant/deferred participant is married or has a registered partnership.[231] The trade-off will only not take place if the former employee/participant explicitly waives the trade-off.

Trade-off partner's pension for old-age pension

Before the pension commencement date, the partner's pension can be exchanged for a higher and/or earlier retirement pension.[232] However, for the protection of the partner, the condition has been set that the partner must sign for approval.[233]

2.2.8.2 High/low pension

Pursuant to Article 63 of the Pensions Act, it is possible to vary the amount of the pension benefit. This is implemented in practice by means of the so-called high/low pension. It basically means that the pension benefit is, for example, higher during the first years after retirement and then diminishes to a lower amount in subsequent years. The amount of the pension benefit can vary, provided that the lowest benefit payment is not less than 75% of the highest benefit payment; and the degree of variation is determined no later than on the commencement date of the pension.[234]

2.2.8.3 Variant careers

Early retirement is not possible regarding the basic state pension. The AOW is payable as of the state pension age – currently 67 years (2025).[235] It is possible to receive the occupational pension earlier. However, the benefits will be adjusted. Postponement of the AOW is also not possible, though it is possible to both receive AOW and continue work. Deferral of pension benefits varies between occupational schemes. Here it is also possible to combine receiving the pension benefit and work. However, it must be stipulated in the occupational pension plan.

Furthermore, the state pension automatically covers periods one is out of paid work. Whether this is due to e.g., childcare or unemployment does not matter. Since the accrual is based on residency this is automatically covered. With occupational pension schemes, however, this is not

[231] art 61(7) PW.
[232] art 60 PW.
[233] art 60(6) PW.
[234] art 63(1) PW.
[235] Rijksoverheid, 'AOW-leeftijd 2024–2030' <https://www.rijksoverheid.nl/onderwerpen/algemene-ouderdomswet-aow/aow-leeftijd-2024-2030> accessed 24 June 2025.

the case. Unlike in many other countries, one does not "earn" credits or the like for childcare periods. Many schemes do allow for voluntary contributions to cover the periods of absence.

2.3 The Dutch owner-occupier housing market

2.3.1 Introduction

Owner occupation is the main tenure in the Netherlands. Figure *2.2* shows the development of homeownership during the period 2005 – 2022. With 70.1% owner occupation in 2022, this is slightly higher than the EU average of 69.9%. There are several ways to buy a house in the Netherlands, the most common ones being with one's own money or by means of a loan (from a bank, a business, parents, etc.). Furthermore, the Netherlands has developed a system of financing the own dwelling aimed at borrowing. The dwelling is usually (entirely or partly) financed through a loan from the bank, or more specifically, by means of a mortgage loan.[236]

No less than 85.5% of the owner-occupied houses in the Netherlands are financed (at least partly) by means of a mortgage or other (housing) loan. The other 14.5% have no outstanding mortgage or housing loan (left).[237]

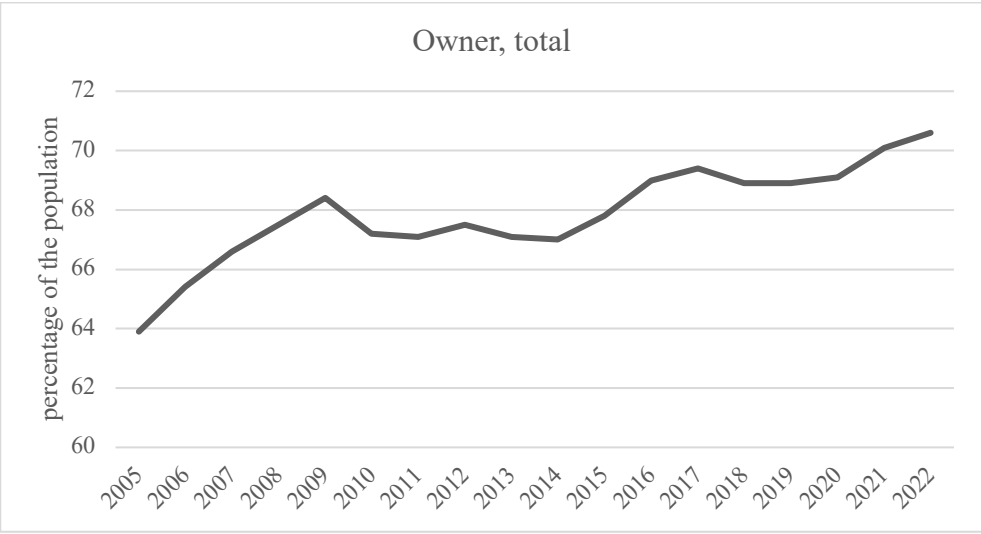

Figure 2.2: Homeownership in the Netherlands (2005 – 2022)[238]

[236] P Boelhouwer, K Dol, H van der Heijden and C Lamain, Van lenen naar (bouw)sparen (2014) 11.
[237] Eurostat, 'Database: ILC_LVHO02' (2023) <https://ec.europa.eu/eurostat/databrowser/view/ILC_LVHO02/default/table> accessed 13 March 2023.
[238] Eurostat, 'Database: ILC_LVHO02' (2023) <https://ec.europa.eu/eurostat/databrowser/view/ILC_LVHO02/default/table> accessed 13 March 2023.

While house prices had been growing before the 2008 credit crisis, Figure *2.3* clearly shows that house prices declined in the aftermath of the crisis. Only after 2013, have prices started to increase again.

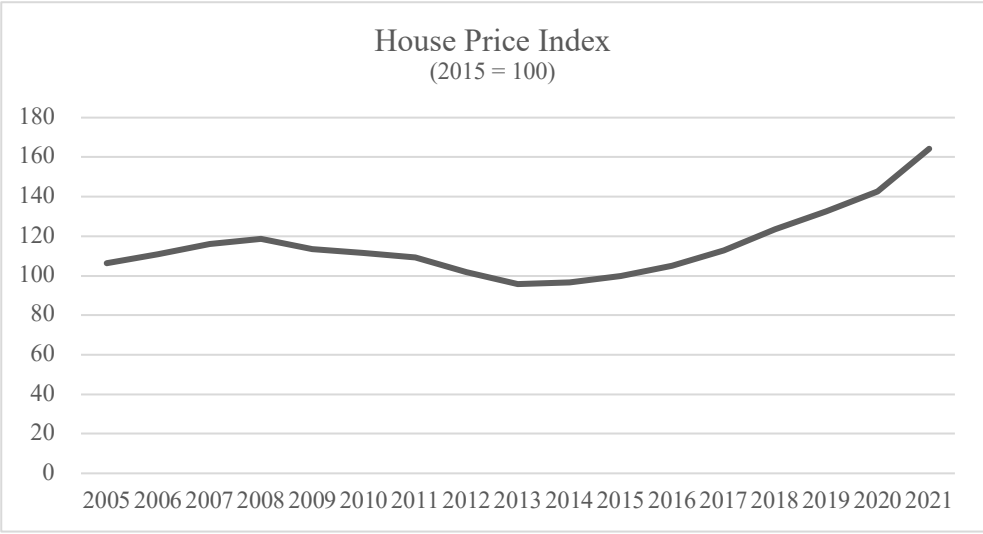

Figure 2.3: House Price Index in the Netherlands (2015 = 100)[239]

There are several ways to buy a house in the Netherlands, the most common ones being with one's own money or by means of a loan (from a bank, a business, parents, etc.). Furthermore, the Netherlands has developed a system of financing the own dwelling aimed at borrowing. Usually, the dwelling is entirely or partly financed through a loan from the bank, or more specifically, by means of a mortgage loan.[240] As said above, of the privately owned (and occupied) houses, 85,5% are entirely or partially financed by a mortgage loan.

2.3.2 The main residence

In the Netherlands, a definition of the main residence is stated within the Dutch income tax act (*Wet IB 2001*). Article 3.111 Wet IB provides a description of what is meant by the *main residence*. It specifically states that the main residence is understood to mean[241]:

A building, ship or caravan permanently bound to a place (…), or part of a building, ship or caravan, with the appurtenances belonging thereto, insofar as the taxpayer – or persons belonging to his household – is available other than temporarily as the main residence.

[239] OECD, 'National and Regional House Price Indices' (OECD.Stat) <https://stats.oecd.org/Index.aspx?DataSetCode=RHPI>.
[240] P Boelhouwer, K Dol, H van der Heijden and C Lamain, 'Van lenen naar (bouw)sparen' (2014) 11.
[241] art 3.111(1) Wet IB 2001.

In principle, only one house can be regarded as the main residence. Nevertheless, the legislator has made a few exceptions in which a second house can also temporarily fall under the owner-occupier home scheme (*eigenwoningregeling*[242]).[243] Subsequently, a space that is used as a workspace in a company, for results from (other) work or in a general partnership, is excluded.[244]

2.3.3 Taxation and (tax) facilities

2.3.3.1 The main residence in the Dutch Income Tax Act

Definition of the main residence

As mentioned in paragraph 2.3.2 above, unique in the Dutch legislation regarding the owner-occupied dwelling is that an important distinction is made within the Dutch Income Tax Act (*Wet IB 2001*) between a *residence* and the *main residence*. While the main residence is taxed in the first box, any other residence (or property) is taxed in the third, bringing an end to the deduction of mortgage interest for second homes. The term "main residence" is defined in art. 3.111, paragraph 1. This article states, among other things, that it must be the principal residence that the taxpayer is entitled to on the basis of a property right. Therefore, if the dwelling is to be a main residence, it must be permanently available to the taxpayer and it must be intended for personal use. Furthermore, the definition states that the taxpayer must have the ownership of the dwelling.[245]

Main Residence Forfait (*eigenwoningforfait*)

The income arising from the use of the owner-occupied home is determined based on a notional rental income. The amount that must be added to income as notional rental income changed its name under the fourth Dutch income tax act. In article 42a of the Dutch Income Tax Act 1964 it was called "imputed rental value" (*huurwaardeforfait*), while in article 3.112 of the Dutch Income Tax Act 2001 it is called "Main Residence Forfait" (*eigenwoningforfait*). Which is a deemed income from owner occupation. The calculation of the Main Residence Forfait is similar: taxable income regarding the main residence are the benefits from this main residence minus the expenses that are detrimental to those benefits.[246] The calculation hereof is now regulated by law by means of the Main Residence Forfait in article 3.112 of the Dutch Income Tax Act 2001. The Main Residence Forfait is a net notional income, calculated as a percentage of the value of the dwelling.[247] By virtue of article 3.112, paragraph 2 of the Dutch Income Tax Act 2001 is the value of the main residence determined on the basis of the Law on Valuation Real Property (*Wet*

[242] The *eigenwoningregeling* is treated in more detail in para 2.3.3.1 below.
[243] art 3.111(2)–(9) Wet IB 2001.
[244] art 3.111(10) Wet IB 2001.
[245] art 3.111(1) Wet IB 2001.
[246] art 3.110 Wet IB 2001.
[247] art 3.112 Wet IB 2001.

waardering onroerende zaken, WOZ). Table *2.1* shows how the notional rental value in 2025 is determined.

Table 2.1: Notional rental value (2025) from the owner-occupied dwelling

More than	**but no more than**	**on an annual basis**
-	€ 12,500	nil
€ 12,500	€ 25,000	0.10% of this value
€ 25,000	€ 50,000	0.20% of this value
€ 50,000	€ 75,000	0.25% of this value
€ 75,000	€ 1,330,000	0.35% of this value
€ 1,310,000	∞	€ 4,655 plus 2.35% of the value of the property insofar as this exceeds € 1,330,000

Since the Main Residence Forfait is a net notional income, costs incurred for the main residence are already included herein. These costs concern the costs that the owner must make for the dwelling: maintenance, depreciation, insurance and property tax.[248] Because income from the main residence is calculated on a notional basis, the actual costs, expenses, depreciations and revenues are irrelevant. With this notional income approach, the Dutch government intends to establish a simple and efficient way to determine the return from the main residence – which should be taxed. The main residence has long been a basis for taxation, because it has always been seen as an indication of the ability to pay principle. The reasoning behind this is that owning and inhabiting a house is the same as renting it to yourself, only no rent must be paid. The amount of rent that is saved is seen as the economic rental value and is considered income.[249]

Home acquisition debt (*eigenwoningschuld*)

A taxpayer who buys his own house will often not be able to finance the entire purchase amount by means of his own resources. In most cases, a (mortgage) loan is taken out to fund the purchase. If the conditions as stated in article 3.119a Wet IB 2001 are met, the debt incurred qualifies as home acquisition debt (*eigenwoningschuld*). Four main conditions can be distinguished:

1. The debt was incurred in connection with an owner-occupied home.[250]
2. The debt must be fully repaid on at least an annuity basis and in 360 months at most.[251]
3. The repayment requirement (*aflossingseis*) must be met.[252]

[248] GMCM Staats, Inleiding Belastingheffing ondernemingen en particulieren (18th rev edn, Sdu 2018) 62.
[249] Kamerstukken II 1911/12, 144, 3 (MvT) 29.
[250] art 3.119a(1)(a) Wet IB 2001.
[251] art 3.119a(1)(b) Wet IB 2001 in conjunction with art 3.119c Wet IB 2001.
[252] art 3.119a(1)(c) Wet IB 2001.

4. If the debt is incurred with a party not subject to the obligation to keep records, there is an obligation to provide information.[253]

If these conditions are met, the loan qualifies as home acquisition debt and deduction of expenses is allowed.[254]

Deductible expenses

Certain expenses regarding the owner-occupied dwelling can be qualified as deductible expenses. These expenses can be deducted from the main residence forfait. As a result, income from the owner-occupied dwelling can become nil, or even negative. The qualifying expenses can be found in article 3.120 Wet IB 2001. The deductible expenses are those related to an owner-occupied dwelling and are the aggregate of i) the interest on debts that are part of the home acquisition debt; ii) the costs of loans that are part of the home acquisition debt; and iii) the periodic payments based on the rights of long lease, superficies and oppression, with regard to the owner-occupied dwelling.[255]

The owner-occupied home reserve (*eigenwoningreserve*) and additional loan scheme (*bijleenregeling*)

It used to be the case that owner-occupiers who moved houses had the (indirect) option of deducting the interest on a loan that had been used indirectly for consumption or to finance investments. Many home-owners experienced value increases of their dwelling, resulting in a low home acquisition debt compared to the value of the dwelling (i.e., low LTV). When moving houses, they could increase their mortgage loan to the purchase price of the new dwelling plus costs, and at the same time deduct the interest on that loan in full. As a result, an amount (the difference between the value of the old dwelling and the remaining loan on that dwelling) is released for consumption or investment outside the owner-occupied dwelling. In essence this means that interest on the dwelling is deductible, but the interest paid (partly) relates to consumer credit or investments in assets other than the owner-occupied dwelling. This gave taxpayers moving houses a tax advantage over taxpayers that did not move houses. The Dutch legislator felt that this tax advantage for relocating owner-occupiers contributed to the expected strong increase in tax losses on owner-occupied dwellings and thought this was undesirable. To put an end to this inequality between moving- and non-moving owner-occupiers and to prevent tax-driven action, the additional loan scheme (*bijleenregeling*) was introduced. The basic principle being that when moving house, the home acquisition debt (on which the interest is deductible) may be increased insofar as the higher price of the purchase and possible improvement of the new dwelling cannot be paid from the proceeds of the old dwelling. The possibility for moving owner-occupiers to free up tax-facilitated money for consumption or other investment purposes is hereby terminated. It also puts an end to the preferential treatment of moving owner-occupiers

[253] art 3.119a(1)(d) Wet IB 2001 in conjunction with art 3.119g Wet IB 2001.
[254] More on deductible expenses can be found in the para below.
[255] art 3.120 Wet IB 2001.

over non-moving owner-occupiers.[256] The owner-occupied home reserve (*eigenwoningreserve*) was introduced in the additional loan scheme. The basic idea is that the net proceeds of the sale of the old dwelling are added to the owner-occupied home reserve. The net proceeds being the price at which the dwelling is sold, minus the costs related to the sale and the home acquisition debt for the dwelling.[257] When purchasing a new dwelling, the taxpayer is deemed to first use its owner-occupied home reserve for this purpose. If the owner-occupied home reserve is not, or not fully, used when purchasing a new dwelling, the taxpayer is not entitled to mortgage interest deduction on the part of the mortgage loan taken out that could have been financed by the owner-occupied home reserve. The owner-occupied home reserve expires insofar as it can be attributed to a net disposal of the owner-occupied home that was added three years ago.[258]

Box 1 versus box 3 taxation

Since the main residence is taxed in box 1, the effective tax burden is generally lower than on other forms of capital, which are taxed in box 3. In 2025, the notional return in box 3 ranges from 1.44% to 5.88%, depending on the asset composition (e.g., savings vs investments)[259], and is taxed at a flat rate of 36%[260], resulting in effective tax rates between 0.52% and 2.12%.

By contrast, the main residence is taxed based on a fixed notional rental value (*eigenwoningforfait*) of 0.35% of the value of the dwelling, which is added to taxable income in box 1. Applying the 2025 income tax rates, this results in an effective rate between 0.131% (i.e., 0.35% × 37.48%) and 0.173% (i.e., 0.35% × 49.5%).[261] For dwellings with a WOZ-value above € 1,330,000, a capping rule (cap) applies, gradually increasing the forfait. This only reaches an equivalent of the average box 3 rate (1.32%) at a WOZ-value of around € 2,570,000.[262]

2.3.3.2 Other tax laws regarding the main residence

Even though income tax is the most important tax regarding the main residence in the Netherlands, there are several other relevant taxes. These include the value added tax (VAT), transfer tax, inheritance- or gift tax, and a local real estate tax, the property tax. However, these mainly relate to dwellings in general and not specifically to the owner-occupied dwelling. To go into more detail regarding these other taxes goes beyond the scope of this research, and I will therefore only briefly discuss these other taxes.

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[256] Kamerstukken II 2003/04, 29 210, nr 3 (MvT) 19–20.
[257] art 3.119aa(1) Wet IB 2001.
[258] art 3.119aa(3) Wet IB 2001.
[259] See also art 5.2(2) Wet IB 2001.
[260] art 2.13 Wet IB 2001.
[261] 0.35% * 37.48% = 0.131% for the first two brackets and 0.35% * 49.50% = 0.173% for the third bracket (arts 2.10(1) and 3.112(1) Wet IB 2001).
[262] See also art 3.112 Wet IB 2001.

Property tax

A property tax is levied by the municipality in which the owner occupier dwelling is located. The rate of this property tax differs per municipality. Each municipality namely determines its own rates.[263]

Property transfer tax

Property transfer tax (*overdrachtsbelasting*) is levied upon the acquisition of existing residential real estate.[264] The standard rate is 2% of the property's purchase price or market value, whichever is higher. [265] This tax applies to the legal transfer of ownership of immovable property located in the Netherlands, including existing homes, as governed by the *Wet op belastingen van rechtsverkeer* (WBR)[266]. However, several exceptions and differentiated rates apply:

- 0% rate: First-time home buyers under the age of 35 may qualify for a full exemption, provided the value of the property does not exceed € 525,000 (2025 threshold), and they intend to use the property as their main residence.[267]
- 10.4% rate: A higher rate applies to purchases of investment properties, second homes, or commercial real estate. This rate also applies if the buyer does not intend to live in the property themselves.[268]

Eligibility for the lower or 0% rate must be declared formally in a written statement prior to the transfer.[269] The tax is typically due at the time of transfer and is paid via the notary, who files the return and remits the amount to the Dutch Tax Authority.[270]

Value Added Tax

Value Added Tax (VAT) needs to be paid when you buy a new-built home. It is a proportional rate of 21%.[271]

Inheritance or gift tax

In the case an owner-occupied dwelling has been inherited or given, inheritance or gift tax applies. The tax rate depends on the total amount of the inheritance or gift and on the

[263] art 220–220h Gemeentewet.
[264] art 2(1) WBR.
[265] art 14(2) WBR.
[266] Wet op belastingen van rechtsverkeer (WBR) BWBR0002740 <https://wetten.overheid.nl/BWBR0002740/2025-01-01> accessed 25 June 2025.
[267] art 14(2) WBR.
[268] art 14(1) WBR.
[269] art 15a WBR.
[270] Belastingdienst, *Hoe betaalt u overdrachtsbelasting?* (2025) <https://www.belastingdienst.nl/wps/wcm/connect/bldcontentnl/belastingdienst/prive/woning/overdrachtsbelasting/hoe_betaalt_u_overdrachtsbelasting/hoe_betaalt_u_overdrachtsbelasting> accessed 25 June 2025.
[271] art 9(1) Wet op de omzetbelasting 1968.

relationship between the parties. The tax rate varies between 10% and 40%.[272] Part of the inheritance or gift is exempt. The amount that is exempt also depends on the relationship between the parties and the purpose of the donation in the case of a gift.[273]

2.3.3.3 Facilities

Mortgage interest deduction

There are some costs, however, that have not been considered in the Main Residence Forfait. Regarding these costs, the Dutch Income Tax Act 2001 explicitly states that they are deductible.[274] These costs include, in particular, the interest on debt that is directly related to and has been used for the acquisition of the main residence.[275] Interest on debts entered into to improve or maintain the dwelling are also included herein.[276] Therefore, although an often-used term in this context is the "mortgage interest deduction", it is not required that the debt is an actual mortgage loan. It is sufficient that the debt has been acquired for the acquisition, improvement or maintenance of the dwelling.

This contributes to the tax incentive and bias towards debt. The notional income from the main residence is namely lower than the actual income that is earned from the residence (living pleasure minus costs), which results in a higher deductible item since costs exceed the income and the lower the income, the higher the remaining cost item. Furthermore, the biggest exception on the notional income is the possibility to separately deduct the financing costs of the main residence.[277] Since the main residence is taxed in box 1, the mortgage debt used to buy the property also belongs to box 1 (since debts follow the assets within the Dutch Income Tax Act[278]). This fact gives the largest tax incentive and bias towards debt, since the interest on the mortgage loan is deductible from the box 1 taxable income at its progressive rate.[279] Next to that, for most people the amount of expenses that is deductible is larger than the income generated by the main residence, resulting in an overall tax deduction.[280] Furthermore, due to a statutory limit, the balance of these positive and negative components can never be positive.[281] The difference between the income generated by the main residence and the expenses, is part of the income in box 1 and can therefore be deducted from the positive income components in

[272] art 24 Successiewet 1956.
[273] arts 32 and 33 Successiewet 1956.
[274] arts 3.110 and 3.120 Wet IB 2001.
[275] See also arts 3.110, 3.119a and 3.120 Wet IB 2001.
[276] See also art 3.123 Wet IB 2001.
[277] GMCM Staats, Inleiding Belastingheffing ondernemingen en particulieren (18th rev edn, Sdu 2018) 60.
[278] See also art 3.119a(1) and (3) Wet IB 2001.
[279] See also arts 2.10 and 2.10a Wet IB 2001.
[280] GMCM Staats, Inleiding Belastingheffing ondernemingen en particulieren (18th rev edn, Sdu 2018) 60.
[281] Art 3.123a Wet IB 2001 (the so-called 'Hillen law') stipulates that the notional income is never more than the home rental interest. See below for a more detailed description hereof.

that box (e.g., labour income). The government thus accounts for part of the mortgage interest.[282]

Through financial innovations such as investment-, savings- and interest-only mortgages[283], financial institutions have increased the stimulus of debt financing the own dwelling by enabling households to make full use of the mortgage interest relief.[284] However, since 2013 interest on a mortgage loan can be deducted from box 1 income for a maximum of thirty years. Moreover, the loan must be repaid at least on annuity basis, to be eligible for mortgage interest relief.[285] Next to that, the maximum deduction rate for mortgage interest deduction for those in the highest bracket of box 1, is being lowered gradually. This adjustment does not only apply to the (mortgage) interest but applies to all other deductible costs for the owner-occupied dwelling as well. Such costs include notary and consultancy costs for taking out the mortgage.[286] Furthermore, the scheme is structured in such a way that the repayments on debts that are not related to the sale of the dwelling, have a definitive character: once repaid is repaid.[287]

The "Hillen" law

A deduction due to little or no home acquisition debt (so-called "Hillen-deduction") was introduced as of 1 January 2005. If the main residence forfait is higher than the deductible expenses (such as the interest on debts that are part of the home acquisition debt), the taxpayer is entitled to a deduction.[288] The deduction is equal to the main residence forfait minus the deductible expenses.[289] In other words, income from the owner-occupied dwelling cannot exceed €0. The deduction due to little or no home acquisition debt was intended, on the one hand, to ease the burden of homeowners with a small home acquisition debt or no home acquisition debt at all, who saw the notional rental value rise due to the link (via the value of the property (*WOZ*)) to rising house prices, and, on the other hand, to promote repayment of the home acquisition debt, and promote financing the purchase of the owner-occupied dwelling with one's own resources.[290] However, as of 1 January 2019, the deduction is gradually being phased out.[291] The reasoning behind this reduction of the deduction, is that the deduction is no longer deemed necessary due to the repayment obligation (introduced on 1 January 2013).

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[282] GMCM Staats, Inleiding Belastingheffing ondernemingen en particulieren (18th rev edn, Sdu 2018) 60.
[283] See also appendix A1 for an extended description of each of these mortgage forms.
[284] J Parlevliet and T Kooiman, *De vermogensopbouw van huishoudens: is het beleid in balans?* (DNB Occasional Studies Vol 13–1, De Nederlandsche Bank 2015), 19.
[285] See also art 3.119a(1) Wet IB 2001.
[286] Rijksoverheid, *Bij welke soorten hypotheken heb ik recht op hypotheekrenteaftrek?* <https://www.rijksoverheid.nl/onderwerpen/huis-kopen/vraag-en-antwoord/recht-op-hypotheekrenteaftrek> accessed 24 January 2020.
[287] GMCM Staats, Inleiding Belastingheffing ondernemingen en particulieren (18th rev edn, Sdu 2018) 63.
[288] art 3.123a(1) Wet IB 2001.
[289] art 3.123a(2) Wet IB 2001.
[290] Voorstel van wet van het lid Hillen, Kamerstukken II 2001/02, 28 056, nr 3 (MvT) and nr 5; Materiële implementatie initiatiefwetsvoorstel Hillen, Kamerstukken II 2003/04, 29 209, nr 3 (MvT).
[291] Act of 20 December 2017 amending the Wet IB 2001 to gradually phase out the deduction for little or no home acquisition debt, *Stb.* 2017, 523.

Moreover, because of this repayment obligation, the deduction would be financially unsustainable in the long run.[292] The Hillen-deduction will be phased out over 30 years with an annual reduction of 3⅓ percentage points and will be fully abolished by 2048.[293] As of 2025, the deduction is equal to 76.67 per cent.[294]

Gift exemption when purchasing an owner-occupied dwelling

The Netherlands knows an increased gift exemption when purchasing an owner-occupied dwelling. Furthermore, as of 2013, the "*Jubelton*" was temporarily introduced to provide the housing market with a temporary stimulus which was collapsed due to the credit crisis. It was also in line with the aim of encouraging households to repay home acquisition debt.[295] After more than a year, the scheme disappeared for a while, but in 2017 it was introduced again, this time for a longer period. At the time, it was exactly €100,000 though the amount has been indexed every year since then. However, the increased exemption for owner-occupied houses has been abolished of 1 January 2024.[296] There is, however, the possibility of receiving a one-off gift from one's parents up to €32,195 (2025) tax-free if the receiving individual is between the ages of 18 and 40.[297]

Exemption for first-time buyers

There is also an exemption for first-time buyers regarding transfer tax.[298] This exemption can be used by individuals between the ages of 18 and 35. It can be enjoyed once, and the value of the property may not exceed € 525,000 (2025). When applying the exemption, no transfer tax is due. With the introduction of this one-off exemption from transfer tax, the Dutch government aims to improve the housing market position of first-time buyers.[299]

2.3.4 Homeownership and the Dutch mortgage market

At the beginning of this section, we have seen that owner-occupation is the main tenure in the Netherlands at 70.1% (2022). Of these owner-occupied houses, only 14.5% own their property outright and no less than 85.5% are (entirely or partly) financed by means of a mortgage or other housing loan.

[292] Kamerstukken II 2017/18, 34 819, nr 3 (MvT) 1.
[293] Kamerstukken II 2017/18, 34 819, nr 3 (MvT) 3.
[294] art 3.123a(2) Wet IB 2001.
[295] Kamerstukken II 2013/14, 33 752, nr 11, 62.
[296] Kamerstukken II 2022/23, 36 202, nr 3 (MvT) 35.
[297] art 33(5)(c) Successiewet 1956.
[298] art 15(1)(p) WBR.
[299] Kamerstukken II, 2020/21, 35 576, nr 3, 8.

2.3.4.1 Mortgages

Mortgage as used in the context of this research refers to a legal agreement to borrow money from a bank or other (financial) institution (one can also borrow from e.g., a business or from one's parents), specifically to buy a house, where the house serves as collateral.

The Netherlands has several kinds of mortgages, of which the most common are the annuity mortgage, linear mortgage, interest-only mortgage, savings mortgage, bank savings mortgage, investment mortgage, life mortgage, and the hybrid mortgage.[300] As with other types of loans, mortgage loans have an interest rate and are scheduled to be repaid over a set period of time. The monthly payment typically consists of a principal component (the repayment) as well as an interest component (see also Figure *2.4* for an example of the linear mortgage payments over time).

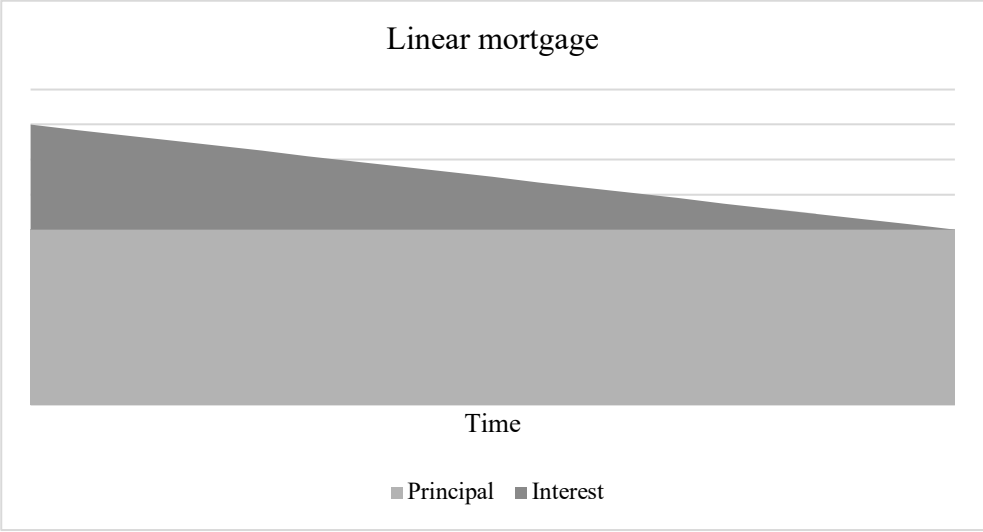

Figure 2.4: Principal and interest component of a linear mortgage loan over time.

In the Netherlands it is possible to deduct the interest component from your taxable income.[301] From a taxation point of view it is thus advantageous not to redeem too much, since by repaying the loan, the amount of payable interest decreases, and with it, the tax relief. This can be identified as the first cause for the bias towards debt in the Netherlands. Important to note here, is the fact that due to the progressive tax rate in the Dutch income tax law, the higher one's gross income, the more beneficial the mortgage interest rate deduction. Example 2.1 below clarifies this.

[300] See appendix A1 for an extended description of each of these mortgage forms.
[301] arts 3.1, 3.110 and 3.120 Wet IB 2001.

Furthermore, through financial innovations such as savings-, investment- and interest-only mortgages, financial institutions have enabled households to make full use of the mortgage interest relief.[302] However, as discussed before, interest on a mortgage loan can be deducted from taxable income for a maximum of thirty years. Moreover, the loan must be repaid at least on an annuity basis, in order for one to be eligible for mortgage interest relief.[303]

A second possible cause for the bias towards debt is the Dutch National Mortgage Guarantee scheme ("*Nationale Hypotheek Garantie*" [NHG]), which helps (lower income) home buyers take out a mortgage that is both affordable and responsible. It is a guarantee provided to the mortgage lender (e.g., a bank) by a government-backed foundation; the Homeownership Guarantee Fund ("*Waarborgfonds Eigen Woning*" [WEW]). If anyone with this guarantee runs into problems meeting payments due to specific circumstances beyond their control, the NHG will provide a safety net for both the mortgage borrower and lender.[304] If one wants to take out a mortgage loan with NHG, the purchase amount of the dwelling can be a maximum of € 435,000 (in 2024). If you plan to renovate the dwelling, then the purchase amount *and* the renovation costs may not exceed this € 435,000 (2024). It is even possible to borrow up to € 461,100 for energy-saving measures. You must then fully spend the extra amount on those measures.[305]

The possibility to deduct mortgage interest from one's taxable income in combination with the National Mortgage Guarantee are important conditions for the bias towards debt in the Netherlands.[306]

[302] J Parlevliet and T Kooiman, *De vermogensopbouw van huishoudens: is het beleid in balans?* (DNB Occasional Studies Vol 13–1, De Nederlandsche Bank 2015), 19.
[303] See also art 3.119a(1) Wet IB 2001.
[304] Nationale Hypotheek Garantie, *What is National Mortgage Guarantee* <https://www.nhg.nl/english-summary/Information-for-consumers/What-is-nhg> accessed 14 October 2019.
[305] Nationale Hypotheek Garantie, *NHG afsluiten* <https://www.nhg.nl/Consument/NHG-afsluiten> accessed 14 October 2019.
[306] P Boelhouwer, K Dol, H van der Heijden and C Lamain, Van lenen naar (bouw)sparen (2014) 11; Marco Kerste and others, *Evenwichtige vermogensopbouw: Hoe is de financiële weerbaarheid van Nederlandse huishoudens te vergroten?* (SEO Economisch Onderzoek 2017) 11.

Example 2.1: MID at different income levels

	Scenario 1	**Scenario 2**
Income	€ 35,000.00	€ 80,000.00
Mortgage amount	€ 130,000.00	€ 130,000.00
Mortgage interest rate	1.60%	1.60%
Mortgage interest payment (1st year)	€ 2,080.00	€ 2,080.00
Taxable income	**€ 32,920.00**	**€ 77,920.00**
Taxes due (without mortgage interest rate deduction):		
Bracket 1	€ 13,118.00	€ 14,407.69
Bracket 2		€ 14,383.32
Bracket 3		€ 1,575.59
Total	**€ 13,118.00**	**€ 30,366.60**
Taxes due (with mortgage interest rate deduction):		
Bracket 1	€ 12,338.42	€ 14,407.69
Bracket 2		€ 14,383.32
Bracket 3		€ 545.99
Total	**€ 12,338.42**	**€ 29,337.00**
Difference	**€ 779.58**	**€ 1,029.60**

Note 1: These are simplified example calculations to show how mortgage interest deduction works. In reality, one also has to take into account an adverse effect of the *eigenwoningforfait* (deemed income from owner occupation).
Note 2: Higher income households can take out higher mortgage loans resulting in even higher tax reliefs (also refer to appendix A2).

2.3.4.2 Housing wealth and mortgage debt

In the previous paragraph we saw that the Dutch government stimulates debt financing the purchase of the main residence in several ways. Furthermore, financial institutions have aided this stimulation by means of e.g., the invention of several financial instruments that have enabled households to make full use of the mortgage interest relief. As a result, we see that owner-occupation in the Netherlands is no less than 70.1% (in 2022) of which 85.5% are entirely or

partially financed by a mortgage loan.[307] This paragraph takes a closer look at the relation between housing wealth and mortgage debt.

LTV, LTI and ETV

Often used ratios in the field of housing are the Loan-to-Value (LTV), Loan-to-Income (LTI), and Equity-to-Value (ETV) ratios. The LTV ratio expresses the size of the mortgage loan relative to the value of the dwelling.[308]

The ETV ratio complements the LTV ratio: it is the amount of housing equity that a household holds, as a proportion of the value of the dwelling, and it indicates the amount of housing wealth that has been built up to date. It allows us to determine the extent of wealth accumulation from price increases and from repaying the mortgage loan. The ETV ratio is calculated as the value of the dwelling minus the outstanding mortgage debt, divided by the value of the dwelling. Another calculation method is 1 minus the LTV ratio.[309]

The third and final ratio is the Loan-to-Income (LTI) ratio, which expresses the size of the mortgage loan relative to gross household income.[310] The maximum LTI determines the percentage of the household income that can be used for mortgage payments. By making use of the so-called "financing burden percentages" as included in the law[311], the maximum LTI is calculated.[312] The LTI is a crucial indicator of a household's debt-carrying capacity and serves as a macroprudential tool to limit borrowing relative to income. This helps ensure mortgage affordability and reduces systemic risks arising from excessive household leverage.[313]

Off these three ratios, the LTV ratio is the most often used. If we take a closer look at this ratio internationally, the relatively high LTV ratio in the Netherlands stands out immediately (see Figure *2.5*). Several factors have contributed to this.

First, the Dutch government has encouraged debt financing the own dwelling through several tax incentives. Households could, until recently and almost unlimitedly, deduct their mortgage

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[307] Eurostat, 'Database: ILC_LVHO02' (2023) <https://ec.europa.eu/eurostat/databrowser/view/ILC_LVHO02/default/table> accessed 13 March 2023.
[308] J Toussaint, *Housing Wealth in Retirement Strategies: Towards Understanding and New Hypotheses* (Sustainable Urban Areas, Delft University Press 2011) 18.
[309] J Toussaint, *Housing Wealth in Retirement Strategies: Towards Understanding and New Hypotheses* (Sustainable Urban Areas, Delft University Press 2011) 18, 180, 182.
[310] Nederlandse Vereniging van Banken (NVB), *Fact Sheet Housing and Mortgage Market* (2017) 3 <https://www.nvb.nl/media/document/002081_nvb-fact-sheet-housing-and-mortgage-market-2017-eng.pdf>.
[311] art 3(5) Tijdelijke regeling hypothecair krediet.
[312] Autoriteit Financiële Markten (AFM), *Inkomenstoets (LTI)* <https://www.afm.nl/nl-nl/consumenten/themas/producten/hypotheek/hoeveel-lenen/lti> accessed 17 October 2018.
[313] E Gaffney, *Loan-to-Income Limits and Mortgage Lending Outcomes* (Financial Stability Notes, Central Bank of Ireland, Vol 2022, No 10, December 2018) 3 <https://www.centralbank.ie/docs/default-source/publications/financial-stability-notes/loan-to-income-limits-and-mortgage-lending-outcomes.pdf> accessed 24 June 2025.

interest payments from their taxable income. In addition, taxation on capital regarding the main residence is on average lower than on other forms of capital.[314]

Second, through financial innovations[315] financial institutions have enabled households to make full use of the mortgage interest deduction. Third, the LTV ratio was not limited until 2013. These factors resulted in high LTV ratios in the Netherlands compared to other European countries.[316]

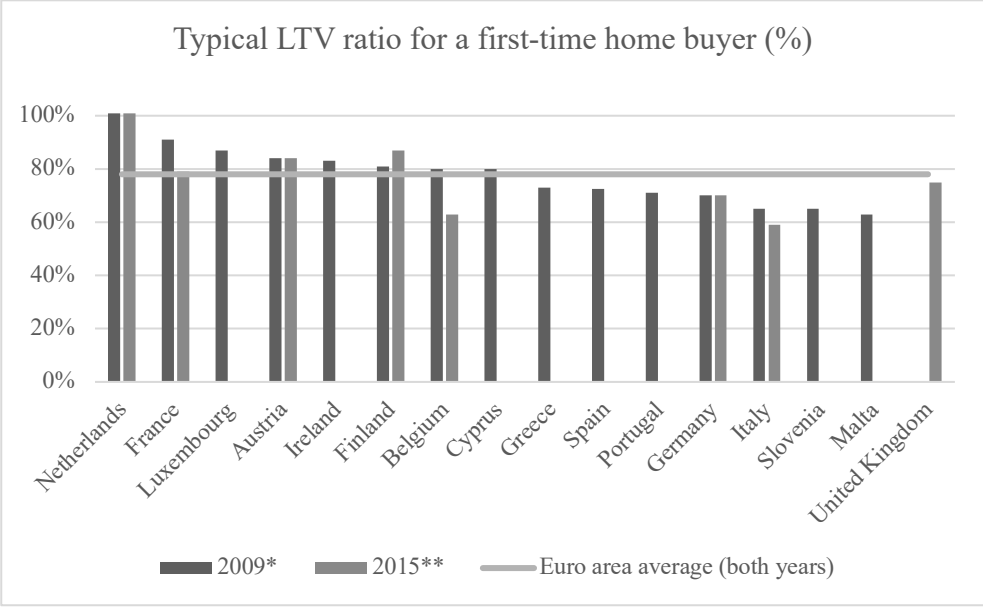

Figure 2.5: Typical LTV ratio for a first-time home buyer (%)[317]

While the maximum LTV ratio in the Netherlands has been lowered to 100% since 2018[318], figure 2.5 clearly shows significantly lower LTV ratios in neighbouring countries. In many countries a deposit of approximately 20% of the purchase price of a dwelling is the norm.[319] These numbers – and even more so the 2008 financial crisis, and the resulting number of

[314] Please refer to para 2.3.3.1 for a more detailed discussion hereof.
[315] Such as savings-, investment-, and interest only mortgages.
[316] J Parlevliet and T Kooiman, *De vermogensopbouw van huishoudens: is het beleid in balans?* (DNB Occasional Studies Vol 13–1, De Nederlandsche Bank 2015), 19.
[317] 2009 numbers come from European Central Bank (2009) and 2015 numbers from DNB (2015).
[318] Autoriteit Financiële Markten (AFM), *Hypotheek in relatie tot waarde huis (LTV)* <https://www.afm.nl/nl-nl/consumenten/themas/producten/hypotheek/hoeveel-lenen/maximale-hypotheek> accessed 17 October 2018; Kamerstukken II 2016/17, 32 847, nr 281 (Kamerbrief).
[319] See also P Boelhouwer, K Dol, H van der Heijden and C Lamain, Van lenen naar (bouw)sparen (2014) 10. A further look at the international perspective is given in chapters 3, 4 and 5. Specifically, comparative research with the United Kingdom, Switzerland and Germany is performed.

dwellings under water (see also figure 2.6) – resulted in further research into lowering the LTV below 100% in the Netherlands as well.

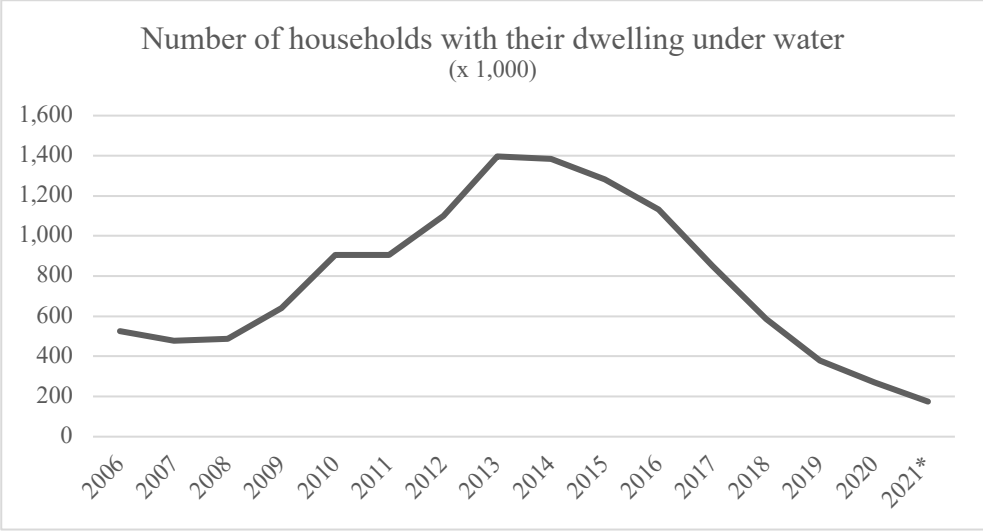

Figure 2.6: Number of households with their dwelling under water[320]
* preliminary numbers

Furthermore, through wider credit terms, banks have boosted mortgage lending and subsequently house prices.[321] In the case of a two-income household, both incomes are considered when calculating the maximum mortgage amount. To do more justice to the situation of two-income households, Nibud advised in 2016 that the second income for two-income households should gradually be given more weight when determining the maximum LTI. The government has followed this advice; since 2016, the second income has gradually been considered more. From 1 January 2023 onward, mortgage lenders are allowed to fully include the second income – in the case of a two-income household – when determining the LTI. This is the final step of the policy to gradually increase the inclusion of the second income in the calculation of the maximum allowed LTI.[322] Table 2.2 shows the gradual increase in the inclusion of the second income.

[320] CBS StatLine, *Financieel risico hypotheekschuld; eigenwoningbezitters* <https://opendata.cbs.nl/statline/#/CBS/nl/dataset/85162NED/table?ts=1686746625079> accessed 14 June 2023.
[321] J Parlevliet and T Kooiman, *De vermogensopbouw van huishoudens: is het beleid in balans?* (DNB Occasional Studies Vol 13–1, De Nederlandsche Bank 2015), 19–20.
[322] Kamerstukken II 2022/23, 32 847, nr 977; Kamerstukken II 2020/21, 32 847, nr 689; Kamerstukken II 2018/19, 32 847, nr 438; Kamerstukken II 2017/18, 32 847, nr 307.

Table 2.2: Percentage of second income included in the calculation of the maximum allowed LTI

Year	Percentage second income included in maximum LTI calculation
2016	50%
2017	60%
2018	70%
2019	70%
2020	80%
2021	90%
2022	90%
2023	100%

Unequal distribution of wealth

Figure 2.7 shows the distribution of housing wealth and mortgage debt among Dutch households as a percentage of GDP for the years 2006 until 2021. Even though total housing wealth is a lot higher than total mortgage debt (e.g., 195% and 91% of GDP respectively in 2020), it plays an important role at the individual level where we find skewness in the distribution of housing wealth and mortgage debt among different homeowners.[323]

[323] See also J Parlevliet and T Kooiman, *De vermogensopbouw van huishoudens: is het beleid in balans?* (DNB Occasional Studies Vol 13–1, De Nederlandsche Bank 2015), 22.

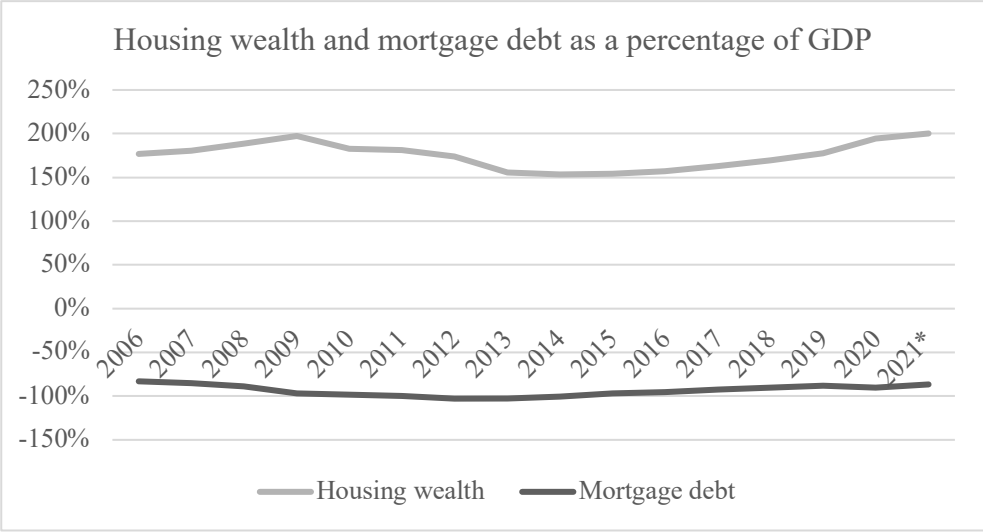

Figure 2.7: Housing wealth and mortgage debt (as a percentage of GDP) among Dutch households[324]
* preliminary numbers

While some households have a surplus on their dwelling, others have substantial undervalue. The period of homeownership plays an important role here, but there are also very specific cohort effects. Households entering the housing market before and during the 1990s benefited a lot from the high economic growth, low interest rates, fiscal subsidies on homeownership, and the house price increases during that period of time.[325] Households entering after 2000 had to pay relatively high prices for their dwellings, while they subsequently have seen the value of their houses fall – often below the mortgage value – during the crisis. Now that financing conditions have been tightened and the mortgage interest deduction is being cut back, current young households will no longer benefit equally from house price increases like they occurred in the decades before the crisis.[326]

[324] CBS StatLine, *Vermogen van huishoudens; huishoudenskenmerken, vermogensbestanddelen* <https://opendata.cbs.nl/statline/#/CBS/nl/dataset/83834NED/table?ts=1539173604328> and CBS StatLine, *Opbouw binnenlands product (bbp); nationale rekeningen, 1995-2022* <https://opendata.cbs.nl/statline/#/CBS/nl/dataset/84087NED/table?ts=1539175692980> accessed 12 June 2023.
[325] A van der Schors, R Alessie and C Mastrogiacomo, *Home and Mortgage Ownership of the Dutch Elderly: Explaining Cohort, Time and Age Effects* (CPB Discussion Paper No 77, 2007) 10–11.
[326] J Parlevliet and T Kooiman, *De vermogensopbouw van huishoudens: is het beleid in balans?* (DNB Occasional Studies Vol 13–1, De Nederlandsche Bank 2015), 22–23.

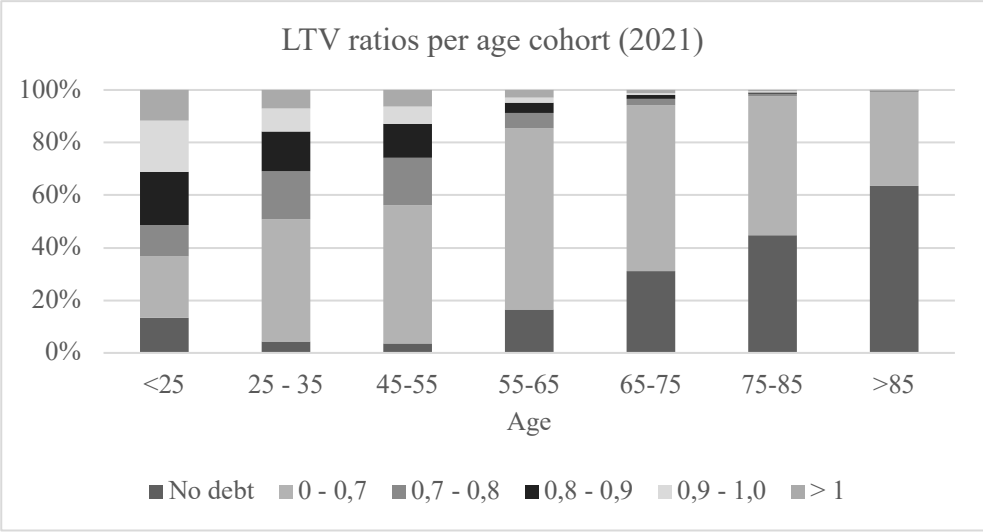

Figure 2.8: LTV ratios per age cohort. (Year: 2021 – preliminary numbers)[327]

Figure 2.8 shows the share of households with no debt, 0-70%, 70-80%, 80-90%, 90-100%, and more than 100% of the value of the house in debt, categorised by age. From this, we can also deduct which households experience over- and which experience undervalue of their dwelling.[328] If we zoom in to households between the age of 25 and 45 years old, we see that their debt levels are the highest. It is precisely these young households who have small financial buffers and can hardly use their own money to repay their debt. If these households want to move, this will cause problems, since selling their dwelling leaves them with a residual debt.[329] Furthermore, we see that the older the household gets, the smaller the debt becomes. This makes sense, since these are the age cohorts that benefited most from the tax subsidies on homeownership and the increases of house prices during the decades before the crisis.[330] Figure 2.9 also clearly demonstrates this. We see that for anyone who bought a house in the second half of the 1990s, the value of their dwelling has increased tremendously. If, on the other hand, anyone who bought a house in say 2008, they have seen the value of their dwelling decrease to an ultimate low in 2013 and slowly increase again to its original 2008 level by mid 2017. Another explanation for the smaller amount of debt for older households, is that households repay their debt. Hence, the older the households, the more repayments have been done.

[327] CBS StatLine, *Financieel risico hypotheekschuld; eigenwoningbezitters* <https://opendata.cbs.nl/statline/#/CBS/nl/dataset/85162NED/table?ts=1686746625079> accessed 14 June 2023.
[328] Undervalue in the context of this research means the value of the dwelling is lower than the mortgage loan on the dwelling – also known as the dwelling being "under water".
[329] J Parlevliet and T Kooiman, *De vermogensopbouw van huishoudens: is het beleid in balans?* (DNB Occasional Studies Vol 13–1, De Nederlandsche Bank 2015), 35.
[330] J Parlevliet and T Kooiman, *De vermogensopbouw van huishoudens: is het beleid in balans?* (DNB Occasional Studies Vol 13–1, De Nederlandsche Bank 2015), 23.

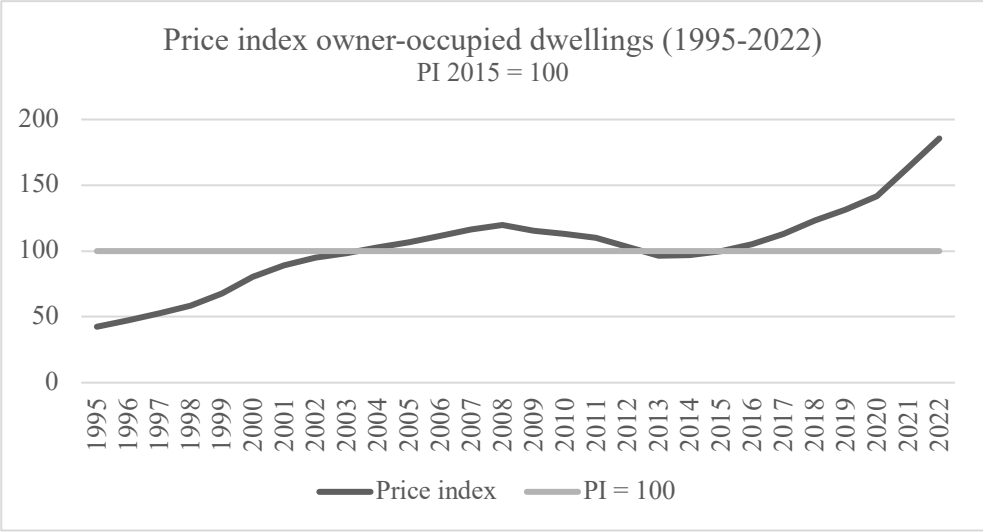

Figure 2.9: Price index owner-occupied dwellings (period: 1995 – 2022)[331]

Figure 2.10 below shows the development of households aged 25 up to 45 with an LTV bigger than one. In other words, with their dwelling "under water". The share of households with an LTV bigger than one had been increasing for over 5 years up until 2013 with the introduction of the *Wet Herziening fiscale behandeling Eigen Woning* – a revision of the tax treatment of owner-occupied dwellings. Hereafter, the number is steadily declining. Several measures could have caused this. From 2013, interest on new mortgages is only deductible if the entire mortgage is repaid at least on an annuity basis and within thirty years.[332] Furthermore, the maximum LTV is reduced in six annual steps of 1% from 106% to 100% in 2018. Transfer tax remains at 2% permanently.[333]

[331] CBS StatLine, *Bestaande koopwoningen; verkoopprijzen prijsindex 2015=100 1995-2023* <https://opendata.cbs.nl/statline/#/CBS/nl/dataset/83906NED/table?ts=1758647794985> accessed 14 june 2023.
[332] See also art 3.119a Wet IB 2001.
[333] A Lejour, *Een politiek-economische analyse van de groei en beperking van de hypotheekrenteaftrek* (CPB Achtergronddocument, Centraal Planbureau 30 June 2016) 7–8.

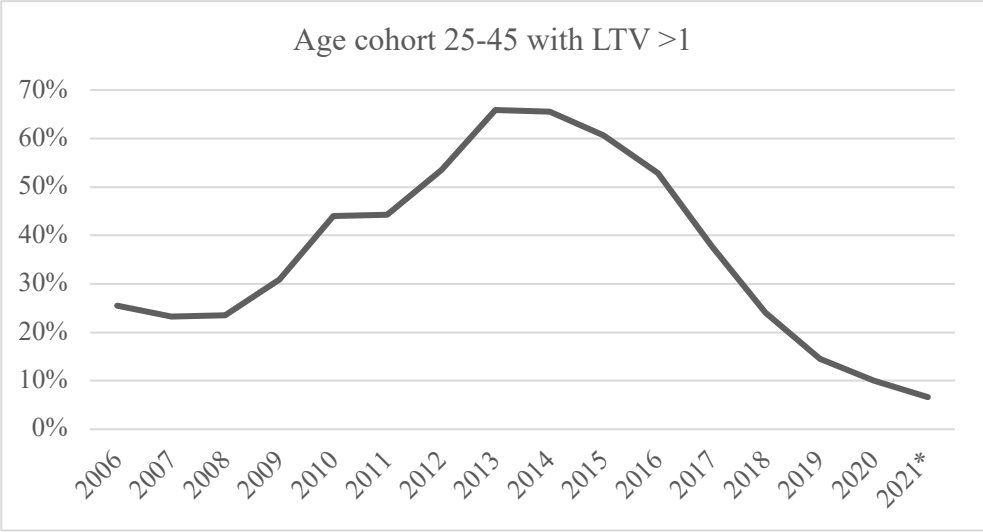

Figure 2.10: Percentage of households within the age cohort 25-45 with their dwelling "under water"[334]
*preliminary numbers

First-time homebuyers

In recent years, the average age of first-time homebuyers in the Netherlands has increased.[335] Most first-time buyers are now between the ages of 20 and 35, with a mode of 26 years and a mean age of 32.[336] This upward trend can be attributed to several factors.

First, it has become increasingly difficult for first-time buyers to enter the housing market. In the past, they were often able to finance both the purchase price and the additional transaction costs entirely through a mortgage loan, without needing any personal savings. That is no longer the case. Additional costs – such as notary fees, transfer tax, and valuation costs – can no longer be financed through the mortgage[337], meaning that buyers must now contribute personal savings to complete the transaction. [338]

Second, regulatory changes have had a disproportionate impact on this group. Since 2013, only mortgages that are repaid at least on an annuity basis are eligible for mortgage interest relief. [339] As a result, first-time buyers today – compared to those who entered the market before 2013 –

[334] CBS StatLine, *Financieel risico hypotheekschuld; eigenwoningbezitters* <https://opendata.cbs.nl/statline/#/CBS/nl/dataset/85162NED/table?ts=1686746625079> accessed 12 June 2023.
[335] P de Vries and P van Dalen, *Starters gaan later hun woning kopen* (Themabericht, Rabobank, 15 July 2015) <https://economie.rabobank.com/publicaties/2015/juli/starters-gaan-later-hun-woning-kopen/> accessed 9 October 2018.
[336] Kadaster, Doorstroming op de koopwoningmarkt: 2006–2016 (2016) 12.
[337] Autoriteit Financiële Markten (AFM), *Hypotheek in relatie tot waarde huis (LTV)* <https://www.afm.nl/nl-nl/consumenten/themas/producten/hypotheek/hoeveel-lenen/maximale-hypotheek> accessed 17 October 2018; Kamerstukken II 2016/17, 32 847, nr 281 (Kamerbrief)
[338] Kadaster, *Doorstroming op de koopwoningmarkt: 2006–2016* (2016) 1.
[339] See also art 3.119a(1) Wet IB 2001.

either face higher monthly net payments for the same loan amount or must take out a smaller mortgage.

Third, developments in the labour market have made mortgage financing more difficult. The rise of flexible employment contracts has made it harder for many young buyers to demonstrate sufficient income stability, a key criterion for mortgage approval.[340]

Finally, the growing presence of private investors in the starter-home segment has further intensified competition. These investors often purchase affordable homes with the intention of renting them out (buy-to-let), thereby diverting dwellings from the owner-occupied segment to the rental market and intensifying competition for first-time buyers.[341]

2.4 Earlier (policy) proposals linking pension and housing in the Netherlands

Efforts to structurally link retirement savings to real estate purchases in the Netherlands have thus far remained limited. Nonetheless, the topic has received growing attention in both academic and policy circles. Recent proposals reflect increasing awareness of the potential synergies between pension capital and owner-occupied housing, though few have translated into concrete legislative implementation. This section discusses two prominent initiatives: the legislated (but delayed) lump sum withdrawal option at retirement and the development of participation mortgages, which aim to mobilise housing equity through risk-sharing structures.

2.4.1 Lump sum withdrawal at retirement

One of the most concrete steps toward greater pension flexibility is the lump sum withdrawal option introduced as part of the *Wet bedrag ineens, RVU en verlofsparen*. As discussed in section 2.5.5.1, the Future of Pensions Act (*Wet toekomst pensioenen*) allows participants in second- and third-pillar schemes to withdraw up to 10% of their accrued pension entitlements as a one-time lump sum at the moment of retirement. The provision is intended to grant participants greater autonomy over their pension capital, while incorporating safeguards to maintain long-term pension adequacy.

While the lump sum withdrawal option represents a meaningful step toward flexibility in pension use, its limitations are substantial. Most notably, the withdrawal is restricted to the retirement

[340] P de Vries and P van Dalen, *Starters gaan later hun woning kopen* (Themabericht, Rabobank, 15 July 2015) <https://economie.rabobank.com/publicaties/2015/juli/starters-gaan-later-hun-woning-kopen/> accessed 9 October 2018.
[341] Nieuwsuur, *Starters in het nauw: particuliere beleggers nemen de steden over* (9 October 2018) <https://nos.nl/nieuwsuur/artikel/2226094-starters-in-het-nauw-particuliere-beleggers-nemen-de-steden-over.html> accessed 9 October 2018.

age and cannot be accessed during earlier life stages when liquidity constraints are often most pressing – such as when purchasing a (first) home. In addition, the withdrawal cannot be combined with high-low pension arrangements, and the remaining pension benefit must exceed the statutory commutation threshold. While the funds can be spent freely, the model lacks any specific provisions linking the withdrawal to socially valuable uses like home purchases, sustainability upgrades, or transitions between housing types. Finally, the amount is capped and heavily regulated, ensuring protection of pension adequacy but also reducing the flexibility needed to make a meaningful impact on homeownership access.

In this context, the lump sum withdrawal option lacks the specificity, timing, and structural scope to function as a meaningful bridge between retirement savings and real estate purchases to shorten household balance sheets. Delays in implementation further reduce its short-term relevance for addressing liquidity constraints among aspiring homeowners.

2.4.2 Participation mortgages

A second proposal is that of the participation mortgage (*participatiehypotheek*), explored by van Ewijk et al. (2023).[342] This model proposes a form of risk-sharing mortgage in which the repayment amount depends on the home's market value at the time of sale. Unlike conventional or reverse mortgages, participation mortgages avoid fixed repayment schedules during the loan term, thus enhancing financial liquidity for borrowers. In rising markets, the borrower repays more; in declining markets, less – thus sharing the housing market risk with the financier. [343]

The core idea is that pension funds – given their long-term investment horizon and societal mandate – could serve as ideal financiers. Since borrowers repay more in rising markets and less in falling ones, the arrangement effectively shares housing market risk between the household and the fund.[344]

The participation mortgage is especially attractive for groups underserved by traditional mortgage instruments, such as self-employed individuals with variable income and older homeowners with substantial home equity but insufficient income under standard lending criteria. By softening the constraints of the long Dutch household balance sheet and offering flexible access to illiquid housing wealth, the participation mortgage represents a promising

[342] C van Ewijk, A Gielen, M Knoef, M Mastrogiacomo and A Slager, Participatiehypotheken als impuls voor mobiliseren woningkapitaal: een interessante optie voor pensioenfondsen (Netspar Design Paper No 220, Netspar 2023).
[343] C van Ewijk, A Gielen, M Knoef, M Mastrogiacomo and A Slager, Participatiehypotheken als impuls voor mobiliseren woningkapitaal: een interessante optie voor pensioenfondsen (Netspar Design Paper No 220, Netspar 2023) 23–26.
[344] C van Ewijk, A Gielen, M Knoef, M Mastrogiacomo and A Slager, Participatiehypotheken als impuls voor mobiliseren woningkapitaal: een interessante optie voor pensioenfondsen (Netspar Design Paper No 220, Netspar 2023) 36–38.

innovation that bridges pension and housing policy in a coherent and scalable way. For pension funds, it also offers a socially aligned investment opportunity, potentially generating stable, long-horizon returns while supporting policy goals such as homeownership access and balance sheet deleveraging. [345]

Participation mortgages may therefore ease liquidity constraints without imposing immediate repayment obligations, making them attractive for targeted segments of the housing market. However, they remain debt instruments. Despite their flexibility, they do not reduce overall leverage, and in fact may raise loan-to-value ratios during the holding period. Their financial innovation lies in the distribution of risk, not in the reduction of debt.

In this light, participation mortgages expand access to credit rather than repurposing existing capital. While they improve financial inclusivity and may generate stable, long-horizon returns for pension funds, they do not structurally shorten Dutch household balance sheets.

2.4.3 RMU proposals: Pension premium and commutation of pension

Another attempt to link retirement savings to homeownership was undertaken by the Dutch Ministry of Social Affairs and Employment in 2015.[346] The initiative originated from the Reformed Social Union (*Reformatorisch Maatschappelijke Unie,* RMU), which argued that households should be given the opportunity to utilise part of their pension contributions or accrued entitlements toward mortgage repayment. The stated objective was to reduce household indebtedness, stimulate housing market turnover, and provide workers with more financial flexibility.[347]

In its letter of December 2013, the Cabinet stated that it found the RMU proposal interesting and wanted to explore how this proposal could be carefully incorporated.[348] In mid-2014, the Cabinet informed Parliament that, in addition to this, it also wished to explore how a variant of the RMU proposal – namely, the option to buy out accrued pension rights for the benefit of one's own home – could be incorporated.[349]

Two concrete variants were examined. The so-called "premium variant" would allow up to one-third of total pension contributions to be redirected by the employer from the pension funds to the employee's mortgage provider, hence pension accrual being proportionally reduced.

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[345] C van Ewijk, A Gielen, M Knoef, M Mastrogiacomo and A Slager, *Participatiehypotheken als impuls voor mobiliseren woningkapitaal: een interessante optie voor pensioenfondsen* (Netspar Design Paper No 220, Netspar 2023) 31–35.
[346] Ministerie van Sociale Zaken en Werkgelegenheid, *Verkenning mogelijkheid inzetten pensioen voor aflossing woningschuld* (Den Haag, oktober 2015) 88030.
[347] Ministerie van Sociale Zaken en Werkgelegenheid, *Verkenning mogelijkheid inzetten pensioen voor aflossing woningschuld* (Den Haag, oktober 2015) 88030, 2–3, 6–7, 8–9.
[348] Kamerstukken II 2013/14, 32 043, nr 188.
[349] Kamerstukken II 2013/14, 32 043, nr 216.

Employers would carry the main administrative burden in ensuring correct transfers.[350] The second variant is commutation of one's pension (in Dutch: *afkoop*). This variant would grant participants a one-time statutory right to withdraw up to one-third of their accrued pension entitlements – or alternatively, the accrual of the last five years – for direct repayment of mortgage debt.[351] Pension funds would disburse the amount directly to lenders, supported by central registration to prevent multiple withdrawals, and subject to oversight by DNB and AFM.[352]

Despite their technical feasibility, the Dutch Ministry of Social Affairs and Employment concluded that both models were neither legally nor practically viable. From a legal perspective, they were likely to contravene European equal treatment provisions since younger workers would obtain less pension outcome for equivalent work compared to older colleagues, raising concerns of age discrimination.[353] From an operational perspective, the proposals imposed significant administrative complexity: employers would face additional payroll and verification duties in the premium variant,[354] while pension funds would shoulder costly system adaptations, tax handling, and central registry duties in the commutation variant.[355] Bart et al. (2016) likewise cautioned that both the premium and commutation variants would generate heavy implementation and communication costs, requiring significant adaptations by pension funds and employers.[356]

The economic impact was judged limited. For younger and middle-aged households, debt reduction would remain modest – roughly 0.5% of the mortgage per year in the premium variant and 2–3% one-off in the accrual withdrawal variant – while pension adequacy would decline.[357] Only older participants near retirement could achieve meaningful deleveraging (30–50% of outstanding mortgage debt),[358] undermining the life-course orientation of the measure. Moreover, pension funds anticipated lower returns due to increased need for liquid

[350] Ministerie van Sociale Zaken en Werkgelegenheid, *Verkenning mogelijkheid inzetten pensioen voor aflossing woningschuld* (Den Haag, oktober 2015) 88030, 8–10.
[351] Ministerie van Sociale Zaken en Werkgelegenheid, *Verkenning mogelijkheid inzetten pensioen voor aflossing woningschuld* (Den Haag, oktober 2015) 88030, 11–12.
[352] Ministerie van Sociale Zaken en Werkgelegenheid, *Verkenning mogelijkheid inzetten pensioen voor aflossing woningschuld* (Den Haag, oktober 2015) 88030, 12, 17–18, 20.
[353] Ministerie van Sociale Zaken en Werkgelegenheid, *Verkenning mogelijkheid inzetten pensioen voor aflossing woningschuld* (Den Haag, oktober 2015) 88030, 13–17.
[354] Ministerie van Sociale Zaken en Werkgelegenheid, *Verkenning mogelijkheid inzetten pensioen voor aflossing woningschuld* (Den Haag, oktober 2015) 88030, 17–18.
[355] Ministerie van Sociale Zaken en Werkgelegenheid, *Verkenning mogelijkheid inzetten pensioen voor aflossing woningschuld* (Den Haag, oktober 2015) 88030, 18–19.
[356] F Bart, B Boon, L Bovenberg, C van Ewijk, N Kortleve, E Rebers and M Visser, *De routekaart naar een meer integrale benadering van wonen, zorg en pensioen* (Netspar, January 2016), 41–42.
[357] Ministerie van Sociale Zaken en Werkgelegenheid, *Verkenning mogelijkheid inzetten pensioen voor aflossing woningschuld* (Den Haag, oktober 2015) 88030, 3–4, 25–27.
[358] Ministerie van Sociale Zaken en Werkgelegenheid, *Verkenning mogelijkheid inzetten pensioen voor aflossing woningschuld* (Den Haag, oktober 2015) 88030, 4, 25.

investments,[359] while solidarity effects would pressure contribution rates for all participants, including those unable to use the option.[360] In line with these reservations, Bart et al. (2016) estimated that using one-third of contributions or accrued rights for mortgage repayment would increase contribution rates by 0.1–0.5 percentage points in the premium variant and 0.2 percentage points in the commutation variant, thereby raising costs for all participants, including those unable to use the option.[361]

The proposals were therefore not pursued further in legislation. The 2015 exploration nonetheless illustrates the persistent policy interest in mobilising pension capital for mortgage repayment, while simultaneously revealing the institutional, distributive, and legal barriers that constrain structural integration of pension and housing systems in the Dutch context. Most importantly, the premium and commutation variants were legally untenable under the then-prevailing uniform accrual system, which implied that younger participants would receive lower pension outcomes because payments into the pension plan at a younger age generate higher return on investment due to the difference in investment horizon, raising serious risks of age discrimination under European law. In addition, their balance-sheet impact was either too modest for younger households or concentrated among those close to retirement, failing to function as life-course instruments. With the abolition of the uniform accrual system under the Future of Pensions Act, however, one of the central legal obstacles identified in 2015 has since been removed. With the Wtp, an age-independent premium system is introduced, which results in an equal premium percentage for all age cohorts. This potentially reopens space for reconsidering how pension assets could be linked to mortgage debt reduction in a sustainable and equitable way.

2.4.4 Concluding remarks

The three proposals discussed in this section reflect a recurring policy interest in linking pension assets with homeownership, yet each suffers from important limitations. The lump sum withdrawal option increases flexibility but is only available at retirement, when liquidity constraints are less pressing, and lacks any structural link to housing. Participation mortgages create new opportunities for access to credit and risk sharing, but they do not reduce overall leverage and thus leave household balance sheets largely untouched. The RMU-inspired premium and commutation variants went furthest in explicitly seeking to repurpose pension capital for mortgage debt reduction. However, their practical and legal barriers proved insurmountable at the time. Administratively, both variants imposed heavy burdens on

[359] Ministerie van Sociale Zaken en Werkgelegenheid, *Verkenning mogelijkheid inzetten pensioen voor aflossing woningschuld* (Den Haag, oktober 2015) 88030, 19.
[360] Ministerie van Sociale Zaken en Werkgelegenheid, *Verkenning mogelijkheid inzetten pensioen voor aflossing woningschuld* (Den Haag, oktober 2015) 88030, 4–5, 35–36, 38.
[361] F Bart, B Boon, L Bovenberg, C van Ewijk, N Kortleve, E Rebers and M Visser, *De routekaart naar een meer integrale benadering van wonen, zorg en pensioen* (Netspar, January 2016), 42.

employers and pension funds; economically, their effects were too modest for younger households and concentrated among those nearing retirement; and legally, they were untenable under the then-prevailing uniform accrual system, raising the risk of age discrimination under European law.

Taken together, the three initiatives underscore both the opportunities and the constraints of integrating pension and housing systems in the Netherlands. They highlight the demand for greater flexibility and balance sheet relief but also reveal the institutional and legal frictions that have so far prevented structural implementation. Most importantly, none of these initiatives addresses the central challenge examined in this dissertation: the persistent overleveraging of Dutch household balance sheets. In contrast, the model proposed here seeks to substitute mortgage debt with accumulated pension capital, thereby supporting access to homeownership while achieving lasting deleveraging in a fiscally and legally sustainable way.

2.5 Addressing sub-questions: towards a comprehensive understanding

This chapter has provided insights into the design and background of both the pension system and the owner-occupier housing market in the Netherlands. It focused on three questions. Each of them is answered below.

Question 1: Which elements are characteristic of the Dutch pension system?

The Dutch pension system can be characterised as one of the original multi-pillar systems in Europe. The first pillar provides a basic income to cover necessary living costs after retirement. The second pillar supplements this by aiming to maintain pre-retirement living standards. The third pillar exists to fill pension shortfalls. Several additional observations can be made about the Dutch three-pillar system in general:

- The Dutch pension system is based on a pay-as-you-go first pillar and funded second and third pillars, combining solidarity with capital-funded pension entitlements. This structure contributes to a safe and sustainable pension system.
- Pillar 1 consists of a mandatory insurance, while pillar 2 has a quasi-mandatory, and pillar 3 is voluntary.
- The retirement age in the Netherlands is gradually increasing.
    - While the age at which the AOW could be claimed was fixed at 65 for many decades, this fixed age has been abandoned in favour of a phased increase, now linked to life expectancy. The statutory retirement age for claiming AOW is 67 years as of 2024 and will remain at that level through 2029.

    - The target retirement age in occupational pension schemes (second pillar) is a distinct concept. It was raised all at once to 67 years in 2014 and is now also linked to increases in life expectancy. A key difference, however, is that the AOW age adjusts in monthly increments, while changes in the second-pillar target age typically occur in full-year steps.
- Freedom of choice regarding pensions remains limited, though several forms of flexibility exist. Participants may:
    - Trade part of the old-age pension for a partner's pension (or vice versa);
    - Opt for a high/low pension arrangement, where benefits are higher initially and lower later (or vice versa);
    - Choose partial retirement (*deeltijdpensioen*), drawing part of the pension while continuing to work;
    - Bring forward or defer the commencement of the pension (within scheme rules and tax limits);
    - A proposal to allow a lump sum withdrawal of up to 10% on the retirement date has been included in the *Wet bedrag ineens, RVU en verlofsparen*, but this option has not yet entered into force. As of mid-2025, implementation has been postponed until at least 1 July 2026 and remains dependent on further legislative progress.
- Variant careers are limited, and early retirement is discouraged in line with European Commission recommendations.

Question 2: Which elements are characteristic of the Dutch owner-occupier housing market?

Several conclusions can be drawn about the Dutch owner-occupier housing market. Owner-occupation is the dominant tenure in the Netherlands. With 70.1% owner-occupation in 2022, this is slightly above the EU average of 69.9%. Of these owner-occupied properties, 85.5% are financed (at least in part) via a mortgage or other (housing) loan. House prices had been rising before the 2008 financial crisis, declined significantly afterwards, and began to rise again after 2013.

The Dutch Income Tax Act defines the concept of a main residence. A key distinction is made between a residence and the main residence: the latter is taxed in box 1, while other properties are taxed in box 3. Income from the use of the owner-occupied home is calculated using a notional rental value (*eigenwoningforfait*), which includes certain recurring costs such as maintenance, insurance, and property tax. If a mortgage is taken out to finance the dwelling, the loan must meet the criteria in Article 3.119a of the Income Tax Act 2001 to qualify as home acquisition debt (*eigenwoningschuld*), enabling deduction of interest payments.

The additional loan scheme (*bijleenregeling*) and the related owner-occupied home reserve (*eigenwoningreserve*) ensure that if a household sells a property and buys a new one, proceeds from

the sale are used first before additional debt is deductible. If this reserve is not used for the new purchase, mortgage interest on the corresponding part of the loan is not deductible.

Additional conclusions regarding the Dutch housing market include:

- The Dutch government provides several (tax) incentives to encourage homeownership.
- Since the main residence is taxed in box 1, taxation is generally lower than for other forms of capital.
- Mortgage interest payments are deductible from income taxed in box 1 at its progressive rate. However, the MID has been restricted since 2013:
    - Interest is deductible for a maximum of 30 years;
    - The loan must be repaid on at least an annuity basis;
    - The maximum deduction rate for high-income earners is gradually being reduced.
- Financial innovations – such as savings, investment, and interest-only mortgages – have enabled financial institutions to maximise the use of the MID.
- The "Hillen deduction" ensures that when the *eigenwoningforfait* exceeds deductible interest, the excess can still be deducted, bringing taxable income from the home to €0. This deduction is being phased out and will be abolished entirely by 2048.
- The Netherlands provided for an increased gift exemption for the purchase of an owner-occupied dwelling. This exemption, commonly referred to as the "Jubelton," allowed a tax-free gift of up to €100,000, aiming to support the housing market and promote repayment of home acquisition debt. Although this measure had been reintroduced in 2017 for a longer duration, in line with the coalition agreement, the increased exemption was officially abolished as of 1 January 2024.
- First-time buyers are exempt from transfer tax, aiming to improve their position in the housing market.
- The NHG helps lower-income buyers obtain responsible and affordable mortgage financing.
- Dutch households have relatively high LTV ratios. These were historically unrestricted but have been capped at 100% since 2018.
- In two-income households, both incomes are considered when calculating maximum mortgage eligibility.
- Housing wealth and mortgage debt are unevenly distributed. Younger households (aged 25-45) carry the highest debt levels. The share of households with an LTV above 1 increased until 2013, then declined following tax reforms (*Wet Herziening fiscale behandeling Eigen Woning*).
- The average age of first-time homebuyers has risen due to regulatory, labour market, and affordability challenges.

Question 3: What role do taxes play herein?

Taxes play a crucial role in shaping both the Dutch pension system and the owner-occupier housing market. In the pension system, tax benefits underpin all three pillars. The first pillar is a pay-as-you-go scheme funded through current taxation. The second and third pillars benefit from tax-deferred treatment: contributions are deductible, investment income is exempt, and pensions are taxed upon withdrawal. This system provides immediate tax relief during working life and encourages long-term retirement saving. It also supports policy goals such as delayed retirement, thereby enhancing the debit side of households' balance sheets.

In the owner-occupier housing market, the mortgage interest deduction (MID) allows homeowners to deduct interest payments from their taxable income in box 1. While this deduction is being gradually curtailed, it still lowers the tax burden and incentivises homeownership through debt financing. The *eigenwoningforfait*, a notional rental income, is often offset by MID deductions, effectively lowering the tax burden. This policy encourages taking out mortgage loans to finance the purchase of owner-occupied dwellings, thus increasing the credit side of households' balance sheets.

Concluding reflection

Tax policies and facilities in the Dutch pension system and owner-occupier housing market significantly impact household balance sheets by encouraging both the accumulation of pension entitlements and the acquisition of housing assets. Tax-deductible contributions to pension plans and the MID incentivise households to allocate substantial portions of their income towards retirement saving and homeownership. While these tax benefits enhance the financial position of households by promoting asset accumulation, they also increase liabilities, particularly through mortgage debt. Consequently, this greater leverage and dependency on tax-favoured financial strategies can render households more vulnerable to economic shocks, such as fluctuations in housing prices, interest rate changes, or income loss during downturns.

Against this background, the policy initiatives reviewed in section 2.4 – the lump sum withdrawal, participation mortgage, and RMU-inspired premium and commutation variants – can be seen as attempts to rebalance this dynamic by mobilising pension assets for housing purposes. Yet each fell short of providing a structural solution: the lump sum was restricted in timing and scope, participation mortgages expanded credit rather than reducing it, and the RMU proposals were legally untenable under the uniform accrual system and economically yielded disproportionate benefits for older households. Taken together, this highlights the central challenge that frames the remainder of this dissertation: how to design an integrated approach that replaces mortgage debt with pension capital, thereby achieving structural balance sheet deleveraging in a fiscally and legally sustainable way.

3. Germany

3.1 Introduction

Germany, officially called the *Bundesrepublik Deutschland* (the Federal Republic of Germany), is a democratic and federal constitution made up of 16 federal states, the *Länder*.[362] The German Federal State consists out of five constitutional institutions. These are the *Bundesrat*, the Federal Government, the *Bundestag*, the Federal President and the Federal Constitutional Court.[363] The German federal system stands out because the individual federal states participate directly in the decision-making process of the national state, i.e., the federation. This is done through the *Bundesrat*.[364]

Germany is one of the largest countries in the European Union, with a surface of 357,376 square kilometres and more than 83 million inhabitants. The GDP per capita is € 41,545.20. Table *3.1* shows these – and other – key economic indicators for Germany compared to the EU (2019 numbers, unless stated otherwise).

Table 3.1: Key economic indicators for Germany and the EU (year: 2019, unless stated otherwise)

	Germany	**EU**
People & society		
Surface (km2) [a]	357,376	4,214,996
Population (as of 1 January)	83,019,213	446,824,564
Old age dependency ratio [b]	35.9	34.1
Life expectancy at birth	81.0	81.0
Tertiary educational attainment [c]	29.9%	31.6%
Employment rate [d]	80.6%	73.1%
Economy & business		
GDP (millions) [e]	€ 3,449,050.00	€ 13,963,560.90
GDP per capita	€ 41,545.20	€ 31,250.66

[362] Bundesrat, *A constitutional body within a federal system* <https://www.bundesrat.de/EN/funktionen-en/funktion-en/funktion-en-node.html> accessed 10 December 2020; Bundesrat, *Federal States* <https://www.bundesrat.de/EN/organisation-en/laender-en/laender-en-node.html> accessed 10 December 2020.
[363] Bundesrat, Press and Communication, *The Bundesrat: 16 Federal States, One Conclusion* (1st edn, Berlin 2019) 8 <https://www.bundesrat.de/SharedDocs/downloads/DE/publikationen/Basisbroschuere%20eng.pdf?__blob=publicationFile&v=3>.
[364] Bundesrat, *A constitutional body within a federal system* <https://www.bundesrat.de/EN/funktionen-en/funktion-en/funktion-en-node.html> accessed 10 December 2020.

	Germany	EU
Inflation (2015 = 100) [f]	105.50	105.04
Price level [g]	107.1	100

[a] Surface area in square kilometres (year = 2015)
[b] Number of persons aged 65 or older per 100 persons aged between 20 and 64.
[c] People with tertiary educational attainment as % of the population aged 25 to 64.
[d] Percentage of people employed in the age group from 20 to 64 years.
[e] In Millions of euros at current prices.
[f] Annual average index, with 2015 as the base year.
[g] Total prices in Germany are 7.1% higher than the EU27 average.
Source: Eurostat (2020) – Databases: DEMO_R_D3AREA, DEMO_GIND, DEMO_PJANIND, DEMO_MLEXPEC, EDAT_LFSE, LFSA_ERGAN, NAMA_10_GDP, NAMA_10_PC, PRC_HICP_AIND, PRC_PPP_IND

Germany has been a very influential player in the history of the world, not excluding its role in both WWI and WWII. Furthermore, Germany has always been one of the main driving forces behind the European Union. This should come as no surprise since there is no country in Europe with more neighbours than Germany. It shares its border with no less than nine countries, 8 of which are also part of the EU. For Germany, the integration of Europe lays the foundation for peace, security, and prosperity.[365]

The following sections delve into the German financial landscape, focussing on its pension system and owner-occupier housing market. This chapter aims to answer the following questions:

1. Which elements are characteristic of the pension system in Germany?
2. Which elements are characteristic of the owner-occupier housing market in Germany?
3. How are retirement savings and real-estate purchases being combined in Germany?
4. What role do taxes play herein?

Beginning with an exploration of the German pension system in the next section (3.1), which discusses various aspects of the system including taxation of pensions, social security contributions, and freedom of choice regarding retirement. Following this, the focus shifts to the German owner-occupier housing market (paragraph 3.3), examining elements like homeownership rates, property-related taxation, and incentives, along with the dynamics between homeownership and the mortgage market. Central to this chapter is the examination of the interplay between retirement savings and real estate ownership (paragraph 3.4). Concluding this chapter, a synopsis of findings and implications is given (paragraph 3.5), offering an overview of the discussed topics and addressing the questions outlined above.

[365] Tatsachen über Deutschland, *Anwalt europäischer Integration* <https://www.tatsachen-ueber-deutschland.de/de/deutschland-und-europa/anwalt-europaeischer-integration>.

3.2 The German pension system

3.2.1 Introduction

The German pension system can also be divided into three pillars – see also Figure *3.1*. In this paragraph the main characteristics of the three-pillar pension system in Germany are described and attention will be paid to the current developments of these pillars.

The first pillar in Germany is the mandatory state pension (*gesetzliche Rentenversicherung*), the second pillar consists of voluntary occupational pensions (*betriebliche Altersversorgung*), and the third pillar contains private insurance (*private Altersvorsorge*).

Each pillar is treated in turn in the following paragraphs.

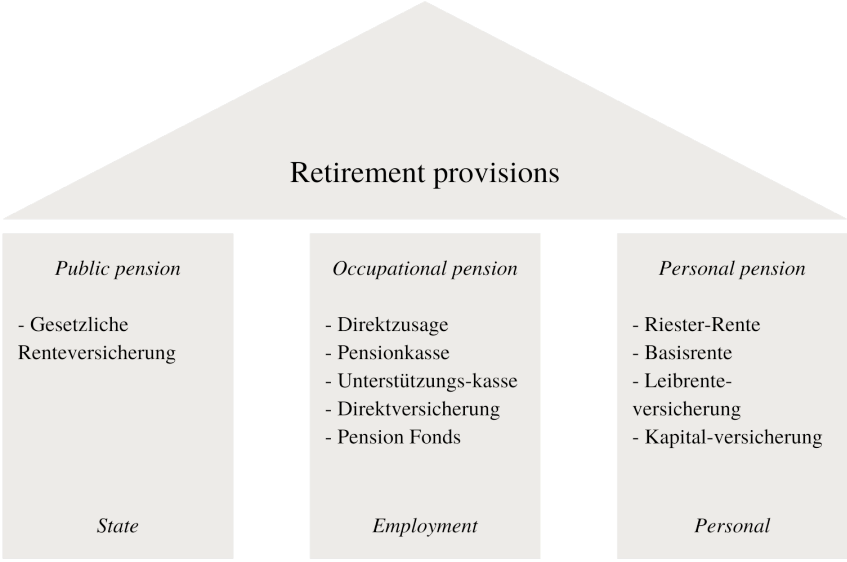

Figure 3.1: The three pillars of retirement provision in Germany

3.2.2 Public pensions

3.2.2.1 Gesetzliche Rentenversicherung

The German first pillar pension is the mandatory state pension insurance (*gesetzliche Rentenversicherung (GRV)*). It is one of the five branches of the basic social security system provided by the state.[366] The sixth book of the German Social Code (*Sozialgesetzbuch (SGB)*

[366] The other branches are Health insurance (*Krankenversicherung*), unemployment insurance (Arbeitslosenversicherung), (long-term) care insurance (*Pflegeversicherung*), and accident insurance (Unfallversicherung). This thesis only looks into the GRV, the other branches go beyond the scope of this research.

Sechstes Buch (VI)) regulates who is compulsorily insured. With a few exceptions[367], all employees are compulsory insured. The same goes for trainees, people with disabilities at recognised workshops, people on voluntary military service or federal volunteer service, and people doing a year of voluntary community/environmental work.[368]

The first pillar is also in Germany financed by means of a pay-as-you-go system.[369] The statutory pension insurance contribution rate is equal to 18.6% (as of January 2019), levied on individual earnings. Normally, employer and employee each pay half of the contribution. The contributions mainly finance the pension payment. The rest of the expenditure is subsidised by the state.[370]

Within the GRV there are different types of pensions. Before going into more detail about these different types of pensions, it is worth noting that only those who have been insured can claim a pension. In addition, the person insured must also have been insured for a minimum number of years (*Wartezeit*).[371] This *Wartezeit* is different for each type of pension. Furthermore, each type of pension has its own conditions. By virtue of §33 (1) SGB VI, a distinction can be made between a pension in old age (*Renten wegen Alters*), pensions due to reduced earning capacity (*Renten wegen verminderter Erwerbsfähigkeit*) and upon death (*Renten wegen Todes*). Each type of pension is treated in more detail below.

Old age pensions

Germany knows the following old age pensions[372]:

1. Standard old age pension (*Regelaltersrente*)
2. Long service pension (*Altersrente für langjährig Versicherte*)
3. Severe disability pension (*Altersrente für schwerbehinderte Menschen*)
    a. Exceptionally long service pension (*Altersrente für besonders langjährig Versicherte*)
4. Old age pension for miners who have worked underground for many years (*Altersrente für langjährig unter Tage beschäftigte Bergleute*)

To claim an old age pension, one does not only have to meet the *Wartezeit* requirement, but according to §34(2) SGB VI, there is also a limit on extra earnings (*Hinzuverdienstgrenze*) for pensioners.

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[367] Those who are not compulsorily insured are exempt from insurance (§ 5 SGB VI), as are various categories of people who have the right, in certain circumstances, to be exempted from pension insurance (§ 6 SGB VI).
[368] Bundesministerium für Arbeit und Soziales (BMAS), *Soziale Sicherung im Überblick 2020* (2020) 137.
[369] OECD, Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: Germany (OECD Publishing 2019), 1.
[370] Bundesministerium für Arbeit und Soziales (BMAS), *Soziale Sicherung im Überblick 2020* (2020) 159.
[371] Bundesministerium für Arbeit und Soziales (BMAS), *Soziale Sicherung im Überblick 2020* (2020) 141–142.
[372] § 33(2) SGB VI.

Pursuant to § 35 SGB VI, two conditions must be met for the insured to be entitled to the standard old age pension. First, one must have reached the statutory retirement age (*Regelaltersgrenze*). The statutory retirement age depends on when a person is born. For those born before 1947, it is 65 years. For those born between 1 January 1947 and 31 December 1958 the statutory retirement age of 65 years has been pushed back one month for every following year. For those born between 1959 and 1963 this is equal to two months per year. For anyone born from 1 January 1964 onwards, the statutory retirement age is set to 67 years.[373] Second, one must also have been insured for a certain number of years. In other words, the *Wartezeit* must be met. For the standard old age pension, the *Wartezeit* is equal to five years.[374]

When the increase of the statutory retirement age started on 1 January 2012, Germany introduced a new old age pension for persons with an exceptionally long insurance record. According to § 38 SGB VI, insured persons are able to claim this long service pension when they reach the applicable retirement age[375] and have paid compulsory contributions for a minimum of 45 years (*Wartezeit*).[376]

According to § 36 SGB VI, insured persons are able to claim a long service pension before reaching the statutory retirement age if they have reached the age of 63 and have completed the 35-year qualifying period (*Wartezeit*). Claiming the pension earlier is thus possible, however at a reduced amount. The reduction is equal to 0.3% of the pension for each month of early claiming.[377]

Pursuant to § 37 SGB VI, three conditions must be met for the insured to be entitled to a severe disability pension. First, one must have reached the required age.[378] Second, the insured must be a recognised person with severe disabilities when the pension begins, to be able to claim the

[373] Bundesministerium für Arbeit und Soziales (BMAS), *Soziale Sicherung im Überblick 2020* (2020) 146–147.
[374] § 50(1) SGB VI; Bundesministerium für Arbeit und Soziales (BMAS), *Soziale Sicherung im Überblick 2020* (2020) 143.
[375] The applicable retirement age depends on a person's date of birth. For anyone born between 1947 and 1950, the applicable retirement age is equal to 65 years. Anyone born in 1951 or 1952, can retire at 63 years. For those born between 1 January 1953 and 31 December 1963 the applicable retirement age of 63 years has been pushed back two months for every following year. For anyone born from 1 January 1964 onwards, the applicable retirement age is set to 65 years. (source: Bundesministerium für Arbeit und Soziales (BMAS), *Soziale Sicherung im Überblick 2020* (2020) 146–147)
[376] Bundesministerium für Arbeit und Soziales (BMAS), *Soziale Sicherung im Überblick 2020* (2020) 143–144.
[377] Bundesministerium für Arbeit und Soziales (BMAS), *Soziale Sicherung im Überblick 2020* (2020) 144.
[378] The required age is dependent on a person's date of birth. Anyone born before 1952 can claim an unreduced pension at the age of 63 years and a reduced pension as early as 60 years. For those born between 1 January 1952 and 31 December 1957, both the required age for an unreduced and reduced pension are pushed back with one month for every following year. Anyone born between 1 January 1958 and 31 December 1963 the required age is pushed back two months for every following year. For those born from 1 January 1964 onwards, the required age is set to 65 years for an unreduced pension and 62 years for a reduced pension. (source: Bundesministerium für Arbeit und Soziales (BMAS), *Soziale Sicherung im Überblick 2020* (2020) 146–147)

severe disability pension. Third, and finally, one must have completed the 35-year qualifying period.[379] It is possible to claim this retirement pension early after reaching the age of 62.[380]

Reduced earning capacity pension

A reduced earning capacity pension (*Rente wegen verminderter Erwerbsfähigkeit*) makes up for lost earnings if a person's earning capacity is reduced or one can no longer work at all. A reduced earning capacity pension is paid until reaching the statutory retirement age. One can then claim the standard old age pension.[381] Germany knows the following reduced earning capacity pensions[382]:

1. pension due to partial disability (*Rente wegen teilweiser Erwerbsminderung*),
2. full disability pension (*Rente wegen voller Erwerbsminderung*), and
3. pension for miners (*Rente für Bergleute*).[383]

Survivor's pension

Survivor's pension (*Renten wegen Todes*) can be divided into[384]:

1. widow's or widower's pension (small - *kleine Witwenrente oder Witwerrente* – or large - *große Witwenrente oder Witwerrente*),
2. child raising pension (*Erziehungsrente*), and
3. orphan's pension (*Waisenrente*).[385]

3.2.2.2 Pension calculation

The main idea behind both income- and contribution-based pensions is that the amount of the pension benefit depends on the income from employment on which contributions are paid (over the course of a person's insurance history).

The pension benefit is paid out by the *Deutsche Rentenversicherung (DRV)*.[386] To calculate the monthly pension benefit, the pension formula (*Rentenformel*) as formulated in § 64 SGB VI, is used. This formula reads as follows:

$$monthly\ pension = Personal\ earnings\ points \times pension\ Type\ factor \times current\ pension\ Value$$

[379] Bundesministerium für Arbeit und Soziales (BMAS), *Soziale Sicherung im Überblick 2020* (2020) 144–145.
[380] § 37 SGB VI.
[381] Bundesministerium für Arbeit und Soziales (BMAS), *Soziale Sicherung im Überblick 2020* (2020) 148.
[382] § 33(3) SGB VI.
[383] Going into further detail about these pensions goes beyond the scope of this research.
[384] § 33(4) SGB VI.
[385] Going into further detail about these pensions goes beyond the scope of this research.
[386] § 81 EStG.

Personal earnings points (*Persönliche Entgeltpunkte*)

Personal earnings points (*Persönliche Entgeltpunkte*) are formulated in § 66 SGB VI. The amount of these points is determined by one's total income points multiplied by the entry age factor (*Zugangsfaktor*). The basis for determining personal earnings points are income points.[387] These are the points that an employee has accumulated during his/her working life. Based on §63(2) SGB VI, the income for which contributions are paid is converted into income points. One income point is equal to a year's worth of contribution at the average earnings of all insured persons.[388] Contributions based on a higher or lower income earn proportionally more or less income points respectively.[389] Income points are also credited for certain non-contributory periods.[390] The income points are then totalled over the individual's insurance history and finally multiplied by the entry age factor. The entry age factor thus affects the amount of the personal earnings points, and with it, the pension amount. If a pension is claimed earlier or later than the statutory retirement age, the entry age factor corrects for this.[391]

Pension type factor (*Rentenartfaktor*)

The pension type factor (*Rentenartfaktor*) is a factor based on the type of pension that will be paid out. The factor relating to the type of pension is codified in § 67 SGB VI, where the standard old age pension is set to 1.0 (i.e., the pension factor determines the amount of the pension compared to the standard old-age pension).

Current pension value (*Aktueller Rentenwert*)

The current pension value (*Aktueller Rentenwert*) is the monthly pension that an average earner would receive after paying contributions for one calendar year. Based on § 68 SGB VI, the current pension value is re-determined every year on 1 July by multiplying the previous current pension value with the factors for the change in gross wages and salaries per employee, the contribution rate for the standard old age pension and the sustainability factor.

3.2.2.3 Means-tested pension supplement (Grundrente)

As of January 2021, Germany introduced a means-tested pension supplement (*Grundrente*) for those who have paid compulsory contributions to the GRV for at least 33 years on a relatively low income throughout their working life. The number of points earned will be doubled, but up to a maximum of 0.8 per year (corresponding to 80% of the average income) for a maximum of

[387] § 66(2) SGB VI.

[388] Or in formula: $\text{one income point} = \frac{\text{insured income}}{\text{average income of all insured persons in the same year}}$

[389] Bundesministerium für Arbeit und Soziales (BMAS), Soziale Sicherung im Überblick 2020 (2020) 153–154; OECD, *Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: Germany* (OECD Publishing 2019), 1.

[390] These include substitute periods (*Ersatzzeiten*), care-giving periods (*Pflegezeiten*), child-raising periods (*Kindererziehungszeiten*), considered periods for child raising (*Kinderberücksichtigungszeiten*), credited periods (*Anrechnungszeiten*) and added periods (*Zurechnungszeiten*).

[391] Bundesministerium für Arbeit und Soziales (BMAS), *Soziale Sicherung im Überblick 2020* (2020) 156–157.

35 years. Only contribution periods with an average income of at least 0.025 per month (corresponding to 30% of the average income) are eligible. The full amount of the allowance is paid to pensioners with a monthly income (including salary, pension benefit, rental income, etc.) of up to €1,250 for a single person or €1,950 for a couple. With a monthly income above these amounts, but not more than €1,600 for a single person or €2,300 for a couple, the supplement is reduced by 60% of the monthly income above €1,250 or €1,950 respectively. No supplement is paid out with a monthly income of more than €1,600 for a single person or €2,300 for a couple.[392]

3.2.3 Occupational pensions

The second pension pillar in Germany consists of voluntary occupational pension schemes (*betriebliche Altersversorgung,* bAV), through the employer. These schemes were created under the Company Pension Act, the *Gesetz zur Verbesserung der betrieblichen Altersversorgung,* also referred to as *Betriebsrentengesetz (BetrAVG)*, in 1974.[393] Occupational pensions are defined in § 1 BetrAVG as company pension schemes provided by the employer to the employee based on the employment relationship. This can be a benefit regarding old age, disability, or a survivors' benefit.

3.2.3.1 Deferred compensation (Entgeltumwandlung)

Traditionally, company pension schemes are a voluntary benefit from the employer to its employees. However, since 2002, employees have the right to convert part of their income into a company pension scheme by opting for deferred compensation (*Entgeltumwandlung*).[394] Part of the employee's wages (up to 4 percent of his future remuneration claims[395]) are then converted in order to build up a supplementary pension. With the introduction of *Entgeltumwandlung* came an end to the employer's choice of granting an employee pension rights or not. If an employee wants to use the so-called *Entgeltumwandlung*, the employer is obliged to cooperate. Furthermore, if the company pension scheme is financed by the employee through deferred compensation, the Company Pension Strengthening Act of 2017 (*Betriebsrentenstärkungsgesetz 2017*) introduced a major change. According to this law, the employer must, unless stated otherwise in the collective labour agreement, pay 15% of the converted wages as an additional employer contribution, provided that the conversion saves its employees on social security contributions. This applies to all new deferred compensation participants as of 2019, and from 2022 it applies to all existing ones as well. As said before, the employer must comply with the request for deferred

[392] OECD, Pensions at a Glance 2021: OECD and G20 Indicators – Country Profile: Germany (OECD Publishing 2021), 1–2.
[393] Betriebsrentengesetz vom 19. Dezember 1974 (BGBl. I S. 3610).
[394] Bundesministerium für Arbeit und Soziales (BMAS), *Ratgeber zur Rente* (2019) 130; the *Entgeltumwandlung* was introduced in the Altersvermögensgesetz (AVmG vom 26.6.2001, BGBI. I 2001 S. 1310) and can be found in § 1(2) nr.3 and 4, BetrAVG and § 1a BetrAVG.
[395] § 1a(1) BetrAVG.

compensation. However, how he organises his employees' old-age provision in detail is a matter of mutual agreement and often stipulated at company level or in the collective labour agreement.[396]

3.2.3.2 Type of commitment and implementation method

The options for company pension schemes differ in terms of type of commitment and the implementation method. Both are the choice of the employer. Regarding the structure of the pension scheme, an employer can choose from the following four types of commitments[397]:

1. Defined benefit (*Reine Leistungszusage*)
2. Guaranteed contribution (*Beitragsorientiere Leistungszusage*)
3. Defined contribution with guaranteed minimum (*Beitragszusage mit Mindesleistung*)
4. Defined contribution (*Reine Beitragszusage*)

As in the Netherlands, the defined benefit scheme (*Reine Leistungszusage*) is traditionally the most often used type of pension commitment. With this defined benefit scheme, the employer promises a certain old-age pension. This can be a fixed amount of money, or a percentage of the employee's last earned salary. Both the *Beitragsorientiere Leistungszusage*[398] and the *Beitragszusage mit Mindesleistung*[399] are hybrid plans. Characteristics of both defined benefit and defined contribution schemes can be found in these plans. The *Beitragsorientiere Leistungszusage* is a hybrid plan whereby the employer grants certain contributions which are transformed into guaranteed old-age, disability or survivors' benefits. These benefits are provided as either an annuity or a lump sum. The *Beitragszusage mit Mindesleistung* is a defined contribution plan with a guaranteed minimum. It guarantees a minimum benefit equal to the accrued contributions plus interest earnings, minus risk premiums. The employer bears the financial risk. Because of this financial risk, German employers have been hesitant about offering a company pension scheme. As a result, the legislator introduced a "real" defined contribution scheme (*Reine Beitragszusag*[400]) as of 1 January 2018.[401]

The company pension scheme can be carried out directly by the employer or via one of the pension providers named in § 1b (2) – (4) BetrAVG. Hence, there are five options, or so-called implementation methods:

1. Direct commitment (*Direktzusage*)

[396] Bundesministerium für Arbeit und Soziales (BMAS), *Ratgeber zur Rente* (2019)
[397] BaFin, *Das System der betrieblichen Altersversorgung* <https://www.bafin.de/dok/7850988> accessed 21 January 2021.
[398] §1(2) 1 BetrAVG.
[399] §1(2) 2 BetrAVG.
[400] §1(2) 2a BetrAVG.
[401] §1 BetrAVG; BaFin, *Das System der betrieblichen Altersversorgung* <https://www.bafin.de/dok/7850988> accessed 21 January 2021; K Hausner and M Heine, 'A special route to DC plans' *IPE* (October 2004) 17.

2. Support fund (*Unterstützungskasse*)
3. Direct insurance (*Direktversicherung*)
4. Pension mutual fund (*Pensionskasse*)
5. Pension fund (*Pensionsfonds*)

The employer is responsible for the fulfilment of the promised pension even if the implementation does not take place directly through him.[402] To show the most important features and differences, each of the implementation methods is briefly discussed below.

Direct commitment (*Direktzusage*)

The direct commitment (*Direktzusage*), also called pension commitment (Pensionszusage), is one of the five implementation methods for the company pension scheme. With the direct commitment, the employer grants the employee pension rights. Since the employer is responsible for the provision, he creates a book reserve to be able to finance the employee's pension benefit in the future. Formally, the direct commitment is not subject to any government supervision or investment regulation. However, the employees' claims (their pension rights) are protected. In case a company goes bankrupt, the *Pensions-Sicherungs-Verein* (Pension Insurance Association) will take over the obligations of the employer.[403]

Support fund (Unterstützungskasse)

A support fund (*Unterstützungskasse*[404]) is a separate legal entity that provides certain employee benefits. A support fund can be a fund for a specific company or a group of companies that forms one support fund. Pension contributions are paid by the employer. However, it is possible that contributions are paid by both the employer and the employee. When the employee also has to pay a part of the contribution, the employer will deduct this from the gross salary. The support fund is not subject to any restrictions with respect to the investment of the received contributions. Furthermore, the support fund is not liable with regards to company pension schemes. Employees thus have no legal entitlement to the support fund. Only the employer can be held liable by the employee. Similar to the *Direktzusage*, the pension rights are protected by the *Pensions-Sicherungs-Verein* in the event of the employer's insolvency.[405]

Direct insurance (*Direktversicherung*)

Another implementation method for company pension schemes is through direct insurance (*Direktversicherung*).[406] It is a special form of life insurance that the employer, as the policyholder,

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[402] § 1(1) BetrAVG.
[403] Bundesministerium für Arbeit und Soziales (BMAS), *Zusätzliche Altersvorsorge Betriebsrente und Riester-Rente* (2018) 14–15.
[404] § 1b(4) BetrAVG.
[405] Bundesministerium für Arbeit und Soziales (BMAS), *Zusätzliche Altersvorsorge Betriebsrente und Riester-Rente* (2018) 15.
[406] § 1b(2) BetrAVG.

takes out for his employees. The beneficiaries of this life insurance are the employees or, in the event of death, their surviving dependents. Payments to the insurance company are done by the employer. Direct insurance is subject to state-control by the *Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin)*[407], meaning that investment restrictions apply to the insurance company. As a result, protection of the pension rights by the *Pensions-Sicherungs-Verein* in the event of the employer's insolvency is only provided in exceptional cases.[408]

Pension mutual fund (*Pensionskasse*)

A company pension scheme can also be carried out by a *Pensionskasse*.[409] This is a pension institution or life insurer that only insures the loss of earned income due to old age, disability or death. The pension scheme with a *Pensionskasse* is thus similar to a life insurance. Furthermore, a *Penionskasse* is a separate and independent legal entity, usually established by one or more companies. The employer(s) make the contributions, which will later be used to finance the payment of pension benefits. As with direct insurance, the *Pensionskasse* is controlled by the *BaFin*. However, a difference is that protection of the pension rights in the event of insolvency is not provided by the *Pensions-Sicherungs-Verein* at all.[410]

Pension fund (*Pensionsfonds*)

The pension fund (*Pensionsfonds*[411]) was introduced in 2002 as the fifth implementation method. A pension fund is a separate legal entity which only provides company pension benefits. It is very similar to a *Pensionskasse*. The difference, however, is that the rules on investments of pension funds are less strict than they are for a *Pensionskasse*. Contributions can be freely invested in the capital market. Since this entails both opportunities and risks, the employees' pension rights in the event of insolvency of the employer(s) are protected by the *Pensions-Sicherungs-Verein*. Furthermore, as with direct insurance and the *Pensionskasse*, pension funds are controlled by the *BaFin*.[412]

3.2.3.3 Retirement age

There is no official retirement age included in the Company Pension Act (*Betriebsrentengesetz [BetrAVG]*). However, pursuant to § 2 (1) BetrAVG, it is assumed that the employment relationship ends when the statutory retirement age is reached.[413] There is also no official age

[407] BaFin, *Das System der betrieblichen Altersversorgung* <https://www.bafin.de/dok/7850988> accessed 21 January 2021.
[408] Bundesministerium für Arbeit und Soziales (BMAS), *Zusätzliche Altersvorsorge Betriebsrente und Riester-Rente* (2018) 15.
[409] § 1b(3) BetrAVG.
[410] BaFin, *Das System der betrieblichen Altersversorgung* <https://www.bafin.de/dok/7850988> accessed 21 January 2021.; Bundesministerium für Arbeit und Soziales (BMAS), *Zusätzliche Altersvorsorge Betriebsrente und Riester-Rente* (2018) 15–16.
[411] § 1b(3) BetrAVG.
[412] BaFin, *Das System der betrieblichen Altersversorgung* <https://www.bafin.de/dok/7850988> accessed 21 January 2021.; Bundesministerium für Arbeit und Soziales (BMAS), *Zusätzliche Altersvorsorge Betriebsrente und Riester-Rente* (2018) 16.
[413] The statutory retirement age, or *Regelaltersgrenze*, is laid down in § 35 SGB VI.

limit for the minimum age at which a company pension may be paid out. It is possible to receive the pension benefits earlier, but only if the state pension benefits are paid out at the same time.[414]

3.2.4 Personal pensions

The German third pillar also consist of private pensions. As discussed before, ageing societies face major challenges with respect to their pension systems. These demographic changes in particular pose problems for pay-as-you-go pension schemes, forcing many countries to reduce the generosity of these schemes.[415] In this regard, Germany launched several reforms to its public pension scheme and introduced different instruments to enhance complementary private pension provisions such as the so-called Riester pension (*Riester Rente*) and Rürup pension (*Rürup Rente*).[416] Each of them will be treated in turn below.

3.2.4.1 Riester pension (Riester Rente)

The Riester pension (*Riester Rente* or *Riesterförderung*[417]) was introduced in 2002. These voluntary private pension plans were specifically designed to fill the gap created by reduction(s) of the PAYG retirement insurance (the *Gesetzliche Rentenversicherung*) in response to the ongoing pressures of Germany's ageing society.[418] According to § 10a (1) EStG, people who are entitled to the *Gesetzliche Rentenversicherung* have the right to obtain a Riester pension. The reason behind this, is that especially those eligible for the *Gesetzliche Rentenversicherung* will have limited income from the first pillar since it is reduced gradually.

There is no specific minimum age to start a Riester pension plan. However, it is typically taken up by individuals who are at least 18 years old and have an income from employment, as the subsidies and tax benefits are tied to earned income.[419] Contributions into a Riester pension scheme can be done up until the retirement age, which typically aligns with the minimum payout age. A Riester pension is a life-long pension. For payment plans with subsequent annuity payments, a life-long pension must be paid from the age of 85 at the latest. However, the exception is a 30% lump sum at the beginning of retirement.[420]

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[414] § 6 BetrAVG.
[415] AH Börsch-Supan, M Coppola and A Reil-Held, Riester pensions in Germany: design, dynamics, targeting success and crowding-in (NBER Working Paper No 18014, 2012) 2; European Commission, White Paper: An Agenda for Adequate, Safe and Sustainable Pensions (16 February 2012) COM(2012) 55 final, 2.
[416] F Jochum, 'The Agenda for Adequate, Safe and Sustainable Pensions from a German Point of View' EC Tax Review (2013/3) 145–152.
[417] Named after the minister of labour and social affairs Walter Riester.
[418] AH Börsch-Supan, M Coppola and A Reil-Held, Riester pensions in Germany: design, dynamics, targeting success and crowding-in (NBER Working Paper No 18014, 2012) 4.
[419] See below for an explanation about the subsidies and tax treatment.
[420] BaFin, Riester pensions <https://www.bafin.de/DE/Verbraucher/Altersvorsorge/Riester/riester_node.html> .

Riester pensions are heavily subsidised in two ways: by means of financial subsidies through allowances (*Riester-Zulagen*) and by means of tax deductions (*Sonderausgabenabzug*).[421]

The *Riester-Zulagen* basically consists of two parts: a basic subsidy and a child subsidy. First, the basic subsidy is granted if the participant's own contribution is at least 4% of one's gross income in the previous year. The basic subsidy is means-tested and matches the participant's own contribution. The full amount of the basic subsidy is equal to € 175 per annum. Second, all eligible participants receive an additional subsidy for each child. For children born up to 2007 this is equal to a maximum of € 185 per annum. For children born after 2008 the maximum subsidy is € 300 per annum. The participant receives the full amount of the subsidies if, and only if, one has paid the personal contribution (4% of previous year's gross income) in full. If less is saved, the subsidies are reduced proportionally. Subsidies are paid directly into the participant's pension plan. The state also grants a one-off "entry-level bonus" of € 200 to young Riester savers (those under the age of 25) to stimulate them to start saving for their retirement early and to make full use of the compound interest effect.[422]

In addition, Riester pensions enjoy preferential tax treatment. Contributions can be deducted from one's taxable income as special expenses (*Sonderausgabenabzug*). While the contributions can exceed the 4% of gross earnings in this respect, the deductible amount, however, is limited. Up to a maximum amount of € 2,100 per year can be claimed as additional pension expenses to reduce one's taxable income. Furthermore, capital income is exempted from taxation during the accrual phase.

Homeownership pension scheme (Eigenheimrente)

While retirement savings usually cannot be used until the actual date of retirement, the homeownership pension scheme (*Eigenheimrente* or, more commonly, *Wohnriester*) is the exception to this rule. *Riester* savings can namely be used to purchase an owner-occupied dwelling. With the introduction of the *Riester* pension the amount of the withdrawal was limited. The law permitted withdrawals between € 10,000 and € 50,000 which had to be paid back into the *Riester* pension plan in monthly instalments by the age of 65 at the latest. If one failed to do so, the subsidies received had to be paid back. This option was significantly expanded in 2008 by the *Eigenheimrentengesetz*[423] which made it possible to withdraw up to 100% of the accumulated capital to purchase an owner-occupied dwelling without having to pay back the withdrawal. As of 2014, it has also been possible to withdraw funds for e.g., renovation purposes. Furthermore,

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[421] Bundesministerium für Arbeit und Soziales (BMAS), *Zusätzliche Altersvorsorge Betriebsrente und Riester-Rente* (2018) 26.
[422] Bundesministerium für Arbeit und Soziales (BMAS), *Zusätzliche Altersvorsorge Betriebsrente und Riester-Rente* (2018) 26–27; AH Börsch-Supan and C Quinn, *Taxing Pensions and Retirement Benefits in Germany* (CESifo Working Paper No 5636, 2015) 22; F Jochum, 'The Agenda for Adequate, Safe and Sustainable Pensions from a German Point of View' *EC Tax Review* (2013/3) 145–152, 147; AH Börsch-Supan, M Coppola and A Reil-Held, *Riester pensions in Germany: design, dynamics, targeting success and crowding-in* (NBER Working Paper No 18014, Cambridge, April 2012) 4–6.
[423] *Eigenheimrentengesetz* (EigRentG vom 29.07.2008 BGBl. I 2008 S. 1509).

both loan agreements (*Darlehensverträge*) and contractual savings for housing (*Bausparverträge*) can be certified as *Riester* products and thus receive the subsidies described above. When one sells, or otherwise gives up the owner-occupied dwelling, the amount of the withdrawal must be used either by investing it in a replacement owner-occupied dwelling or by paying it into another certified pension contract.[424]

Inheritance

The *Riester Rente* is usually inheritable. Under certain circumstances it can even be passed on to the surviving spouse without any loss of funds. If a spouse dies, the inherited pension assets – regardless of the type of investment of the Riester pension – can be transferred to the certified pension contract of the surviving spouse. It is even sufficient if the Riester pension was concluded for this purpose alone. If the pension assets are passed on to other heirs (e.g., children), the before mentioned subsidies must be repaid and the investment income taxed. With regard to the use of the saved capital, a distinction must be made between the various Riester products. Equity saved in bank savings plans and fund saving plans can be inherited like assets up to the beginning of the remaining retirement phase (from the age of 85). In the case of private pension insurance, the situation in the event of death depends on the contract design. If a "pension guarantee period" (*Rentengarantiezeit*) has been agreed, the beneficiary (e.g., the spouse) will continue to receive the pension until the end of this guarantee period. If no guarantee period has been agreed or the insured dies after the guarantee period has expired, the heir(s) will not receive any benefit. It can also be agreed that the capital should pass to the heirs if the participant already dies in the savings phase. In these cases, the state subsidy must also be repaid if the heir is not the spouse. A final option is to simply agree on a survivor's pension for spouses and children.[425]

3.2.4.2 Rürup pension (Rürup Rente)

The Rürup pension (*Rürup Rente*[426] or *Basisrente*) was introduced in 2005. It is specifically, though not exclusively, designed for the self-employed who are usually not eligible for a Riester pension. Rürup pensions were introduced to fill this gap. The Rürup pension is especially for those who cannot make use of the Riester pension as a supplement to the state pension insurance (e.g., self-employed who are not required to pay into the *Gesetzliche Rentenversicherungen*). Contrary to the Riester pension, Rürup pensions do not have a contribution limit. Because of this, it can function as a fully supportive first pillar pension. Hence the official name *Basisrente*. It does function somewhat differently than the first pillar *Gesetzliche Rentenversicherungen*. While the

[424] Bundesministerium für Arbeit und Soziales (BMAS), Zusätzliche Altersvorsorge Betriebsrente und Riester-Rente (2018) 38–39; AH Börsch-Supan, M Coppola and A Reil-Held, Riester pensions in Germany: design, dynamics, targeting success and crowding-in (NBER Working Paper No 18014, Cambridge, April 2012) 6.

[425] Bundesministerium für Arbeit und Soziales (BMAS), *Zusätzliche Altersvorsorge Betriebsrente und Riester-Rente* (2018) 40–41.

[426] Named after Professor Bert Rürup, an economic consultant to the German government.

Gesetzliche Rentenversicherungen is a PAYG-system, Rürup pensions are fully funded and privately organised by financial institutions. Unlike the Riester pension, Rürup pensions cannot be capitalized or used for acquiring the owner-occupied dwelling. Furthermore, Rürup pensions are subject to several regulations and restrictions. Compared to other private retirement plans the main difference is that Rürup benefits should be an annuity and there is no option for a lump sum.[427] These requirements ensure that participants are able to defer taxation.[428]

3.2.5 Interactions between the three pillars

As the previous paragraphs show, the three-pillar pension system is regarded to be one system in Germany. The first pillar was historically the most important pillar, but that is changing rapidly. Germany – like the Netherlands – faces an aging population and the associated pressure this places on its pension system. Solutions seem to be found in limiting the state pension while at the same time offering alternatives in occupational and personal pensions. As a result, there is a shift from the state pension to private pensions. The second pillar is seen as supplementary to the first. The retirement age is even linked between both pillars. Furthermore, whether or not early retirement is possible depends on the payment of the state pension benefits. Early retirement is also possible if these state benefits are paid at the same time. One must thus be eligible for early retirement in the first pillar in order to be eligible for early retirement in the second pillar. The third pillar concerns a voluntary, individual, pension provision to cover pension shortfalls. This certainly appears to be necessary in Germany and it should therefore come as no surprise that it is encouraged by the government to accrue pension in the third pillar. This replenishment mechanism is also clearly visible. There is a link between the first and third pillar in the sense that an individual who is entitled to the *Gesetzliche Rentenversicherung* is also entitled to a *Riester* pension. The *Rürup* pension is especially for those who cannot make use of the *Riester* pension as a supplement to the state pension.

3.2.6 Taxation and social security contributions

In Germany, income up to a statutory threshold, *Grundfreibetrag*, is exempt from taxation. In 2018, this threshold was equal to € 9,000 per person. This does, however, apply to all citizens and not exclusively to pensioners.[429]

Traditionally, pension income is taxed according to the TEE system. However, Germany started to fundamentally reform its pension system in 2004; the traditional German concept of taxing contributions while exempting capital accumulation and benefits (the TEE system) was replaced

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[427] AH Börsch-Supan and C Quinn, *Taxing Pensions and Retirement Benefits in Germany* (CESifo Working Paper No 5636, 2015) 19; F Jochum, 'The Agenda for Adequate, Safe and Sustainable Pensions from a German Point of View' *EC Tax Review* (2013/3) 145–152, 147.

[428] More on this can be found in para 5.1.2.

[429] OECD, *Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: Germany* (OECD Publishing 2019), 3.

with the EET system.[430] As of January 2005, the *Alterseinkünftegesetz*[431] came into effect. The new tax system consists of three "layers":

- Layer one: the basic pension
- Layer two: supplementary pensions
- Layer three: other capital products

The first layer, the basic pension, consists of the public pension (the *gesetzliche Rentenversicherung*) and the private pension *Rürup-Rente*. The *Alterseinkünftegesetz* transformed the system of taxation of the first layer from TEE to EET. Until 2040, a gradual transition from a TEE to a EET system takes place. With the implementation of the *Alterseinkünftegesetz* in 2005, 60% of the employee contributions were tax-deductible up to a maximum contribution amount of € 20,000.[432] This percentage will increase each year by 2 percentage points until reaching 100% in 2025. By then contributions up to the maximum amount of € 20,000 are entirely exempt from taxation. Employer contributions already were fully tax-exempt and will stay this way. Retirement benefits will become subject to the pensioner's individual income tax rate. The transition phase for the taxation of retirement benefits started in 2005 as well and lasts until 2040. The benefits were initially taxed at 50% in 2005. This percentage increased with 2 percentage points each year until 2020. From 2020 onwards the percentage annually increases with 1 percentage point until 2040 when retirement benefits are fully taxed.[433] The percentage of the benefits that is taxed during the transition period is determined at retirement and remains fixed for the entire retirement period.

The second layer consists of funded supplementary pensions like occupational pensions and the private pension *Riester-Rente*. These pensions were already subject to the EET system of taxation, hence the *Alterseinkünftegesetz* did not chance the taxation of these pensions.

However, while benefits from occupational pensions are taxed, individuals do profit from an exemption (*Altersentlastungsbetrag*).[434] The *Altersentlastungsbetrag* is a tax-free allowance that is granted to a taxpayer if he or she has reached the age of 64 before the start of the calendar year for which the taxable income is determined. With the start of this allowance in 2005, 40% of benefits were tax free (with a maximum amount of € 1.900) which means that only 60% of benefits were subject to the individual income tax. This exemption decreased by 1.6 percentage

[430] F Jochum, 'The Agenda for Adequate, Safe and Sustainable Pensions from a German Point of View' EC Tax Review (2013/3) 145–152, 146.
[431] Alterseinkünftegesetz (AltEinkG vom 09.07.2004 BGBl. I S. 1427, that came into effect as of 1 January 2005)
[432] In 2005, it was thus possible to deduct a maximum amount of € 12,000 (60% of € 20,000 = € 12,000).
[433] Please refer to § 22 EStG for the full transition table.
[434] Bundesministerium für Arbeit und Soziales (BMAS), *Zusätzliche Altersvorsorge Betriebsrente und Riester-Rente* (2018) 29; AH Börsch-Supan and C Quinn, *Taxing Pensions and Retirement Benefits in Germany* (CESifo Working Paper No 5636, 2015) 22; AH Börsch-Supan, M Coppola and A Reil-Held, *Riester pensions in Germany: design, dynamics, targeting success and crowding-in* (NBER Working Paper No 18014, Cambridge, April 2012) 5.

points each year until 2020, then by 0.8 percentage points each year until 2022, and now with 0.4 percentage point each year until 2058 when all benefits from Riester pensions are liable for income taxation. In 2024, 13.6% of benefits are tax free (with a maximum amount of €646) and hence 86.4% of benefits are subject to income tax.[435] Regarding benefits from the private *Riester-Rente* pension, §22 EStG applies. For these benefits only a portion is subject to taxation. The basis for calculating the portion subject to taxation is the annual amount of the pension. The portion subject to taxation is based on the year in which the pension begins and the percentage applicable in that year – see also table 3.2. The difference between the annual amount of the pension and the portion of the pension benefit subject to taxation is the tax-free part of the pension benefit.

The third layer consists of other capital products, though not necessarily old age provision, like private insurance contracts, bank deposits, investment funds, securities and real property. These products are subject to a TTE tax treatment, i.e., contributions are paid with after tax income, earnings and capital gains are also taxed while benefits are exempt from taxation. Furthermore, pensioners do pay social security contributions on their pension income but only to the health care system and the long-term care system. They do not pay any contributions to the mandatory state pension insurance and unemployment insurance.[436]

Table 3.2: Share of Riester pension benefits subject to taxation per year of retirement[437]

Year of retirement	**Share subject to taxation in %**	**Year of retirement**	**Share subject to taxation in %**
until 2005	50.0	2032	87.0
since 2006	52.0	2033	87.5
2007	54.0	2034	88.0
2008	56.0	2035	88.5
2009	58.0	2036	89.0
2010	60.0	2037	89.5
2011	62.0	2038	90.0
2012	64.0	2039	90.5
2013	66.0	2040	91.0
2014	68.0	2041	91.5
2015	70.0	2042	92.0

[435] § 24a EStG.
[436] OECD, *Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: Germany* (OECD Publishing 2019), 3; AH Börsch-Supan and C Quinn, *Taxing Pensions and Retirement Benefits in Germany* (CESifo Working Paper No 5636, 2015) 17-19; F Jochum, 'The Agenda for Adequate, Safe and Sustainable Pensions from a German Point of View' *EC Tax Review* (2013/3) 145–152, 146.
[437] § 22 EStG.

Year of retirement	Share subject to taxation in %	Year of retirement	Share subject to taxation in %
2016	72.0	2043	92.5
2017	74.0	2044	93.0
2018	76.0	2045	93.5
2019	78.0	2046	94.0
2020	80.0	2047	94.5
2021	81.0	2048	95.0
2022	82.0	2049	95.5
2023	82.5	2050	96.0
2024	83.0	2051	96.5
2025	83.5	2052	97.0
2026	84.0	2053	97.5
2027	84.5	2054	98.0
2028	85.0	2055	98.5
2029	85.5	2056	99.0
2030	86.0	2057	99.5
2031	86.5	2058	100.0

3.2.7 Freedom of choice

With the introduction of the *Riester-Rente* in 2002, came a great deal of freedom of choice. Specifically, the choice whether to participate in a pension plan at all (though highly encouraged) and a variety of private pension products to choose from.[438] The Riester fund must be used for an annuity. However, the exception being a 30% lump sum at the beginning of retirement. The *Eigenheimrentengesetz*[439] in 2008, expanded this option to 100% of the capital to acquire an owner-occupied dwelling (the *Wohnriester*) without losing the subsidies and tax benefits. As of 2014, it has also been possible to withdraw funds for e.g., renovation purposes. Unlike the *Riester* pension, *Rürup* pensions cannot be capitalized or used for acquiring an owner-occupied dwelling. Compared to other private retirement plans, the main difference is that *Rürup* benefits must be an annuity and there is no option for a lump sum.[440]

[438] K Hinrichs, Active Citizens and Retirement Planning: Enlarging Freedom of Choice in the Course of Pension Reforms in Nordic Countries and Germany (ZeS-Arbeitspapier No 11/2004, Universität Bremen, Zentrum für Sozialpolitik (ZeS), Bremen, 2004) 20.
[439] *Eigenheimrentengesetz* (EigRentG vom 29.07.2008 BGBI. I 2008 S. 1509).
[440] AH Börsch-Supan and C Quinn, *Taxing Pensions and Retirement Benefits in Germany* (CESifo Working Paper No 5636, 2015) 19; F Jochum, 'The Agenda for Adequate, Safe and Sustainable Pensions from a German Point of View' *EC Tax Review* (2013/3) 145–152, 147.

3.2.7.1 Variant careers

Variant careers are possible in Germany. However, some conditions do need to be met. The *gesetzliche Rentenversicherung* offers early retirement from the age of 63 if one has an insurance record of at least 35 years. If one retires before the statutory retirement age, the pension benefit is reduced by 3.6% for each year of claiming the retirement benefit early. In addition, when retiring early, no contributions are paid anymore, resulting in a significantly lower pension entitlement due to not earning additional pension points during those (early retirement) years. Early retirement without any penalties is possible if one completes 45 years of insured time (through the exceptionally long service pension). Postponement within the *gesetzliche Rentenversicherung* is also possible. This results in a 0.5% higher pension accrual for each month a person works after reaching the statutory retirement age.[441]

With respect to occupational pensions, there is no official retirement age included in the Company Pension Act (*Betriebsrentengesetz [BetrAVG]*). However, following § 2 (1) BetrAVG, it is assumed that the employment relationship ends when the statutory retirement age is reached. There is also no minimum age, though benefits can only be received if the state pension benefits are also being paid out. Depending on the type of commitment, occupational pensions can be paid out as either a lifelong annuity or a lump sum. With the *Beitragsorientiere Leistungszusage* (guaranteed contribution), for example, the benefits can indeed either be an annuity or a lump sum. However, with the *Reine Beitragszusage* (the "real" DC-scheme), only a lifelong annuity is allowed.[442]

3.3 The German owner-occupier housing market

3.3.1 Introduction

The German housing system can be qualified as a static housing system. In this kind of housing market, we see that changing housing preferences less often result in people moving houses, but rather in modifying their existing home. Furthermore, consumers in a static housing system generally buy only once or twice in their entire housing career. This results in low levels of mobility and short housing chains. Hence, the number of transactions in the market for existing owner-occupied dwellings is limited.[443]

[441] Bundesministerium für Arbeit und Soziales (BMAS), Soziale Sicherung im Überblick 2020 (2020) 156; OECD, *Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: Germany* (OECD Publishing 2019), 2.
[442] § 244b Versicherungsaufsichtsgesetz (VAG). The paragraph has been introduced as part of the Gesetz zur Stärkung der betrieblichen Altersversorgung und zur Änderung anderer Gesetze – or Betriebsrentenstärkungsgesetz for short (BRSG vom 17.08.2017 BGBl. I S. 3214).
[443] H van der Heijden, K Dol and M Oxley, 'Western European housing systems and the impact of the international financial crisis' *Journal of Housing and the Built Environment* (2011) 26(3) 295–313, 296, 304.

With 51.5% (2018), the German homeownership rate is at the lower end of international rankings.[444] The homeownership rate is not only relatively low, but the rate has also not increased as fast as in other countries. A large part of the low homeownership rate can be explained by the disadvantageous German tax policies for owner-occupiers such as real estate transfer taxes and an income tax law without mortgage interest deductions.[445] Another important determinant of the low homeownership rate in Germany is the provision of social housing. Especially to households who are likely to enter social housing when they have low income but who may continue to pay subsidised rent even when their income goes up.[446]

The relatively low homeownership rate in Germany does not, however, imply a negative attitude towards homeownership. In fact, homeownership is seen as a solid foundation for financial security in several ways. Housing equity creates a nest-egg, "a pension in stone", a possibility to live rent-free in old age, and something to leave children. However, the average age of German first-time buyers is higher than for example Dutch first-time buyers. Several factors contribute to this. First, German mortgage providers grant credit only if applicants can provide at least 20 to 30 per cent of the amount with their own capital.[447] This makes homeownership therefore much more difficult for younger households, whose financial situation is usually less settled. This might also fuel the German feeling that renting a home is an appropriate first step on the housing market, since they first must save for a deposit and therefore attach more value to a secure and stable situation before taking the step to buy a house. Furthermore, the German consensus is that it is good to have flexibility and money left for other purposes and to "live a bit before getting settled".[448]

House prices in Germany have been relatively stable in recent decades. Before 2008, the growth in house prices was limited and neither did the credit crisis led to a sharp drop in prices. The literature gives several reasons for this. Often mentioned characteristics are the well-developed (private) rental market (40% of German households live in a private sector rental home), the limited size of mortgage loans and the relatively elastic housing supply. Furthermore, after the German reunification, temporary government support for new construction took place in the 1990s. This contributed to a strong growth in housing supply, which also dampened house prices

[444] Eurostat, 'Database: ILC_LVHO02' (2023) <https://ec.europa.eu/eurostat/databrowser/view/ILC_LVHO02/default/table> accessed 13 March 2023.
[445] More on the different taxes and tax facilities can be found in para 3.3.3.
[446] L Kaas, G Kocharkov, E Preugschat and N Siassi, 'Low Homeownership in Germany—a Quantitative Exploration' *Journal of the European Economic Association* (2021) 19(1) 128–164, 163; M Voigtländer, 'Why is the German Homeownership Rate so Low?' *Housing Studies* (2009) 24(3) 355–372, 362.
[447] I will go into further detail about this in para 3.3.4.
[448] J Toussaint, G Tegeder, M Elsinga and I Helbrecht, 'Security and Insecurity of Home Ownership: Germany and the Netherlands' *European Journal of Housing Policy* (2007) 7(2) 173–192, 182, 184, 190.

in the years before the financial crisis.[449] We do, however, see a steeper house price increase after the financial crisis. This is also illustrated by figure 3.2.

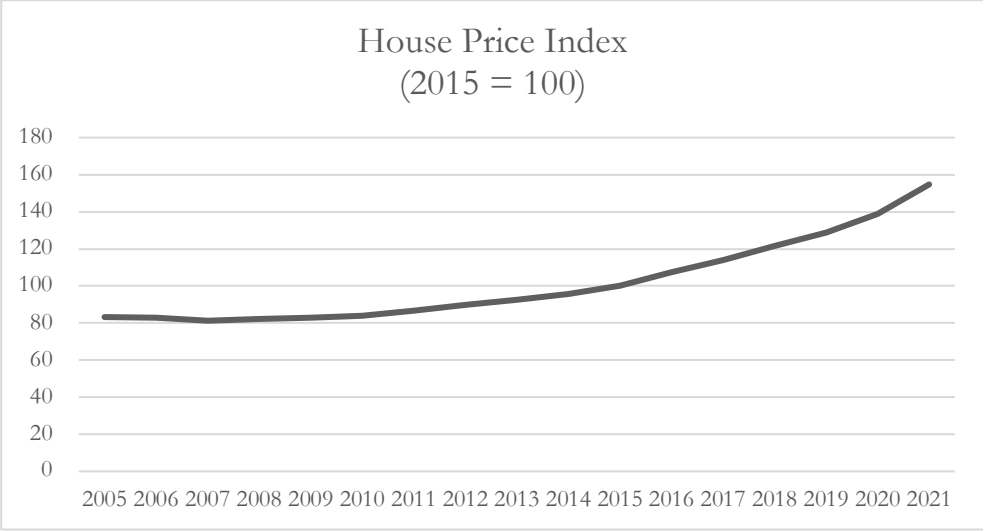

Figure 3.2: House Price Index in Germany (2015 = 100)[450]

3.3.2 The main residence

There is no formal definition for the main residence stated in the German (income) tax law anymore. Germany namely abolished mortgage interest deduction and the taxation of imputed rent in 1987. Only nine years later, in 1996, the home was taken out of the income tax. This was probably the result of the fact that a home was regarded as a consumption good since 1987.[451]

The German income tax does, however, make a distinction between a residence used for owner-occupancy and for rental purposes. When real estate is used exclusively for "one's own residential purposes", the capital gain is exempt from taxation.[452]

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[449] See e.g. CPB, *Beweging op de woningmarkt: prijzen en volumes* (CPB Notitie, Den Haag, 2020); M Schneider and K Wagner, *Housing Markets in Austria, Germany and Switzerland* (NBP Working Paper No 243, 2016); S Kofner, 'The German housing system, fundamentally resilient?' *Journal of Housing and the Built Environment* (2014) 29(2) 255–275; M Voigtländer, 'Why is the German Homeownership Rate so Low?' *Housing Studies* (2009) 24(3) 355–372; H van der Heijden, K Dol and M Oxley, 'Western European housing systems and the impact of the international financial crisis' *Journal of Housing and the Built Environment* (2011) 26(3) 295–313; AW Evans and OM Hartwich, *Bigger, better, faster, more: Why some countries plan better than others* (Policy Exchange, No 1096300, 2005).

[450] OECD, 'National and Regional House Price Indices' (OECD.Stat) <https://stats.oecd.org/Index.aspx?DataSetCode=RHPI>.

[451] MEA Haffner, 'Dutch personal income tax reform 2001: an exceptional position for owner-occupied housing' *Housing Studies* (2002) 17 521–534, 526.

[452] §23 (1) no 1 EStG.

3.3.3 Taxation and (tax) facilities

There are two ways to identify the owner-occupied dwelling for tax purposes: the property can be regarded as an investment good or as a consumer good. Both models have been used in Germany. First, until 1986, the investment good model was effective, and a tax was levied on the income from the owner-occupied home under §7b EStG. Furthermore, a limited deduction of mortgage interest was allowed between 1990 and 1992. Subsequently, the consumer good model was effective. However, until the end of 2005, the model was always supplemented by an additional subsidy. At first, there was the possibility to claim depreciation or special expenditure. From the mid-1990s onwards, a tax allowance for homebuyers (*Eigenheimzulage*) existed. This allowance was independent of the individual's tax situation. The tax allowance was cut in 2004 and completely terminated by 2006. Today, both owner-occupiers and landlords are barely subsidized in Germany.[453] Furthermore, the German tax system also directly affects the gains from homeownership. Owner-occupiers and landlords are not treated equally regarding the deductibility of mortgage interest payments. While landlords are allowed to deduct the mortgage interest payment from their taxes, owner-occupiers are not allowed to do so. German property taxes are fairly small. Moreover, the property tax is independent of tenure status and hence unlikely to have a significant effect on the choice between owning versus renting. The turnover rate for houses and apartments is relatively low in Germany. According to Kaas et al. (2021), a plausible explanation for this fact are high transaction costs. In 2019, average total transaction costs were equal to 13,7% of the purchase price, of which about five percentage points are accounted for by real estate transfer taxes.[454]

3.3.3.1 Grundsteuer

The *Grundsteuer* is the German real-estate (property) tax.[455] It taxes any property in Germany. This includes plots of land including buildings as well as agricultural and forestry operations.[456] The tax is, in principle, paid by the owners of the property. In case of rental, however, the property tax can be passed on to the tenants via the operating costs. The *Grundsteuer* is levied annually by the municipalities.[457] The income generated by the property tax flows exclusively to the cities and municipalities and represents one of the most important sources of income for the municipalities. The amount payable is determined on the basis of the value of the property. The value is based on the so-called *Einheitswert* – a unit value. The municipalities then multiply the *Einheitswert* by the (local) tax rate[458] and set the tax by means of a tax assessment.

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[453] M Voigtländer, 'Why is the German Homeownership Rate so Low?' *Housing Studies* (2009) 24(3) 355–372, 363-366.
[454] L Kaas, G Kocharkov, E Preugschat and N Siassi, 'Low Homeownership in Germany—a Quantitative Exploration' *Journal of the European Economic Association* (2021) 19(1) 128–164, 133.
[455] Most of the information in this paragraph is obtained from bundesfinanzministerium.de.
[456] §2, Grundsteuergesetz (GrStG).
[457] §1, *GrStG*.
[458] somewhere between 0,26% and 1%.

In 2018, the Federal Constitutional Court declared the current system of property tax assessments to be unconstitutional because it treats similar properties differently and thus violates the principle of equal treatment enshrined in the constitution (*Grundgesetz*). It also decided that a new legal regulation had to be made by December 31, 2019 at the latest. However, *Grunsteuer* can be levied in its current form on a transitional basis until December 31, 2024. From January 1, 2025, the property tax will then be levied based on the new law.

3.3.3.2 Grunderwerbsteuer

The *Grunderwerbsteuer* is the German real-estate transfer tax.[459] *Grunderwerbsteuer* is always due when purchasing a piece of land or real estate.[460] Until 1 September 2016, the *Grunderwerbsteuer* was a uniform rate of 3.5% in whole Germany. But as of 1 September 2016, each federal state has been able to decide for themselves which tax rate they want to apply.[461] Depending on the federal state, the tax rate now varies from 4.5% to 6.5% of the purchase price. The real estate transfer tax is due immediately after the purchase and is usually billed to the buyer. The amount due depends on two factors: the purchase price of the property[462] and the tax rate the respective federal state levies.

3.3.3.3 Other taxes

Capital gains tax on real estate

The taxation of real estate gains in Germany is governed by the German Income Tax Act (*Einkommensteuergesetz*, EStG), specifically in Sections 22 and 23. Pursuant these sections, capital gains from the sale of real estate are tax-free if the property has been held for more than ten years, thus exempting long-term investments in real estate from taxation. However, properties sold within ten years of purchase are subject to capital gains tax, also referred to as the " Spekulationssteuer" – or "speculation tax". A significant exemption applies to owner-occupied properties: if a property is used exclusively for personal residential purposes throughout the entire period between acquisition and sale, or specifically in the year of sale and the two preceding years, the gains are not taxable. This exemption extends to sales involving real estate and related rights, including leasehold and mineral extraction rights, and applies to buildings, external facilities, standalone parts of buildings, condominiums, and partial ownership spaces.[463]

VAT (Umsatzsteuer)

Pursuant §4, sub 9a, *Umsatzsteuergesetz (UStG)*, sales that fall under the *Grunderwerbsteuergesetz*, are exempt from VAT to avoid double taxation.

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[459] As established in the *Grunderwerbsteuergesetz* (GrEStG).
[460] §14 GrEStG.
[461] Art 105 Grundgesetz für die Bundesrepublik Deutschland.
[462] §8 GrEStG.
[463] §22 and §23 EStG.

Inheritance

In Germany, inheritance is primarily governed by the German Civil Code (*Bürgerliches Gesetzbuch*, BGB), while the taxation of inherited assets and gifts is regulated by the German Inheritance- and Gift Tax Act (*Erbschaftsteuer- und Schenkungsteuergesetz*, ErbStG).

Under the ErbStG, two primary taxable events are recognized: inheritance and gifts. Inheritance tax is imposed on the transfer of assets from a deceased person to their heirs.[464] Gift tax applies to the transfer of assets between living persons as gifts.[465]
The classification of recipients significantly affects the applicable tax rates and exemptions. The ErbStG categorizes recipients into three distinct classes. Table 3.3 shows the different recipient classes, tax range and the tax-free allowance. Table 3.4 shows in addition hereof the specific tax rates per recipient class and value of taxable estate.

The owner-occupied dwelling is exempt from inheritance and gift taxes if the surviving spouse or children reside in it for a minimum of ten years.[466]

Additionally, to prevent double taxation, acquisitions falling under the scope of the Inheritance- and Gift Tax Act (*Erbschaftsteuer- und Schenkungsteuergesetzes*) are exempt from real estate transfer tax. Hence, acquisition of property mortis causa[467] and inter vivos donations[468] are exempt from real estate transfer tax.

Table 3.3: Recipient classes, tax rate ranges and tax-free allowances

Class	**Includes[469]**	**Tax rate[470]**	**Tax-free allowance**
Class I	Spouses, children (including stepchildren and adopted children), grandchildren, parents (for inheritances), and grandparents	7% to 30%	Spouses: € 500,000 [471] Children: € 400,000 [472] Grandchildren: € 200,000 [473] Parents (inheritances): € 100,000 [474]

[464] §1(1) no 1 ErbStG.
[465] §1(2) no 1 ErbStG.
[466] §13(1) nos 4b and 4c ErbStG.
[467] §§ 3(2) GrEStG in conjunction with § 3(1) no 1 ErbStG.
[468] § 3(2) GrEStG in conjunction with § 7(1) no 1 ErbStG.
[469] §15(1) ErbStG.
[470] §19(1) ErbStG.
[471] §16(1) no 1 ErbStG.
[472] §16(1) no 2 ErbStG.
[473] §16(1) no 3 ErbStG.
[474] §16(1) no 4 ErbStG.

Class	Includes[469]	Tax rate[470]	Tax-free allowance
Class II	Siblings, nieces and nephews, parents (for gifts), in-laws, and divorced spouses	15% to 43%	€ 20,000 [475]
Class III	All other recipients, including unrelated individuals	30% to 50%	€ 20,000 [476]

Table 3.4: Tax rates based on value of the taxable estate and recipient class

Value of the taxable estate (up to and including)	Tax rate[477]		
	Class I	**Class II**	**Class II**
€ 75,000	7%	15%	30%
€ 300,000	11%	20%	30%
€ 600,000	15%	25%	30%
€ 6,000,000	19%	30%	30%
€ 13,000,000	23%	35%	50%
€ 26,000,000	27%	40%	50%
∞	30%	43%	50%

3.3.3.4 Facilities

Most European countries promote homeownership through e.g., mortgage interest deductions. The German system, however, is more focused on stimulating saving. Facilities are found not in the form of deductions, but rather by means of subsidies. Starting with the *Eigenheimzulage* from the mid-1990s, which was cut in 2004 and completely terminated by 2006. It was then succeeded by the *Baukindergeld* scheme - although this scheme also immediately came under attack due to, among others, several European legal concerns. Finally, the *Wohnungsbauprämie* – a premium for saving for building or buying your own home at a *Bausparkasse* – is discussed here. Though it is a non-exhaustive list, these (tax) facilities have been selected based on their unique design and (possible) relevance to the Dutch owner-occupier scheme (*eigenwoningregeling*).

[475] §16(1) no 5 ErbStG.
[476] §16(1) no 5 ErbStG.

[477] §19(1) ErbStG.

Eigenheimzulage

The *Eigenheimzulage*[478] was a homeownership benefit for families that existed between 1995 and 2005, and was one of the largest government subsidies in Germany. It was a benefit for families with children who wanted to acquire real estate. The benefit amounted to approximately € 800 per child per year. This tax-free benefit scheme to promote homeownership was abolished in 2005.[479]

Since 2006, the *Eigenheimzulage* has no longer been granted because the target had been reached. According to the government at the time, the situation at the housing market was relaxed. In addition, state construction subsidies weighed on the federal budget, and the funds released were to be invested in other areas such as education and research.[480] Furthermore, resident taxpayers in Germany were eligible for the *Eigenheimzulage* if they acquired a property in Germany. However, Germany refused to pay the benefit to cross-border workers working in Germany. This led to questions from the European Parliament to the European Commission in 2003 whether Germany's refusal to pay the *Eigenheimzulage* to cross-border workers was contrary to EU law.[481] After an infringement procedure by the European Commission, the Court of Justice ruled against the German government in 2008.[482]

Baukindergeld

In 2018, as part of the so-called housing offensive (*Wohnraumoffensive*[483]), the coalition[484] introduced a building allowance, the *Baukindergeld*, which is a benefit aimed at promoting homeownership among young families.[485] It is the successor of the *Eigenheimzulage* in Germany. The *Baukindergeld* is a child-dependent benefit that can be obtained for ten years to support the purchase of an existing or new – to be built – home in Germany.

To be eligible, individuals should be first-time buyers and should have at least one child. Another requirement is the purchase or construction of a dwelling. Furthermore, the taxable annual income must not exceed € 75,000. Though this threshold increases with € 15,000 for every child.

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[478] The *Eigenheimzulage* was set out in Section 2(1), first sentence, *Eigenheimzulagengesetz* (German law on the private homeownership benefit), version of 1997, as amended by the 2004 *Haushaltsbegleitgesetz* (the accompanying Budget Act of 2004).

[479] *Gesetz zur Abschaffung der Eigenheimzulage* of 22 December 2005 (law repealing the private home ownership benefit), BGBl. 2005 I, p. 76.

[480] Vergleich.de, *Baukindergeld* <https://www.vergleich.de/baukindergeld.html>.

[481] Written Question E-3846/02 by Ieke van den Burg (PSE) and Wilfried Kuckelkorn (PSE) to the Commission (16 January 2003); J Feijen, 'Bolkestein: Duitsland moet Eigenheimzulage verlenen aan grensarbeiders' (2003) *NTFR* afl 16, 679.

[482] ECJ 17 January 2008, C-15 2/05, Commission v Germany, ECR 2008, I-39, V-N 2008/10.6.

[483] the Merkel government's national building scheme.

[484] The political parties CDU, CSU and SPD.

[485] Most of the information in this paragraph is obtained from vergleich.de/baukindergeld.

This income threshold is calculated by taking the average of the annual incomes of the past two calendar years. The *KfW*[486] lists who exactly can apply for *Baukindergeld*:

Any natural person, who

- is the (co-)owner of owner-occupied residential property; and
- is entitled to child benefit himself or lives in the same household as the person entitled to child benefit; and
- in whose household there is at least one child who has not yet reached the age of 18 at the time the application is submitted and for whom there is an entitlement to child benefit in the household; and
- whose taxable annual household income does not exceed € 90,000 for one child plus € 15,000 for each additional child.

The requirements for the benefit were designed in such a way that families with a middle income are entitled to this state subsidy. New build houses are eligible if the building permit was granted between January 1, 2018, and March 31, 2021. When purchasing new or existing homes, the notarial purchase contract must have been signed between January 1, 2018, and March 31, 2021. Furthermore, the application must be submitted within six months of moving into the house, according to the date given on the official registration of residence. Applications can be submitted until the end of 2023.

The *Baukindergeld* benefit is equal to € 1,200 per child per year (up to the age of 25). Table 3.5 shows an example of the *Baukindergeld* benefit amounts depending on the number of children.

Table 3.5: Baukindergeld benefit

Number of children	Per year	In 10 years
1 child	€ 1,200	€ 12,000
2 children	€ 2,400	€ 24,000
3 children	€ 3,600	€ 36,000
4 children	€ 4,800	€ 48,000

Funding of the *Baukindergeld* subsidy ended on December 31, 2022 – though it was possible to apply for the subsidy until the end of 2023, within the scope of the available funds. A total of 9.9 billion euros has been available for the *Baukindergeld* since the scheme began. The limited funds were always transparently pointed out, for example, on the website of the KfW. During 2023, the German government has started promoting homeownership by means of low-interest

[486] *Baukindergeld* is a programme of the *KfW Bankengruppe* - a German state-owned investment and development bank.

KfW loans. This subsidy, called *Wohneigentum für Familien (WEF)* – or, "Homeownership for families" – replaces the *Baukindergeld*.[487]

Although housing allowances were effective in encouraging homeownership, they faced criticism for their economic, environmental, and social impacts. Economically, these subsidies were said to set the wrong incentives, leading to price increases in the construction industry, which benefited the industry more than the recipients, though this connection is difficult to prove. Ecologically, they favoured the construction of new single-family houses, contributing to land sealing and unsustainable space use. Socially, the allowances primarily supported middle-income families, creating an unfair distribution of benefits as low-income earners ended up subsidizing higher-income earners' real estate purchases through their tax payments.[488]

Wohnungsbauprämie

Homeownership is also promoted through a housing premium – the *Wohnungsbauprämie (WoP)* – as laid out in the *Wohnungsbau-Prämiengesetz (WoPG)*. The *Wohnungsbauprämie* was introduced in 1952[489], making it the oldest government subsidy promoting homeownership in Germany. The *WoPG* is a premium for saving at a *Bausparkasse* to build or buy the owner-occupied dwelling. It supports the build-up of equity and, like other grants, is subject to certain conditions. These requirements to be eligible for the premium are laid out in the *WoPG*. In principle, anyone who is subject to unlimited tax liability in Germany and is at least 16 years old can receive the premium. Furthermore, the individual must then save by means of a contractual savings for housing contract (*Bausparvertrag*) and comply with the income limits.[490] The requirements can be summed up as follows.

- Minimum age of 16 years.
- The capital must be used to build, buy or modernize a property.
- At least € 50 per year must be paid into a *Bausparvertrag*[491].
- The taxable annual income may not exceed € 35,000 for single people and € 70,000 for spouses[492].
- The *Bausparvertrag* must have a term of at least 7 years.

[487] Bundesministerium für Wohnen, Stadtentwicklung und Bauwesen (BMWSB), *Baukindergeld noch schnell bis zum 31.12.2022 beantragen* (17 November 2022) <https://www.bmwsb.bund.de/SharedDocs/pressemitteilungen/DE/2022/11/baukindergeld.html>.
[488] J Richter, 'German Housing Policy and the Current State of the Housing Market in Germany' *Sociedade e Território* (2023) 35(1) 73–88, 81.
[489] Gesetz über die Gewährung von Prämien für Wohnbausparer (Wohnungsbau-Prämiengesetz, WoPG) 17 March 1952, BGBl I 149.
[490] §1 WoPG.
[491] §2(1) no 1 WoPG.
[492] §2a WoPG.

- Savings contracts with building or housing cooperatives and the purchase of shares in a building or housing cooperative with a term of three to eight years are eligible for premiums[493].
- Savings contracts that apply to the construction or purchase of residential property for personal use and have a term of three to six years are eligible for premiums[494].

The amount of the subsidy is equal to 10% of the savings[495], though it is capped at € 700 per year for single persons and € 1,400 per year for spouses[496]. The subsidy does not belong to an individual's taxable income within the meaning of the *Einkommensteuergesetzes*.[497]

3.3.4 Homeownership and the German mortgage market

At the beginning of this section, we saw that with 51.5% (2018) of the German population owning a house, the share of homeownership in Germany is at the lower end of international rankings. Among owner-occupiers, approximately half of them outright own their properties, while the other half are (entirely or partly) financed by means of a mortgage or other (housing) loan.[498]

Germany's mortgage system stands out for its conservatism, characterized by low loan-to-value and shorter loan maturities. In contrast to their Dutch counterparts, Germans typically borrow less, face shorter repayment periods, and are required to contribute a higher percentage of their own funds, often ranging between twenty to thirty percent.[499] The typical loan to value ratio in Germany is equal to 70-80%, representing the average for purchases of owner-occupied dwellings.[500]

This conservative system has led to a stable housing market, with real house prices remaining practically static since 1970.[501] Because capital gains on property are limited, most households do not feel the need to buy early in their life. From this we can conclude that the German

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[493] §2(1) no 2 WoPG.
[494] §2(1) no 3 WoPG.
[495] §3(1) WoPG.
[496] §3(2) WoPG.
[497] §6 WoPG.
[498] Eurostat, 'Database: ILC_LVHO02' (2023) <https://ec.europa.eu/eurostat/databrowser/view/ILC_LVHO02/default/table> accessed 13 March 2023.
[499] B Wind, 'Ongelijk woonvermogen: hoe de stimulering van het eigenwoningbezit uitpakt in Nederland, Duitsland en Zweden' *Sociologie* (2015) 11(3–4) 347–371, 352, 355; H Schwartz and L Seabrooke, 'Varieties of Residential Capitalism in the International Political Economy: Old Welfare States and the New Politics of Housing' (2008) 6 *Comparative European Politics* 237–261, 251.
[500] European Mortgage Federation – European Covered Bond Council, *Hypostat 2023: A Review of Europe's Mortgage and Housing Markets* (September 2023) 78.
[501] B Wind, 'Ongelijk woonvermogen: hoe de stimulering van het eigenwoningbezit uitpakt in Nederland, Duitsland en Zweden' *Sociologie* (2015) 11(3–4) 347–371, 352, 356.

housing regime results in a static housing market in which people, when they finally make the move to home ownership, hardly move to another house anymore.[502]

In 2017, Germany showcased one of the lowest national mortgage debts in Europe, amounting to a mere 42.3% of GDP.[503] This illustrates the country's cautious borrowing habits and the resilience of its mortgage market. The relatively low national mortgage debt implies that German borrowers are less likely to borrow excessively, compared to countries with higher mortgage debt relative to GDP. This cautious approach to borrowing helps to mitigate the risk of financial instability and over-leveraging, thereby ensuring smaller credit sections on household balance sheets.

3.3.4.1 Property financing

Germans can finance the purchase of the owner-occupied dwelling by means of a *Immobilienkredit* – or property loan.[504] A property loan is a loan from a bank, a German savings bank (*Sparkasse*), a German building society (*Bausparkasse*), or an insurance company. Its primary purpose lies in facilitating the acquisition or construction of real estate, such as a house or an apartment. Property loans are commonly secured loans with land charges or mortgages (*Hypothek*). The German Civil Code (*Bürgerliches Gesetzbuch*, BGB) provides the foundational legal framework for contractual obligations, including property loans.[505]

Property loans come in various forms, primarily categorized based on the structure of interest rates and repayment methods. The two primary types based on interest rate are loans with fixed interest rates and those with variable interest rates. Fixed interest rate loans, commonly referred to as *Sollzinsbindung, Zinsbindung or Zinsfestschreibung*, entail a predetermined interest rate for a specific duration, typically ranging from 5 to 40 years. Conversely, loans with variable interest rates are linked to a specified reference interest rate.

In terms of repayment methods, property loans are further classified into annuity loans (*Annuitätendarlehen*) and maturity loans (*endfällige Festdarlehen*). Annuity loans require borrowers to make monthly payments comprising both interest and principal, with the interest portion decreasing over time as the principal is repaid. Unlike annuity loans, maturity loans involve solely

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[502] B Wind, 'Ongelijk woonvermogen: hoe de stimulering van het eigenwoningbezit uitpakt in Nederland, Duitsland en Zweden' *Sociologie* (2015) 11(3–4) 347–371, 352; H van der Heijden, K Dol and M Oxley, 'Western European housing systems and the impact of the international financial crisis' *Journal of Housing and the Built Environment* (2011) 26(3) 295–313, 304-305.

[503] European Mortgage Federation, Hypostat 2018: A Review of Europe's Mortgage and Housing Markets (September 2018) 116.

[504] Most of the information in this paragraph is obtained from bafin.de (*Bundesanstalt für Finanzdienstleistungsaufsicht*, i.e., the German Federal Financial Supervisory Authority), specifically *Immobilienfinanzierung* found at <https://www.bafin.de/DE/Verbraucher/KrediteImmobilien/Immobilienfinanzierung/immobilienfinanzierung_node.html>

[505] BGB, Title 1.

interest payments throughout the loan term. Consequently, borrowers are obligated to repay the entire principal amount at the end of the loan period. If the maturity loan does not coincide with an anticipated financial surplus, borrowers must not only meet the interest obligations, but also secure additional funds through supplementary savings instruments refered to as redemption substitute products (*Tilgungsersatzprodukt*) such as an endowment life insurance or a *Bauspar* contract[506].

Additionally, borrowers may opt for residual debt loans (*Kredite mit Restschuld*), where a balance remains after the fixed interest rate period. This balance can be settled either through personal funds or by renegotiating loan terms with the existing lender or with a new lender. Alternatively, full redemption loans *(Volltilgerdarlehen)* involve complete repayment of the principal at the end of the agreed interest rate period, often necessitating multiple follow-up financing agreements.

Forward loans offer borrowers the opportunity to secure future fixed interest rates in advance of the current interest rate period's expiration, with some agreements possible up to five years ahead.

Early termination of the loan

Property loans with interest rate fixation, the termination conditions vary based on the duration of the fixation period. For loans with an interest rate fixation period exceeding ten years, borrowers may terminate the loan after ten years have elapsed since the full disbursement or after a new interest rate agreement has been established. This termination requires a notice period of six months, which can only be submitted after the initial ten years have passed.[507]

For loans with an interest rate fixation period of up to ten years, premature termination before the end of the fixation period is generally not permitted. An exception exists if the borrower intends to use the collateral for another purpose, such as selling the property or using it as collateral for another loan. In such cases, the lender may impose an early termination penalty (*Vorfälligkeitsentschädigung*). Situations like inheritance, lottery winnings, unemployment, or capital market advantages do not constitute valid grounds for termination. Although lenders may agree to premature repayment under these circumstances, they are not obligated to do so and typically require an early termination penalty.[508]

In the case of variable-rate loans, borrowers can terminate the agreement with a notice period of three months.[509]

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[506] *Bauspar* contracts are explained in more detail in para 3.3.4.2.
[507] BGB, Title 1, Chapter 1, § 489(1).
[508] BGB, Title 1, Chapter 1, § 490.
[509] BGB, Title 1, Chapter 1, § 489(2).

3.3.4.2 Bausparen

The German *Bausparen*, a form of Contractual Savings for Housing (CSH), is a financial product designed for individuals who want to build, buy, or renovate an owner-occupied dwelling.[510] It combines elements of saving and loan systems and is structured through institutions known as *Bausparkassen* – or building societies. The concept is as follows.

Participants enter into a contractual savings system, committing to save up to a pre-agreed target amount. Upon reaching this target, they become entitled to a loan approximately 1 to 1.5 times the value of their accumulated savings. For example, if the target amount represents 20% of the total loan-to-value (LTV), then the corresponding CSH loan typically ranges from 20% to 30%. Together, this covers a substantial portion of the financing. Both the savings target and loan amount are specified in the contract.[511] The remaining 50 to 60% of the financing is typically covered by other means. Figure 3.3 illustrates this financing model for purchasing an owner-occupied dwelling.

The contractual savings for housing process consists of two phases (see also Figure *3.4*)[512]:

1. Savings phase

During this phase, a fixed amount is regularly deposited into the savings account, up to a maximum of half of the total agreed amount (savings plus loan). This phase continues until the savings balance reaches the predetermined level. The savings earn interest, usually at a lower rate compared to other savings accounts. Once the savings target is achieved, the saver becomes eligible for the loan.

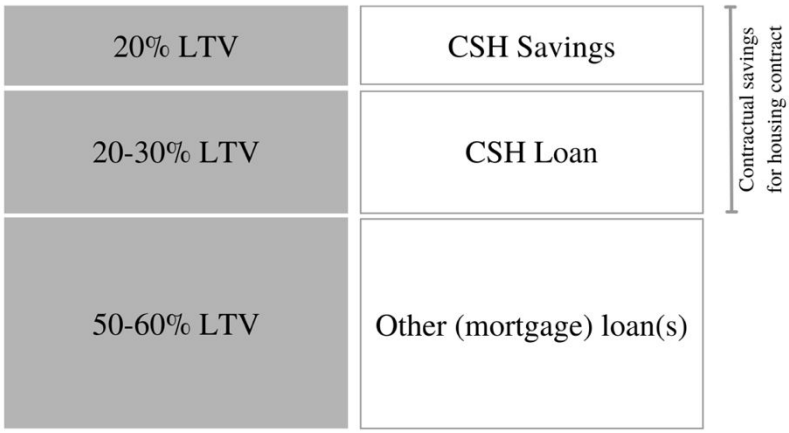

Figure 3.3: The "classical" contractual savings for housing model

[510] § 92a EStG.
[511] P Boelhouwer, K Dol, H van der Heijden and C Lamain, Van lenen naar (bouw)sparen (2014) 21–22.
[512] Schwäbisch Hall, *Bausparen: An International Success Story* (Schwäbisch Hall n.d.) 4.

2. Loan phase

In this phase, the saver can access the remaining amount of the *Bausparsumme* as a loan at a favourable fixed interest rate, typically some percentage points below prevailing market mortgage rates at the time of contract conclusion. For example, if the market interest rate for a standard mortgage is around 4%, the *Bauspar* loan might be issued at a fixed rate of 2%, depending on the terms agreed upon during the savings phase. The loan is repaid in monthly instalments over a long period, usually 10 to 20 years, offering both repayment predictability and interest rate security. This phase is also known as the loan phase.

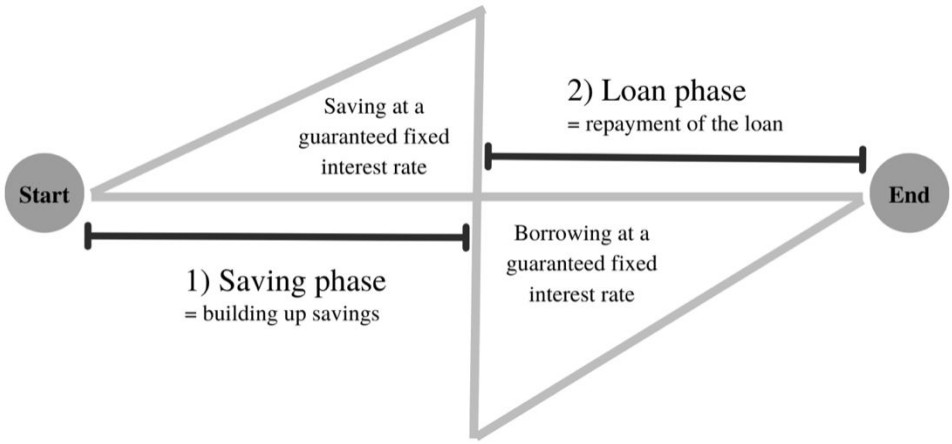

Figure 3.4: The two phases of the contractual savings for housing process

Both the CSH saver (the consumer) and the provider have obligations. The consumer must make regular saving deposits, while the provider is obliged to grant the agreed loan. However, the consumer is not required to take out the loan.[513] Upon entering a CSH contract, the interest rates for both savings and loans are determined in advance and fixed for the contract's duration, providing certainty throughout the term.

There are two types of CSH models: closed and open systems. In a closed system, CSH loans are solely provided from the available savings and repayments of the CSH institution's customers, making these institutions independent of the capital market.[514] This independence can lead to a shortage of available funds for CSH loans, causing potential waiting times once a saver reaches their savings target and applies for a loan. After all, many customers not only receive their accrued savings, but also a CSH loan of approximately 1 to 1.5 times the value of

[513] P Boelhouwer, K Dol, H van der Heijden and C Lamain, Van lenen naar (bouw)sparen (2014) 22.
[514] P Boelhouwer, K Dol, H van der Heijden and C Lamain, Van lenen naar (bouw)sparen (2014) 21; Schwäbisch Hall, *Bausparen: An International Success Story* (Schwäbisch Hall n.d.) 4-5.

their accrued savings. To mitigate this, closed systems may attract customers solely interested in saving and encourage accelerated loan repayment.[515]

In contrast, an open system allows the CSH institution to attract funds from the financial market, thus avoiding the issue of waiting times for loan disbursement.

Contractual savings for housing enable many Germans to own a home. The German legislation on *Bausparen* is the backbone of this system. Taxpayers are protected by the *Bausparkassengesetz* (BauSparkG)[516], which regulates – among other things – building societies (*Bausparkassen*) in Germany. This law includes provisions on risk management, fund usage, and customer protection, aimed at protecting savers. Funds can be used for various purposes related to building, purchasing, or modernizing owner-occupied dwellings.[517] Many CSH savers use their savings for renovations aimed at optimizing energy consumption or modernizing their homes.[518]

The German government's support for CSH savings promotes the long-term success of this saving method. As a result, the government attracts funds specifically to the private housing sector and strengthens the capital position of borrowers. In addition, the government contribution increases the attractiveness of CSH, while at the same time providing some compensation for inflation and encouraging people to invest in safe financial products.[519] Government incentives include contributions through employers[520], with eligibility often based on income limits, and the *Riester-Förderung* program, which includes the *Riester-Bausparvertrag*, allowing saved capital to be used for owner-occupied housing.

Qualification criteria for *Bausparvertag* as *Riester*

As touched upon in paragraph 3.2.4.1 above, a *Bausparvertrag* can qualify as a *Riester* product if it meets several requirements. First, the *Bausparvertrag* must be certified as a *Wohnriester* product. This certification is provided by the German Federal Financial Supervisory Authority (*Bundesanstalt für Finanzdienstleistungsaufsicht*, BaFin). The funds saved and the received government subsidies must be used for specific residential purposes, including[521]:

- Purchasing or constructing the owner-occupied dwelling
- Paying off an existing mortgage on the owner-occupied dwelling
- Renovating or modifying the owner-occupied dwelling to enhance accessibility for age or disability-related needs

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[515] P Boelhouwer, K Dol, H van der Heijden and C Lamain, Van lenen naar (bouw)sparen (2014) 22–23.
[516] Gesetz über Bausparkassen.
[517] § 1 Gesetz über Bausparkassen.
[518] Schwäbisch Hall, *Bausparen: An International Success Story* (Schwäbisch Hall n.d.) 5.
[519] Schwäbisch Hall, *Bausparen: An International Success Story* (Schwäbisch Hall n.d.) 7.
[520] The so-called Arbeitnehmer Sparzulag, Vermögenswirksame Leistungen and Wohnungsbauprämie.
[521] §§ 92a and 92b EStG.

- Finance energy-efficient upgrades

If the *Bausparvertrag* meets these criteria, it qualifies as a *Riester* product, and the individual can receive the subsidies associated with the *Riester* pension (*Riester-Zulagen*). Furthermore, 100% of the accumulated capital can be withdrawn to purchase an owner-occupied dwelling without having to pay back the withdrawal.

The housing subsidy account (*Wohnförderkonto*)

As outlined in Section 92a of the German Income Tax Act (EStG), the housing subsidy account (*Wohnförderkonto*) is an account that tracks the housing-related withdrawals and their corresponding subsidies. It ensures that funds withdrawn from retirement savings for housing purposes are tracked and that they are used appropriately. For example, if an individual has taken out an amount from his/her retirement savings account for the purchase of the owner-occupied dwelling, this amount is recorded in his/her *Wohnförderkonto*. The balance in the *Wohnförderkonto* then increases by 2% annually.[522] Upon selling the dwelling, hence the property is no longer used as the individual's own residence, the total amount (the amount taken out plus the annual 2% increases) is added to the individual's taxable income for the year. To avoid it being treated as taxable income, the individual can pay back the total amount into a certified retirement savings account.

3.4 Interactions between retirement savings and real estate ownership

This section explores the interplay between retirement savings and real estate ownership in Germany, with particular attention to the role of contractual savings schemes such as *Bausparen*. It begins by outlining the benefits and challenges of contractual savings for housing, drawing on insights from the existing academic literature.

Building on this foundation, the section presents a quantitative example that demonstrates how instruments such as the *Riester* pension plan and a *Bausparvertrag* can be used to finance homeownership. The simulation models key life events – from pension accrual and homeownership entry to later housing transitions, retirement, and eventual wealth decumulation – and shows how these influence the household balance sheet over time. By modelling the effects of these events on the household balance sheet, the analysis provides a conceptual framework that clarifies how retirement savings can support – or interact with – housing investment in the German context.

[522] § 92a(2) EStG.

3.4.1 Benefits and challenges of contractual savings for housing: insights from the literature

Contractual savings for housing (CSH), a savings scheme aimed at facilitating homeownership, offers participants attractive financing terms and promotes long-term savings discipline. However, it also presents certain challenges and limitations. Existing literature highlights both the advantages of CSH, such as predictable loan conditions and its stabilizing effect on housing markets, as well as concerns about its rigidity and limited accessibility for lower-income households. This analysis synthesizes prior research to explore these key benefits, including stability, market accessibility, and financial discipline, alongside notable drawbacks such as rigidity, opportunity costs and subsidy dependence, providing insights into the role of CSH within housing finance systems and its broader implications for financial planning.

3.4.1.1 Benefits of contractual savings for housing

Stability and predictability in financing

One of the primary advantages of CSH Braun et al. (2021) point out is the interest rate security it provides, allowing participants to lock in favorable borrowing rates at the outset, thus shielding them from future market fluctuations. This feature is particularly advantageous in periods of rising interest rates, as it enables borrowers to access credit at below-market rates.[523] Börner et al. (2018) further emphasize the stable and predictable financing that CSH provides, effectively insulating participants from market-driven interest rate volatility. With the CSH system's closed structure, savers not only accrue funds at a fixed interest rate during the savings phase but also secure a predetermined loan rate for the borrowing phase. This setup ensures that CSH contracts remain unaffected by market yield curve changes, offering fixed rates for both savings and loans.[524] Burghof & Schairer (2017) support this, explaining that CSH strengthens borrower creditworthiness and fosters financial predictability. By requiring borrowers to achieve a minimum savings target before obtaining loans, the system establishes a financial buffer that curtails speculative borrowing and discourages unsustainable debt, thus promoting long-term market stability. This stability is reinforced by the CSH system's fixed, below-market interest rates, offering borrowers affordable and predictable terms across both savings and repayment phases.[525] Scholten (2000) similarly highlights the CSH model's stable, long-term saving structure, which enables individuals to accumulate savings while securing low-interest loans. Furthermore, government subsidies increase the effective rate of return for participants, while the system's lower fixed rates offer a secure investment for risk-averse households by shielding

[523] J Braun, H-P Burghof, M Gehrung and D Schmidt, 'Contractual Saving for Housing as Early Financial Development and Its Clients in Weimar Germany' (2021) *SSRN Electronic Journal* 4–5 <https://doi.org/10.2139/ssrn.3805839>.
[524] CJ Börner, P Harnischmacher and R Katernberg, 'The Self-Selection Effects of Retail Financial Products: The Case of Contractual Savings for Housing in Germany' (2018) 18(1) *Journal of Accounting and Finance* 94, 96, 100.
[525] H-P Burghof and M Schairer, 'Loan Performance of Contractual Savings for Housing' (University of Hohenheim, February 2017) 3-7, 10 <https://doi.org/10.2139/ssrn.2925104>.

them from capital market volatility.[526] Börsch-Supan and Stahl (1991) also consider the interest structure a distinguishing feature of the CSH system: while savings accrue relatively low interest, participants benefit from equally low-interest loans, unaffected by general capital market fluctuations. Additionally, as the loan often takes the position of a second mortgage, borrowers can still obtain a primary mortgage from another lender at potentially lower rates.[527]

Enhanced access to homeownership

Braun et al. (2021) argue that the collective savings nature of the CSH scheme enables individuals, particularly those with limited income, to pool resources and overcome financial barriers to homeownership, accelerating access to housing funds while reducing exposure to market volatility.[528] Kirsch and Burghof (2018) find that CSH's approach enables banks to assess creditworthiness based on saving behavior rather than traditional collateral, thus reducing adverse selection.[529] This structure provides a feasible financing pathway for low-income households, especially in high price-to-income housing markets, allowing them to gradually build savings and qualify for loans without needing prohibitive collateral typically required in arm's-length lending.[530]

Promoting financial discipline and reducing default risk

Burghof and Schairer (2017) underscore that CSH fosters financial discipline among participants by mandating a specified savings target before loan eligibility. By creating a financial buffer through this mandatory savings phase, CSH promotes disciplined financial behaviors that benefit both individual participants and the broader system. This predictability in loan conditions reduces exposure to market-driven risks, helping to prevent financial instability from speculative borrowing.[531]

Contribution to housing market stability

Burghof & Schairer (2017) argue that CSH significantly enhances borrower creditworthiness, thereby stabilizing the housing market. The CSH system's design includes a preliminary savings phase that serves as a screening mechanism, selecting individuals likely to meet long-term

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[526] U Scholten, 'Rotating Savings and Credit Associations in Developed Countries: The German–Austrian Bausparkassen' (2000) 28(2) *Journal of Comparative Economics* 340–363, 341–342, 361.
[527] AH Börsch-Supan and K Stahl, 'Do savings programs dedicated to homeownership increase personal savings? An analysis of the West German Bausparkassen system' *Journal of Public Economics* (1991) 268.
[528] J Braun, H-P Burghof, M Gehrung and D Schmidt, 'Contractual Saving for Housing as Early Financial Development and Its Clients in Weimar Germany' (2021) *SSRN Electronic Journal* 3–6 <https://doi.org/10.2139/ssrn.3805839>.
[529] S Kirsch and H-P Burghof, 'The Efficiency of Savings-Linked Relationship Lending for Housing Finance' (2018) 42(C) *Journal of Housing Economics* 55–68, 56–57 <https://doi.org/10.1016/j.jhe.2018.05.003>.
[530] S Kirsch and H-P Burghof, 'The Efficiency of Savings-Linked Relationship Lending for Housing Finance' (2018) 42(C) *Journal of Housing Economics* 55–68, 66 <https://doi.org/10.1016/j.jhe.2018.05.003>.
[531] H-P Burghof and M Schairer, 'Loan Performance of Contractual Savings for Housing' (University of Hohenheim, February 2017) 3, 5-6 <https://doi.org/10.2139/ssrn.2925104>.

repayment commitments. By requiring this initial saving, CSH filters out higher-risk borrowers, which has contributed to lower default rates compared to other housing loan types. The system further reinforces financial predictability for borrowers through its structured loan access and predetermined interest rates, creating a financial buffer against speculative borrowing and unsustainable debt. This stability is sustained through the system's fixed, below-market interest rates, providing borrowers with affordable, predictable terms throughout the saving and repayment phases.[532]

Welfare benefits through government subsidies

Kirsch and Burghof (2018) note that CSH is supported by direct subsidies such as the "*Arbeitnehmersparzulage*" and "*Wohnungsbauprämie*," which enhance household savings while enabling banks to assess creditworthiness. These subsidies align CSH with national policy goals, reinforcing its role in promoting homeownership among middle- and lower-income households.[533] Börsch-Supan and Stahl (1991) argue that such government subsidies – including tax deductions and bonuses – have historically increased the appeal of CSH contracts by significantly improving the effective after-tax returns on savings. For lower-income households that qualified for both types of bonuses and saved the maximum eligible amount, the combined subsidy effect could raise the effective savings yield to as much as 25% in specific cases.[534] However, this figure represents a maximum under optimal subsidy conditions, not a typical return, and it applies to the savings phase – not to the borrowing rate, which is contractually fixed and generally well below market mortgage rates.[535]

While the benefits of CSH highlight its established role in supporting stable and accessible housing finance in Germany, the literature also identifies several limitations. The following section outlines key drawbacks, focusing on aspects where the CSH system restricts flexibility or imposes financial trade-offs on participants.

3.4.1.2 Drawbacks of contractual savings for housing

Inflexibility and delayed access to funds

Börner at al. (2018) argue that, despite system stability and government policy support, CSH contracts exhibit rigidity; participants must complete the entire savings phase to qualify for a loan, which can delay immediate home purchase plans. Further, the closed structure carries a specific risk: German building societies cannot guarantee a fixed loan availability date, limiting

[532] H-P Burghof and M Schairer, 'Loan Performance of Contractual Savings for Housing' (University of Hohenheim, February 2017) 3-7, 10 <https://doi.org/10.2139/ssrn.2925104>.
[533] S Kirsch and H-P Burghof, 'The Efficiency of Savings-Linked Relationship Lending for Housing Finance' (2018) 42(C) *Journal of Housing Economics* 55–68, 64-66 <https://doi.org/10.1016/j.jhe.2018.05.003>.
[534] Assuming a 3% interest rate.
[535] AH Börsch-Supan and K Stahl, 'Do savings programs dedicated to homeownership increase personal savings? An analysis of the West German Bausparkassen system' *Journal of Public Economics* (1991) 269.

effectiveness for time-sensitive buyers.[536] Burghof & Schairer (2017) add that the delay in fund accessibility due to minimum savings requirements can complicate timing for property purchases, while high switching costs deter borrowers from changing banks, effectively limiting their flexibility.[537] Börsch-Supan and Stahl (1991) also observe that a major drawback of CSH is the long waiting period between completing the savings phase and loan disbursement.[538]

Opportunity costs due to fixed savings rates

Braun et al. (2021) highlight that a notable disadvantage of CSH is the acceptance of fixed interest rates during the savings phase, which are often below the returns available through alternative investment options such as capital markets. While nominal savings rates in CSH contracts may have appeared attractive in certain historical periods – especially when supported by government subsidies – they have generally remained sub-market in relative terms, particularly over longer horizons.[539] Scholten (2000) further underscores this drawback, noting that over the typical 17-year contract, CSH underperforms compared to capital market investments, which can yield up to 9% more. This disparity represents an opportunity cost for savers who might otherwise pursue more lucrative options.[540]

Challenges in low-interest environments

Kirsch and Burghof (2018) discuss how the prolonged low-interest rate environment has exposed structural vulnerabilities within the CSH system and its specialized institutions, the Bausparkassen, in Germany. While not a systemic failure, this situation reflects a long-term structural imbalance for the CSH system. In particular, older contracts with relatively high fixed savings rates have become increasingly costly for providers to service, as market rates remain well below these commitments. At the same time, the attractiveness of CSH loans has declined because the fixed borrowing rates, once competitive, are now higher than market alternatives. Regulatory constraints – such as the requirement to invest in low-yield, investment-grade securities – have further limited the institutions' ability to stabilize returns. These pressures have prompted some Bausparkassen to pursue contract cancellations or seek regulatory adjustments, leading to reputational challenges.[541]

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[536] CJ Börner, P Harnischmacher and R Katernberg, 'The Self-Selection Effects of Retail Financial Products: The Case of Contractual Savings for Housing in Germany' (2018) 18(1) *Journal of Accounting and Finance* 94, 95-96.
[537] H-P Burghof and M Schairer, 'Loan Performance of Contractual Savings for Housing' (University of Hohenheim, February 2017) 3, 6 <https://doi.org/10.2139/ssrn.2925104>.
[538] AH Börsch-Supan and K Stahl, 'Do savings programs dedicated to homeownership increase personal savings? An analysis of the West German Bausparkassen system' *Journal of Public Economics* (1991) 268.
[539] J Braun, H-P Burghof, M Gehrung and D Schmidt, 'Contractual Saving for Housing as Early Financial Development and Its Clients in Weimar Germany' (2021) *SSRN Electronic Journal* 4 <https://doi.org/10.2139/ssrn.3805839>.
[540] U Scholten, 'Rotating Savings and Credit Associations in Developed Countries: The German–Austrian Bausparkassen' (2000) 28(2) *Journal of Comparative Economics* 340–363, 345-362.
[541] S Kirsch and H-P Burghof, 'The Efficiency of Savings-Linked Relationship Lending for Housing Finance' (2018) 42(C) *Journal of Housing Economics* 55–68, 67 <https://doi.org/10.1016/j.jhe.2018.05.003>.

Dependency on government subsidies and intergenerational challenges

Scholten (2000) argues that government subsidies play a crucial role in attracting new savers to contractual savings for housing (CSH) schemes. He notes that while reducing or abolishing these subsidies might improve overall welfare efficiency, such measures could also deter new participants. This, in turn, may affect existing savers due to a decline in incoming funds, highlighting a potential intergenerational trade-off within the system.[542] Börsch-Supan and Stahl (1991) also observe that reductions in subsidies have diminished CSH's appeal, noting a reduction in base bonus rates and the failure to adjust income eligibility limits with inflation.[543]

In conclusion, the literature on contractual savings for housing presents a balanced view of its benefits and limitations within housing finance systems. On one hand, CSH offers participants stability through predictable loan terms and mitigates market risks, encouraging disciplined savings and fostering financial accessibility for prospective homeowners. This stability is particularly valuable in volatile interest rate environments, as it provides secure, long-term financing options that support both individual and systemic housing market resilience. On the other hand, the scheme's rigidity, lower returns during the savings phase, and limited accessibility for low-income households pose significant constraints. Additionally, while government subsidies enhance the attractiveness of CSH, they create a dependency that may affect the system's sustainability as subsidy structures evolve. The literature emphasizes the inherent tensions in CSH design – balancing financial stability and accessibility against structural inflexibilities and reliance on state support. Several studies also highlight difficulties in adapting the scheme to diverse income groups and shifting economic contexts, raising important questions about its long-term viability and inclusiveness.

3.4.1.3 Usefulness of the CSH model for the Netherlands

Considering the applicability of the German CSH model to the Dutch context and its alignment with the review framework, the stability and predictability of the CSH system emerge as highly valuable features. CSH's ability to offer fixed and predictable loan terms after a structured saving phase aligns with the overarching goal of reducing financial risks for households. This predictability promotes long-term financial planning and buffers against market volatility, enabling Dutch savers to manage their assets without excessive exposure to economic uncertainty. By reducing financial strain and fostering stable financing conditions, CSH can contribute to systemic housing market stability while providing a pathway to responsible homeownership.

[542] U Scholten, 'Rotating Savings and Credit Associations in Developed Countries: The German–Austrian Bausparkassen' (2000) 28(2) *Journal of Comparative Economics* 340–363, 345-362.
[543] AH Börsch-Supan and K Stahl, 'Do savings programs dedicated to homeownership increase personal savings? An analysis of the West German Bausparkassen system' *Journal of Public Economics* (1991) 269–270.

Another key strength is the CSH model's emphasis on financial discipline and its ability to reduce default risk. The requirement to meet a savings target before loan access ensures financial preparedness, allowing banks to assess creditworthiness based on demonstrated saving behaviour rather than relying solely on traditional metrics such as collateral. This approach minimizes the risk of default, thereby enhancing the stability of both the housing finance system and the broader financial system. For the Netherlands, this disciplined savings structure could play an important role in fostering a resilient housing market, reducing speculative borrowing, and encouraging sound financial habits among households.

However, the rigidity and delayed access to funds inherent in the German CSH model present significant challenges that would need to be addressed for successful adaptation to the Dutch context. The fixed savings term before loan eligibility may conflict with the Dutch need for flexibility, particularly in a tight housing market where timely access to funds is critical. Such delays could hinder prospective buyers from entering the market, potentially exacerbating existing shortages in the owner-occupier housing sector. This rigidity undermines the framework's criterion of supporting a flexible and accessible housing finance model that adapts to diverse household needs.

The opportunity cost associated with CSH's fixed, low savings rates is also a noteworthy limitation. While CSH provides stability, the low return on savings could hinder the growth of funds. Dutch households may find CSH less attractive if higher returns are readily available through other saving or investment vehicle, thereby limiting the attractiveness and effectiveness of the model.

The German CSH model provides a structured framework that could inspire the development of a similar scheme in the Netherlands. By requiring participants to save a predetermined percentage of their target loan amount before accessing fixed-interest financing, the CSH model promotes financial discipline, reduces default risk, and offers predictable terms that buffer against market volatility. However, it is crucial to consider the model's limitations, such as rigidity and opportunity costs, and explore how its features could be adapted to better align with the Dutch housing market and financial system.

3.4.2 Quantitative illustration

We make use of a reference person who experiences several (life) events regarding the purchase and sale of the owner-occupied dwelling, pension accrual, retirement, and death. This quantitative illustration uses the city of Berlin as the reference city, providing a representative urban setting for our study.

Berlin's real estate market is notably one of the most attractive in Germany. Property prices in Berlin have been rising for years. As of early 2023, anyone looking to buy a property in Berlin must spend a median of € 5,480 per square meter for an existing property, with prices for new builds significantly higher at € 8,540 per square meter. Despite the continuous rise in property prices over the years, these prices have started from a relatively low level, resulting in property values that remain moderate compared to the European average.[544]

Below, the different events are described, along with relevant additional information about the reference person.

Event 1: Start a career – pension accrual and opening a "*Bausparvertrag*"

As paragraph 3.2.3 has illustrated, second pillar pensions in Germany consist of voluntary occupational pension schemes through the employer. The reference person starts working at a fulltime job with an employer who provides an occupational pension scheme for its employees. Furthermore, with the start of earning a (fulltime) income, the reference person decides to open a *Bausparvertrag* at a *Bausparkasse*.

Additional information regarding this event:

- Reference person aged 24
- Wages equal to € 45,000 per year
- Occupational pension scheme provided by the employer is a defined contribution scheme (*Reine Beitragszusage*)
- *Bausparen*:
    - Amount to be saved: € 70,000
    - Agreed upon loan amount: € 100,000
    - Interest rate: 1%
    - Not eligible for *Wohnungsbauprämie* due to exceeding the income limit[545]
    - The *Bausparvertrag* qualifies as a *(Wohn)Riester* product, hence the individual receives a *Riester-Zulage*.

Event 2: Purchase of the (first) owner-occupied dwelling

The reference person purchases his/her first house.

Additional information regarding this event:

- Reference person aged 34

[544] C Mulder, 'Property Prices in Berlin' (*Hypofriend*, 2020, updated 2023) <https://hypofriend.de/en/property-prices-in-berlin.afb> accessed 22 May 2024.
[545] To be eligible for *Wohnungsbauprämie*, the taxable annual income may not exceed €35,000 for single people and €70,000 for spouses.

- Yearly income from employment is equal to € 80,000
- Financial wealth:
    - Regular savings of € 70,000[546]
    - *Bausparen*: € 170,000
        - Of which savings: € 70,000[547]
        - Of which a loan: € 100,000[548]
            - Annuity loan
                - Amount: € 100,000
                - Duration: 20 years
                - Interest rate: 3%
                - Gross monthly payment: € 554.60
                    - Interest: € 250.00[549]
                    - Monthly repayment: € 304.60[550]
- Purchase price of the dwelling € 415,000, located in Berlin

The reference person wants to buy his/her first dwelling with a value equal to € 415,000. In Germany, up to 80% of the value of the dwelling can be financed by means of a mortgage loan. Interest is not deductible, hence there is no incentive to take out additional mortgage debt. Hence, the following information can be added to the analysis:

- Maximum LTV: € 332,000 (80% of € 415,000)

A real estate transfer tax – *Grunderwerbsteuer* – is levied on transfers of real estate. The purchaser of the property is the one liable to pay the *Grunderwerbsteuer*. The amount of the real estate transfer tax depends on the purchase price of the property and the tax rate levied by the federal state in which the property is located. Furthermore, it cannot be financed through a mortgage. In this example, the property is in the city of Berlin (which is categorised as a "city-state"), levying a 6% real estate transfer tax. Hence, the following information can be added to the analysis:

- Real estate transfer tax (*Grunderwerbsteuer*): € 24,900

[546] Rounded numbers from simplified calculations based on monthly savings contributions equal to 1% of the reference person's monthly salary and interest rate of 1% per year. Please also refer to appendix B1 for the complete table.
[547] Rounded numbers from simplified calculations based on monthly savings contributions equal to 1% of the reference person's monthly salary and interest rate of 1% per year. Please also refer to appendix B2 for the complete table.
[548] Approximately 1.5 times the saved amount can be taken out as an annuity loan.
[549] Month 1, on the assumption that the entire mortgage is being repaid in 20 years. Also refer to appendix B3 for the complete table.
[550] Month 1, on the assumption that the entire mortgage is being repaid in 20 years. Also refer to appendix B3 for the complete table.

Based on the above-mentioned information, the following synopsis can be made:

Regular savings	€	70,000	
Real estate transfer tax (*Grunderwerbsteuer*)	€	24,900	-/-
Financial wealth after taxes	**€**	**45,100**	
Bausparen			
- Savings	€	70,000	
- Loan	€	100,000	+
Total	**€**	**170,000**	
Value of the dwelling	€	415,000	
Bausparen	€	170,000	-/-
Down payment (financial wealth after taxes)	€	45,100	-/-
Remaining (financing needed)	**€**	**199,900**	

The individual takes out a mortgage loan for the remaining amount of € 199,900. The mortgage loan is an annuity mortgage. The loan is repaid in 30 years. The following information can then be added to the analysis:

- Annuity mortgage
  - Amount: € 199,900
  - Duration: 30 years
  - Interest rate: 3.28%
  - Gross monthly payment: € 873.27
    - Interest: € 546.39[551]
    - Monthly repayment: € 326.88[552]

Event 3a: Sale of the owner-occupied dwelling and purchase of another owner-occupied dwelling

After 10 years, the owner-occupied dwelling is sold, and the reference person purchases his/her second owner-occupied dwelling ("levelling-up").

Additional information regarding this event:

[551] Month 1, on the assumption that the entire mortgage is being repaid in 25 years. Also refer to appendix B4 for the complete table.
[552] Month 1, on the assumption that the entire mortgage is being repaid in 25 years. Also refer to appendix B4 for the complete table.

- Reference person aged 44
- Yearly income from employment is equal to € 125,000
- Financial wealth:
    - Regular savings of € 100,000[553]
- Value of the dwelling to be sold € 550,000, located in Berlin
- Value of the dwelling to be bought € 650,000, located in Berlin

Step 1: sale of the owner-occupied dwelling

The dwelling is sold for € 550,000. Hence, the capital gain is equal to € 135,000.[554] In Germany, capital gains from the sale of the owner-occupied dwelling are tax-free.[555] Furthermore, after 10 years, the remaining mortgage amount is equal to € 153,097[556], which is paid off using the proceeds of the sale of the property. The remaining *Bauspar* loan is equal to € 57,024. This is transferred to finance the new property.

Step 2: purchase of another owner-occupied dwelling

The reference person purchases his/her second house in Berlin with a value equal to € 650,000. To finance the purchase of this dwelling, the individual uses the remainder of the sale of his/her previous dwelling, his/her savings ("financial wealth") minus taxes (*Grunderwerbsteuer*), and a mortgage loan for the remaining amount.

Based on the above-mentioned information, the following synopsis can be made:

Proceeds of the sale dwelling #1	€	550,000	
Repayment of remaining mortgage dwelling #1	€	153,097	-/-
Remainder sale dwelling #1	**€**	**396,903**	
Financial wealth (regular savings)	€	100,000	
Grunderwerbsteuer	€	39,000	-/-
Financial wealth after taxes	**€**	**61,000**	

[553] Rounded numbers from simplified calculations based on monthly savings contributions equal to 10% of the reference person's monthly salary and interest rate of 1% per year. Please also refer to appendix B1 for the complete table.
[554] € 550,000 – € 415,000 = € 135,000.
[555] §§ 22 and 23 EStG; see also para 3.3.3.3.
[556] Also refer to appendix B3, month 121.

Value of the dwelling	€	650,000	
Down payment			
- Remainder sale dwelling #1	€	396,903	-/-
- Financial wealth after taxes	€	61,000	-/-
Remaining (financing needed)	**€**	**192,097**	

The individual takes out a mortgage loan for the remaining amount of € 192,097. The mortgage loan is an annuity mortgage. The loan is repaid in 30 years. The following information can then be added to the analysis:

- Annuity mortgage
    - Amount: € 192,097
    - Duration: 30 years
    - Interest rate: 3.28%
    - Gross monthly payment: € 839.19
        - Interest: € 525.07[557]
        - Monthly repayment: € 314.12[558]

Event 3b: Sale of the owner-occupied dwelling without purchasing another dwelling

An alternative option is to sell the owner-occupied dwelling, without purchasing a new one, and instead transfer to e.g., rented housing. The analysis would then become the following.

After 10 years, the owner-occupied dwelling is sold. Additional information regarding this event:

- Reference person aged 44
- Value of the dwelling to be sold € 550,000
- No additional dwelling is bought after the sale of the first

The remaining mortgage is fully paid off with the proceeds from the sale of the property.

Based on the above-mentioned information, the following synopsis can be made:

[557] Month 1, on the assumption that the entire mortgage is being repaid in 25 years. Also refer to appendix B4 for the complete table.
[558] Month 1, on the assumption that the entire mortgage is being repaid in 25 years. Also refer to appendix B4 for the complete table.

Proceeds of the sale dwelling #1	€	550,000	
Repayment of remaining mortgage dwelling #1	€	153,097	-/-
Repayment of remaining Bauspar loan	€	57,024	-/-
Remainder sale dwelling #1	**€**	**339,879**	

Furthermore, the amount equal to the amount not yet repaid in the housing subsidy account (*Wohnförderkonto*) needs to be repaid.[559] The remaining amount is then added to the individual's financial wealth.

Event 4: Retirement

At age 67, the reference person retires and receives a standard old age pension (*Regelaltersrente*). Furthermore, the individual has pension savings in an occupational pension scheme provided by the employer. This is a DC-scheme (*Reine Beitragszusage*), from which only a lifelong annuity at retirement is allowed.

Depending on the continuation of his/her path following either event 3a or event 3b, the following information can be added to the analysis:

	Following event 3a		**Following event 3b**	
Value of the dwelling	€	775,000	€	-
Pension assets (Reine Beitragszusage)	€	691,509	€	691,509
Regular savings	€	367,950	€	933,521
Remaining mortgage	**€**	**62,241**	**€**	**-**

Event 5: Death

At the age of 87 years, the individual dies. The heir is the individual's only child. Depending on the continuation of his/her path following either event 3a or event 3b, the following information can be added to the analysis:

	Following event 3a		**Following event 3b**	
Value of the dwelling	€	900,000	€	-
Regular savings	€	448,969	€	1,139,073
Total value of the estate	**€**	**1,348,969**	**€**	**1,139,073**

[559] § 92a(3) EStG.

According to the German Inheritance rules and regulations, the child falls within class I recipient and is entitled to a tax-free allowance equal to € 400,000.

Furthermore, since the individual has taken out an annuity when retiring, the terms of the annuity contract will determine what happens upon their death. Some annuities provide for payments to continue to a surviving spouse or dependents, while others may cease upon the individual's death.

Depending on the continuation of his/her path following either event 3a or event 3b, the following information can be added to the analysis:

	Following event 3a		**Following event 3b**	
Total value of the estate	€	1,348,969	€	1,139,073
Tax-free allowance	€	400,000	€	400,000
Taxable estate	**€**	**948,969**	**€**	**739,073**

The inheritance tax rate depends on several factors, including which class of recipient the heir falls into and the value of the estate. In this example, the inheritance tax rate is equal to 19%.[560] It is charged on the portion of the estate that exceeds the tax-free allowance, and depending on the continuation of the individual's path following either event 3a or event 3b, the following information can be added to the analysis:

	Following event 3a		**Following event 3b**	
19% inheritance tax over taxable estate:	€	180,304	€	140,424

Based on the above-mentioned information, the following synopsis can be made:

	Following event 3a		**Following event 3b**	
Total value of the estate	€	1,348,969	€	1,139,073
Inheritance tax payable	€	180,304	€	140,424
Inheritance after taxes	**€**	**1,168,665**	**€**	**998,649**

Alternative: the individual dies before retirement

In this example, only capital accumulated by means of a *Riester* pension scheme are inheritable. Our reference person only made use of a *Riester* pension in terms of *Bausparen* which he/she used for the purchase of the dwelling. Hence, this amount is already including in the value of the dwelling.

[560] Also refer to table 3.4.

3.5 Addressing sub-questions: towards a comprehensive understanding

This chapter has explored the design and background of both the pension system and the owner-occupier housing market in Germany. It addressed four key sub-questions, each of which is answered below.

Question 1: Which elements are characteristic of the pension system in Germany?
The German pension system is structured around three pillars, similar to the Dutch system. Several general observations can be made:

- The first pillar consists of pay-as-you-go public pensions (*Gesetzliche Rentenversicherung*, GRV), which provide for basic living costs after reaching the statutory retirement age. In contrast to the Dutch AOW, which is based on residency, the GRV is employment-based and depends on the number of pension points accumulated during one's working life.
- The second pillar includes occupational pension schemes (*Betriebliche Altersversorgung*), which are capital-funded and serve as a supplement to the statutory provision. Participation is voluntary and arranged through the employer. While there is no official retirement age for this pillar, it is generally assumed that the employment relationship ends at the statutory retirement age.
- The third pillar consists of voluntary, individual pension arrangements intended to close pension gaps. These are also capital-funded. Notably, there is a link with the first pillar: individuals entitled to the *Gesetzliche Rentenversicherung* are also eligible for a *Riester-Rente*, while the *Rürup-Rente* is available to those not covered under the Riester scheme.
- The statutory retirement age (*Regelaltersgrenze*) is laid down in § 35 SGB VI. It has been gradually increasing since 1 January 2012 but is not directly linked to life expectancy.
- Germany has no specific tax relief for retirees. Traditionally, the pension system followed the TEE model (Taxed-Exempt-Exempt), but since 2004 it has been transitioning to the EET model (Exempt-Exempt-Taxed) as part of a broader pension reform.
- Depending on the type of scheme, occupational pensions may be paid out either as lifelong annuities or lump sums. The introduction of the *Riester-Rente* in 2002 brought more flexibility, including the option to withdraw 30% of the pension savings as a lump sum at retirement, or to use 100% of the Riester capital for the acquisition of an owner-occupied dwelling under the *Wohnriester* scheme.
- Variant career paths are accommodated under the GRV. Early retirement is possible from age 63 with at least 35 years of contributions, although this comes with benefit reductions. Retirement without penalty is possible after 45 years of insured time.

Postponed retirement increases pension accrual. The *BetrAVG* (occupational pensions) does not stipulate a minimum or maximum retirement age, but benefits are only payable when state pension payments commence.

Question 2: Which elements are characteristic of the owner-occupied housing market in Germany?

Several conclusions can be drawn regarding the structure of the German owner-occupier housing market:

- Since the abolition of mortgage interest deduction and the taxation of imputed rent in 1987, there is no longer a formal definition of the main residence in German income tax law. However, a functional distinction remains between properties used for owner-occupation and for rental purposes. Notably, capital gains from real estate used exclusively for personal residential purposes are exempt from taxation.
- Germany has a relatively low homeownership rate compared to other countries, standing at 51.5% in 2018. The housing system is characterised as static, meaning Germans tend to remain in their homes and renovate rather than move, resulting in short housing chains and low mobility.
- The housing market has shown relatively stable prices over time, even during economic downturns. This price stability is supported by a well-developed rental market, limited mortgage lending, and an elastic housing supply.
- Taxation of owner-occupied housing has evolved significantly. While earlier periods included mortgage interest deductions and subsidies (e.g. *Eigenheimzulage*), these have largely been phased out. The *Baukindergeld* was introduced in 2018 to support families, offering €1,200 per child annually for ten years. However, it ended in 2022 and was replaced by low-interest KfW loans. The *Wohnungsbauprämie*, established in 1952, still provides support for saving toward the acquisition, construction, or renovation of an owner-occupied home.
- The mortgage market is conservative, with loan-to-value ratios typically between 70% and 80%, and relatively short repayment periods. As a result, Germany's mortgage debt is low—only 42.3% of GDP—contributing to the system's financial stability.
- Germans finance homeownership primarily through two methods: *Immobilienkredite* (property loans) and *Bausparen* (Contractual Savings for Housing, CSH). Property loans come with either fixed or variable interest rates, and different repayment models (annuity, maturity, full redemption). Forward loans are used to secure future interest rates, though early repayment is restricted and subject to penalties. *Bausparen* combines a savings phase and a loan phase, with government support and fixed interest rates over a repayment period of 10 to 20 years.

Question 3: How are retirement savings and real-estate purchases being combined in Germany?

In Germany, the use of retirement savings for real estate purchases is facilitated through the *Wohnriester* scheme (*Eigenheimrente*). This allows individuals to use their *Riester-Rente* savings to

purchase or renovate an owner-occupied home. Initially, only partial withdrawals (e.g. €10,000 to €50,000) were permitted, and these had to be repaid into the pension scheme by age 65. However, the *Eigenheimrentengesetz* relaxed these conditions, allowing up to 100% of the pension capital to be used for housing without repayment obligations.

Both *Darlehensverträge* (loan contracts) and *Bausparverträge* (CSH contracts) can be certified as *Riester* products and thereby qualify for subsidies. If the dwelling is later sold, the withdrawn capital must be reinvested in another owner-occupied property or transferred into a certified Riester contract. Upon retirement, up to 30% of the pension capital can be withdrawn as a lump sum, without restriction on its use. This allows households to invest directly in their home, either by increasing their down payment or by (partially) repaying a mortgage. These mechanisms help reduce overall indebtedness and thus contribute to shorter household balance sheets.

Question 4: What role do taxes play herein?

Taxation plays an important role in facilitating the use of retirement savings for housing purposes in Germany. The *Wohnriester* scheme offers tax advantages by allowing contributions to be tax-deductible and capital use for homeownership to occur without penalties. This contrasts with systems in other European countries that promote homeownership through mortgage interest deduction; Germany focuses instead on stimulating savings through tax-advantaged products.

Capital gains from the sale of owner-occupied property are tax-free if the property was used exclusively for personal residential purposes. Additionally, real estate transfers under inheritance and gift tax rules are exempt from real estate transfer tax if the property remains owner-occupied. Although subsidies such as *Baukindergeld* have been discontinued, instruments like the *Wohnungsbauprämie* continue to support housing-related saving. Germany's conservative mortgage culture, combined with the option to withdraw up to 30% of Riester pension savings at retirement, allows households to improve their financial resilience by reducing housing-related liabilities.

Concluding reflection

This chapter examined both Germany's pension system and its owner-occupier housing market through four core sub-questions. It outlined the three-pillar pension structure, reviewed relevant laws and retirement flexibility, and described the stable, savings-based orientation of the German housing system. The analysis highlighted how tools such as *Wohnriester* and *Bausparen* allow for the integration of retirement savings into homeownership strategies. Tax incentives and conservative lending practices further reinforce this link. Together, these elements illustrate how pension policy, homeownership support, and tax structures jointly shape the financial choices and balance sheets of German households.

4. The United Kingdom

4.1 Introduction

The country is officially called *the United Kingdom of Great Britain and Northern Ireland*, but commonly known – and referred to – as the United Kingdom, or the UK for short. It is a constitutional monarchy consisting of four components. Three of which are countries: England, Scotland and Wales, and one province: Northern Ireland. The formation of the United Kingdom of Great Britain and Northern Ireland took several centuries. Starting in the 11th century when England and Scotland had each become a kingdom. During the period 1535 to 1542 Wales was annexed to the Kingdom of England and the English monarch (King Henry VIII) also became the ruler of Ireland. Upon the death of Queen Elizabeth I, King James VI of Scotland – of the House of Stuart – inherited the English crown. He became King James I of England, giving England and Scotland a single monarch. It took until 1707 to unite the two kingdoms by an Act of Union. Renaming the two kingdoms "the Kingdom of Great Britain". Though "united" was not part of the official term, the Kingdom of Great Britain was noted in the Act as a "united kingdom" and its people were called "British". In 1801, Ireland joined the union to form "the United Kingdom of Great Britain and Ireland". In 1922, the Irish Free State (now Ireland) was formed by 26 of the 32 counties of Ireland. The 1801 union title was thus no longer applicable and by 1927 the union was termed *the United Kingdom of Great Britain and Northern Ireland*.[561]

The UK has a surface of 248,536 square kilometres with almost 66.8 million inhabitants. The GDP per capita is €37,851.80. Table 4.1 shows these key economic indicators for the United Kingdom compared to the EU (2019 numbers, unless stated otherwise).

Table 4.1: Key economic indicators for the United Kingdom and the EU (year: 2019, unless stated otherwise)

	UK	**EU**
People & society		
Surface (km2) [a]	248,536	4,214,996
Population (as of 1 June)	66,796,807	446,824,564
Old age dependency ratio [b]	31.7	34.1
Life expectancy at birth	81.3	81.0
Tertiary educational attainment [c]	44.7%	31.6%

[561] GOV.UK, *Toponymic guidelines for map and other editors, United Kingdom of Great Britain and Northern Ireland* (United Kingdom Permanent Committee on Geographical Names, 17 July 2019) <https://www.gov.uk/government/publications/toponymic-guidelines> accessed 24 November 2020.

	UK	EU
Employment rate [d]	79.3%	73.1%
Economy & business		
GDP (millions) [e]	€ 2,522,713.20	€ 13,963,560.90
GDP per capita	€ 37,851.80	€ 31,250.66
Inflation (2015 = 100) [f]	107.8	105.04
Price level [g]	123.1	100

[a] *Surface area in square kilometres (year = 2015)*
[b] *Number of persons aged 65 or older per 100 persons aged between 20 and 64.*
[c] *People with tertiary educational attainment as % of the population aged 25 to 64.*
[d] *Percentage of people employed in the age group from 20 to 64 years.*
[e] *In Millions of euros at current prices.*
[f] *Annual average index, with 2015 as the base year.*
[g] *Total prices in the United Kingdom are 23.1% higher than the EU27 average.*
Source: Eurostat (2020) – Databases: DEMO_R_D3AREA, DEMO_GIND, DEMO_PJANIND, DEMO_MLEXPEC, EDAT_LFSE, LFSA_ERGAN, NAMA_10_GDP, NAMA_10_PC, PRC_HICP_AIND, PRC_PPP_IND; ONS (2020) - Estimates of the population for the UK, England and Wales, Scotland and Northern Ireland (Dataset)

Table 4.2 and figure 4.1 show the UK's population as well as how the inhabitants are spread across its components. As can be seen from table 4.1 and figure 4.2, of the four components, England has the most residents with no less than 84% of the total population. Scotland takes up 8%, followed by Wales with 5% and Northern Ireland with only 3% of the total population. The UK's main capital is London (England), with almost 9 million inhabitants. The other capitals are Edinburgh (Scotland, ± 252,000 inhabitants), Cardiff (Wales, ± 367,000 inhabitants) and Belfast (Northern Ireland, ± 345,000 inhabitants).[562]

[562] All numbers are mid-2019 estimated numbers. Source: Office for National Statistics (ONS), *Estimates of the population for the UK, England and Wales, Scotland and Northern Ireland* (Dataset, 2020) <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland> accessed 24 November 2020.

Table 4.2: Population of the United Kingdom of Great Britain and Northern Ireland[563]

	Population
United Kingdom	66,796,807
Great Britain	64,903,140
England and Wales	59,439,840
England	56,286,961
Wales	3,152,879
Scotland	5,463,300
Northern Ireland	1,893,667

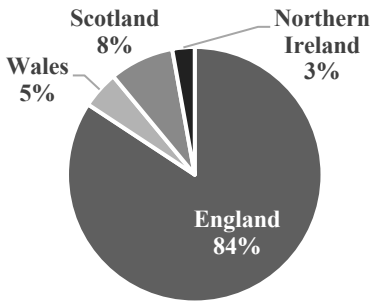

Figure 4.1: Population of England, Wales, Scotland, and Northern Ireland as a percentage of total UK population[564]

The United Kingdom has been a political superpower throughout history, and the British Empire was a very important player in the history of the world. By the twentieth century, however, Britain had to redefine its place in the world. At the beginning of the century Britain commanded a world-wide empire as the foremost global power. Countries all over the planet were part of the British Empire. While two World Wars and the loss of a lot of its Colonies, diminished its role, the UK remains an economic and military power, with significant political as well as cultural influence around the world.[565]

The UK maintains links with parts of its former empire through the British Commonwealth of Nations. It also benefits from both historical and cultural ties with the United States of America and is an active member of the North Atlantic Treaty Organization (NATO). Moreover, the UK has been a member of the European Union since 1973, but never gave up their own coin, the Pound Sterling. Taking part in the EU and its institutions has always divided the British. Many were holding on to Winston Churchill's remark:

[563] Office for National Statistics (ONS), *Estimates of the population for the UK, England and Wales, Scotland and Northern Ireland* (Dataset, 2020) <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland> accessed 24 November 2020.
[564] Office for National Statistics (ONS), *Estimates of the population for the UK, England and Wales, Scotland and Northern Ireland* (Dataset, 2020) <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland> accessed 24 November 2020.
[565] BBC, *United Kingdom profile* (2017) <https://www.bbc.com/news/world-europe-18027954> accessed 30 November 2020; AMA Bijvoet, *Owner-Occupied Dwelling and Income Taxes: A Synopsis of Eight European Countries* (Uitgeverij Eburon 2001) 72–73.

"We see nothing but good and hope in a richer, freer, more contented European commonalty. But we have our own dream and our own task. We are with Europe, but not of it. We are linked, but not comprised. We are interested and associated, but not absorbed."[566]

In June 2016, in a referendum whether the UK should remain in the EU, no less than 51,89% of the British voters chose to leave. Negotiations on the withdrawal started on 29 March 2017. After a lot of negotiation, several deadline extensions, long-lasting domestic political division, and two changes of prime minister, an agreement on the British exit ("Brexit") was reached on 17 October 2019 that satisfied both the EU and the majority of the British Parliament. On 31 January 2020 the UK became the first country to withdraw from the EU. A transition period is now in place until 31 December 2020.[567]

The subsequent sections of this chapter delve into the financial landscape of the United Kingdom, with a particular focus on its pension system and owner-occupier housing market, aiming to answer the following questions:

1. Which elements are characteristic of the pension system in the United Kingdom?
2. Which elements are characteristic of the owner-occupier housing market in the United Kingdom?
3. How are retirement savings and real estate purchases being combined in the United Kingdom?
4. What role do taxes play herein?

It begins with an examination of the British pension system (4.2), analysing its three-pillar system – public, occupational, and personal pensions – while also exploring taxation and social security contributions. The discussion then shifts to the British owner-occupier housing market (4.3), addressing aspects such as homeownership rates, property-related taxation, and incentives, and examining the relationship between homeownership and the mortgage market. Central to the chapter is the exploration of the interplay between retirement savings and real estate ownership (4.4), explaining how they intersect and influence individual wealth strategies, including the process of taking out a lump sum. The chapter concludes with a synthesis of findings and implications (4.5), offering a comprehensive overview of the discussed themes and addressing the questions outlined above.

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[566] International Churchill Society, *Wit and Wisdom* (Finest Hour, Journal of the Churchill Center and Societies, No 104, Autumn 1999) 11 <https://winstonchurchill.org/publications/finest-hour/finest-hour-104/wit-and-wisdom-12/> accessed 30 November 2020.

[567] Rijksoverheid, *Brexit: stand van zaken* (n.d.) <https://www.rijksoverheid.nl/onderwerpen/brexit/brexit-stand-van-zaken> accessed 30 November 2020; AMA Bijvoet, *Owner-Occupied Dwelling and Income Taxes: A Synopsis of Eight European Countries* (Uitgeverij Eburon 2001) 73.

4.2 The pension system in the UK

4.2.1 Introduction

Like the Dutch – and most other countries – the pension system in the UK can be depicted by the three-pillar figure. In this paragraph attention will be paid to the three pillars of retirement provision in the UK and the current developments of these pillars.

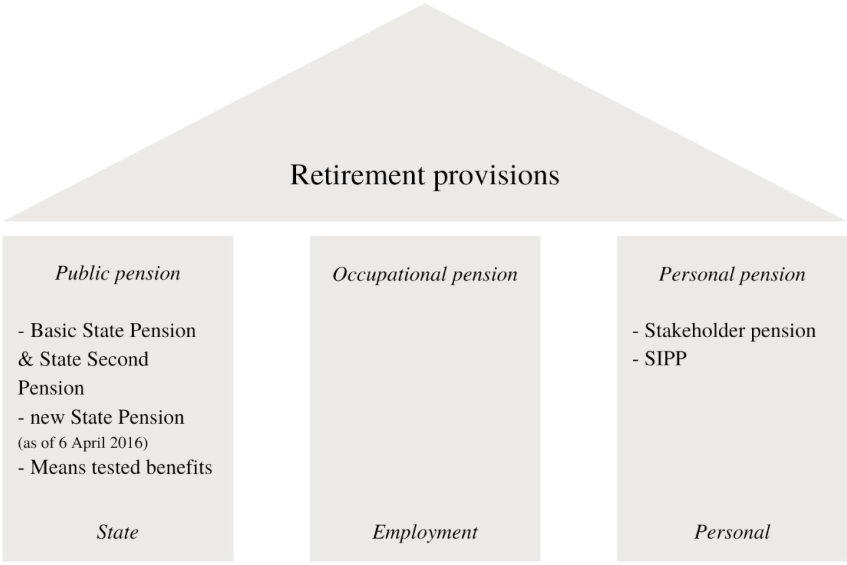

Figure 4.2: The three pillars of retirement provision in the UK

As is the case in most other countries as well, the UK has both state and private sector pension schemes. The state pension is made up of a two-tier state scheme, with a basic state pension (first tier) and an earnings-related pension (second tier). There are occupational pension schemes which are set up by employers and individual private pension provisions consisting of both personal pensions and additional voluntary contribution schemes.

The UK has an EET-system. Hence, taxpayers get a tax relief for pension contributions and the return on the investment is also (mostly[568]) exempt from taxation. Taxpayers are taxed when they receive the pension benefit. However, 25% of the accrued pension assets can be withdrawn as a tax-free lump sum after reaching the State Pension age.

[568] Taxation on the fund return depends on the investment mix. Source: Pensions Policy Institute, *The Pensions Primer: A Guide to the UK Pensions System* (May 2020) 29.

In the next paragraphs, the current UK system is described, and current developments are discussed.

4.2.2 Public pensions

The basis of retirement provisions in the UK is the first pillar. This paragraph describes the current situation and recent developments of public pensions in the UK.

First pillar pensions are provided by the state. It concerns a basic provision to prevent poverty at retirement. The retirement age – the *State Pension age* – is currently 66 years (October 2020) for both men and women, rising to 67 years between 2026 and 2028. The Pensions Act 2014 provides for regular reviews of the State Pension age, to take changes in life expectancy and other relevant factors into account, at least once every five years.[569]

As of 6 April 2016, the two-tier system of the basic State Pension and the Additional State Pension has been replaced by the single-tier new State Pension. Everyone who reaches the State Pension age from 6 April 2016 onwards, will receive this new State Pension. For those who reached the State Pension age before this date, the old two-tier system still applies.[570] The UK government intended that individuals should qualify based on their own contribution record. Special rules allowing people to derive or inherit State Pension entitlement based on the contribution record of a (former) spouse or civil partner thus ended (with a transition period).[571]

The first pillar is financed by means of a pay-as-you-go (PAYG) system through *National Insurance Contributions* (NIC) and general taxation.[572]

Compared to other OECD countries, we see that the UK has a relatively low (mandatory) public pension. The replacement rate of the UK is 31.9 per cent, while the OECD-average is 58.8 per cent.[573]

Both the basic State Pension in combination with the Additional State Pension and the new State Pension are explained below.

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[569] OECD, *Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: United Kingdom* (OECD Publishing 2019), 1; Pensions Policy Institute, The Pensions Primer: A Guide to the UK Pensions System (May 2020) 5; GOV.UK, State Pension age timetables (n.d.) <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/310231/spa-timetable.pdf> accessed 30 November 2020.

[570] OECD, *Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: United Kingdom* (OECD Publishing 2019), 1.

[571] House of Commons Library, *The New State Pension – Transitional Issues* (Briefing Paper No CBP-07414, 13 May 2021) 3.

[572] Pensions Policy Institute, The Pensions Primer: A Guide to the UK Pensions System (May 2020) 3.

[573] Office for National Statistics (ONS), *Pension Trends, Chapter 5: State Pensions* (ONS, 27 October 2011) <https://www.ons.gov.uk/economy/investmentspensionsandtrusts/compendium/pensiontrends/2014-11-28/chapter5statepensions2013edition/pdf> 5-2.

4.2.2.1 Basic State Pension and Additional State Pension

Basic State Pension

Men born before 6 April 1951 and women born before 6 April 1953 are entitled to the *basic State Pension*. At the earliest, people will be eligible for this when they reach the State Pension age. To be able to qualify for the full amount of basic State Pension, one needs a total of 30 qualifying years on his/her *National Insurance record*. There are a couple of ways to accomplish this. First, one can "earn" years by paying National Insurance contributions during the working life. Second, someone may have received National Insurance credits. Periods of unemployment or sickness when someone is entitled to insurance or social assistance benefits, are credited to his/her National Insurance record. This way, a state pension is nevertheless built up in such periods. Third, one can have voluntarily paid NICs. Does anyone have less than 30 qualifying years? Then a proportionally reduced pension will be paid.[574] For those reaching the State Pension age between 2010 and 2016, there was no minimum requirement of contribution or credits. In 2020/21, the full basic State Pension for a single person was £134.25 per week.[575] For anyone reaching the State Pension age after 6 April 2016, the new State Pension applies (see below).

Additional State Pension

The *Additional State Pension* is an extra benefit on top of the basic State Pension. The original purpose of this second tier was to create additional retirement income for employees to realize a retirement income that was more in line with the income they received before retirement.[576]

Men born before April 6, 1951, and women born before April 6, 1953, are entitled to this supplementary pension. However, with the introduction of the new State Pension, second tier pension provision can no longer be accrued as of 6 April 2016.[577]

The second tier also operates on an unfunded PAYG contributory basis through NICs (though people can no longer accrue a pension in the second tier). The contribution consisted of a certain percentage of one's income. Benefits are based on one's contribution, which results in less income redistribution than in the first tier.[578] There is therefore no fixed amount for this supplementary pension; how much a person receives depends upon the following[579]:

1. How many years NICs have been paid

[574] OECD, Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: United Kingdom (OECD Publishing 2019), 1.
[575] Pensions Policy Institute, The Pensions Primer: A Guide to the UK Pensions System (May 2020) 9.
[576] Pensions Policy Institute, The Pensions Primer: A Guide to the UK Pensions System (May 2020) 14.
[577] GOV.UK, Additional State Pension <https://www.gov.uk/additional-state-pension> accessed 3 November 2020.
[578] Pensions Policy Institute, The Pensions Primer: A Guide to the UK Pensions System (May 2020) 14.
[579] GOV.UK, Additional State Pension, what you'll get <https://www.gov.uk/additional-state-pension/what-youll-get> accessed 3 November 2020.

2. A person's income
3. Whether one has *contracted-out* of the Additional State Pension[580]
4. Whether one has topped up their basic State Pension[581]

The second tier Additional State Pension is automatically paid out if one is eligible. Payment occurs simultaneously with the first tier basic State Pension.[582]

4.2.2.2 The new State Pension

As of 6 April 2016, the UK has introduced the *new State Pension* for everyone who reaches the State Pension age from then on. Men born on or after 6 April 1951 and woman born on or after 6 April 1953 are entitled to this new State Pension. To be able to claim the pension, one needs at least 10 qualifying years on his/her National Insurance record. Furthermore, to be able to qualify for the full amount of new State Pension, one needs a total of 35 years of contributions. The qualifying years do not have to be a consecutive period. Apart from the difference in the number of qualifying years, the same conditions apply as stated above for the basic state pension. In 2020/21, the full new State Pension for a single person was £ 175.20 per week.[583]

4.2.2.3 Means-tested benefits

In addition to the State Pension, the UK has several means-tested benefits that retirees might be eligible for, depending on their personal circumstances. A few are discussed below.

Pension Credit

Pension Credit consists of two components; Guarantee Credit and Savings Credit.[584] *Guarantee Credit* is the main means-tested benefit, which is paid to elderly people aged 66 and over who do not exceed a certain income threshold with their other sources of income. It basically serves as a safety net against poverty for the elderly. The effect of the Guarantee Credit is redistributive. The benefit is namely paid out of income-related taxes and only paid to those below the *appropriate amount*. The appropriate amount is equal to the *Standard Minimum Guarantee*[585], plus additional amounts for severe disabilities, caring responsibilities, or certain housing costs. In other words, the Guarantee Credit provides people with a minimum income of £ 173.75 a week

[580] This contracting-out option is only possible if one's employer has contracting-out pension scheme in place. In that case, no contribution will be paid to the Additional State Pension. More information on contracting-out can be found on https://www.gov.uk/additional-state-pension/contracting-out.
[581] This was only possible between October 12, 2015, and April 5, 2017.
[582] GOV.UK, Additional State Pension, how to claim <https://www.gov.uk/additional-state-pension/how-to-claim> accessed 3 November 2020.
[583] OECD, Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: United Kingdom (OECD Publishing 2019), 1; Pensions Policy Institute, The Pensions Primer: A Guide to the UK Pensions System (May 2020) 9.
[584] Pensions Policy Institute, The Pensions Primer: A Guide to the UK Pensions System (May 2020) 11.
[585] The Standard Minimum Guarantee (2020/21) is equal to £173.75 (for single people) or £265.20 (for couples) a week.

for single people and £ 265.20 a week for couples. The entitlement can be higher if one is disabled, has caring responsibilities or has a mortgage.[586]

With the introduction of the new State Pension, the *Savings Credit* is no longer available for people who reach the State Pension age after 6 April 2016. This option namely intended to ensure that people who had made a private provision or were entitled to an Additional State Pension, would be better off than people who had not made such a provision. People who reached the State Pension age before 6 April 2016 and are eligible for the Savings Credit, receive an additional benefit. For every £ 1 of income received above the Savings Credit threshold (£ 150.47 for singles and £ 239.17 for couples (2020/21)), but below the level of Guarantee Credit, Savings Credit pays an additional benefit of £ 0.60, with a maximum of £ 13.97 a week for a single person and £ 15.62 a week for a couple (2020/21). This additional benefit is "tapered down" for additional income above the Guarantee Credit level. For each £ 1 above the Guarantee Credit level, the Savings Credit is reduced by £ 0.40 (up to the point where one is no longer entitled to Savings Credit).[587]

Other means-tested (retirement) benefits

There are a couple of other means-tested benefits available to pensioners. Examples hereof are the *Housing Benefit* and the *Council Tax Reduction*. The Housing Benefit was designed to help people with their housing costs, including rent and several accommodation-related service charges. The benefit is paid to people with low incomes and who are renting their home. The Council Tax Reduction is a rebate scheme designed to help people with paying their Council Tax.[588]

Next to these means-tested benefits, the UK also has several near universal benefits that apply to pensioners. These are paid irrespective of someone's income or assets. These include a Christmas Bonus of £ 10 for everyone who receives the State Pension (paid annually before Christmas); Winter Fuel Payment of £ 200 per household when at least one person from the household has reached the State Pension age and £ 300 per household when at least one person is aged 80 or over (paid annually in December); free National Health Service prescriptions and eye tests for those of 60 years of age or over; free TV licences for those over 75 years; free

[586] OECD, Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: United Kingdom (OECD Publishing 2019), 2; Pensions Policy Institute, The Pensions Primer: A Guide to the UK Pensions System (May 2020) 11.
[587] OECD, Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: United Kingdom (OECD Publishing 2019), 2; Pensions Policy Institute, The Pensions Primer: A Guide to the UK Pensions System (May 2020) 11.
[588] Pensions Policy Institute, The Pensions Primer: A Guide to the UK Pensions System (May 2020) 13.

central heating installed for those that receive Pension Credit and discounts for other retirees; free off-peak nationwide bus travel[589] for those who have reached the State Pension age.[590]

4.2.3 Occupational pensions

The provision of an occupational pension scheme by the employer is voluntary. These pension schemes which are provided through the employer are called *workplace pension schemes*. Employer and employee jointly contribute to these schemes. Unlike in the Netherlands, and in contrast to the (compulsory) National Insurance Contributions, contributions to a workplace pension scheme are voluntary.[591]

Workplace pension schemes can be DB, DC, or hybrid / risk-sharing plans. The employer usually contributes to these plans; however, an employee contribution is often also required.[592] The link with the employer can be very strong; some employers have set up their own pension plan, which is also funded and managed by them. On the other hand, the link can also be weak; for example, the employer can only grant access to a pension scheme that is managed by a pension provider. Many schemes are operated by a single employer, but multi-employer schemes are becoming increasingly popular. Moreover, the UK only has a limited number of industry-wide pension funds.[593]

4.2.3.1 Automatic Enrolment and NEST

The pension gap[594] in the UK is one of the largest within the OECD.[595] The UK thus faces under saving for retirement: millions of people are not saving enough to receive the income they would want or expect during retirement. Furthermore, the number of people saving in an occupational pension scheme has fallen from 12 million (1967) to 8.2 million in 2011. As a result, the UK government aims to encourage people to save more for retirement. This resulted in the introduction of *automatic enrolment* from October 2012 for workplace pension schemes.[596] Employees between the age of 22 and the State Pension age are automatically enrolled in a pension scheme chosen by their employer, but still have the right of *opting out*. The annual income threshold above which each employee is automatically enrolled is £ 10,000 (2020/21). Even though employees have the choice of opting out, employers are required to repeat the automatic enrolment process approximately every three years, so that employees who have opted out can

[589] In London, anyone who is 60 years or older can travel free on not only busses, but also tubes and other transport.
[590] Pensions Policy Institute, The Pensions Primer: A Guide to the UK Pensions System (May 2020) 53.
[591] Pensions Policy Institute, The Pensions Primer: A Guide to the UK Pensions System (May 2020) 18.
[592] This is also referred to as the element of soft compulsion.
[593] Pensions Policy Institute, The Pensions Primer: A Guide to the UK Pensions System (May 2020) 22.
[594] The pension gap measures the difference between the OECD average replacement income and the actual (national) replacement income.
[595] OECD, 'The Pension Gap' in *Pensions at a Glance 2013: OECD and G20 Indicators* (OECD Publishing, Paris, 2013) 193.
[596] Department for Work and Pensions, *The Single-Tier Pension: A Simple Foundation for Saving* (The Stationery Office, January 2013) 7.

review their choice. This is also known as *re-enrolment*. As of 1 February 2018, all employers must automatically enrol all eligible employees.[597] In support of this system, the British government has established the National Employment Savings Trust (NEST). This is a DC scheme with a trust-based governance structure to ensure that all employers have access to a good quality and low-cost pension scheme. NEST is obliged to accept all employers who wish to set up a pension plan with it, regardless of how large or small the company is.[598]

4.2.3.2 Defined benefit and defined contribution

The most common (workplace) pension schemes are the defined benefit (DB) and defined contribution (DC) schemes. In the UK we also see that DB schemes are losing popularity compared to DC schemes. Research by the Office for National Statistics indicates that there were 4.6 million active participants in the private sector in DB schemes in 2000, compared to 1.3 million in 2016. DC schemes showed growth: from around 1 million active participants in 2000 to no less than 6.4 million in 2016. The rise in DC membership is likely due to workplace reforms and DC arrangement are seen as the most likely route for employers to meet the obligations under automatic enrolment. Furthermore, DB schemes are less attractive to employers because of the investment risk the employer bears.[599]

4.2.3.3 Hybrid schemes

The Pension Schemes Act of 2015 introduced legislation to facilitate the development of hybrid and risk-sharing schemes in the UK. The law defines three different categories of pension plans based on the type of promise made to participants about the level or amount of the benefit. These categories are[600]:

1. The benefit is fixed (DB)
2. Only part of the benefit or part of the "pension pot" is fixed (shared risk)
3. No promise at all (DC)

Hybrid schemes offer a mix of benefits. For example, a *nursery scheme* works like a DC scheme for younger employees but is related to the final salary as the employee gets older. Another alternative is a DC scheme that guarantees that pension benefits do not fall below the level of a final pay scheme. The law also contains measures that make it possible to offer collective benefits through collective DC schemes. In addition, risks can be pooled by creating a single collective

[597] Pensions Policy Institute, The Pensions Primer: A Guide to the UK Pensions System (May 2020) 27.
[598] OECD, Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: United Kingdom (OECD Publishing 2019), 1.
[599] Office for National Statistics (ONS), Occupational Pension Schemes Survey: UK, 2016. The Nature of Occupational Pension Provision in the UK Providing Summary Data on Membership of Schemes and Contributions Paid (Statistical Bulletin, ONS, 28 September 2017) 6.
[600] Pensions Policy Institute, The Pensions Primer: A Guide to the UK Pensions System (May 2020) 22.

fund instead of individual funds as is the case with individual DC schemes. The legislation also allows for the development of new products to pool the investment, inflation, and longevity risks of all workplace pension scheme participants, and allows the benefits to fluctuate. Retirement plans can have a trust-based or a contract-driven governance structure. With a contract-driven governance structure, the pension scheme is managed and governed by the contract provider, usually an insurance company. Schemes with a trust-based governance structure have a board of trustees, which implements the scheme in the best interest of the beneficiaries.[601]

4.2.4 Personal pensions

Private personal pension schemes are individual plans based on a direct agreement between a person and a pension provider. They are arranged by the individual himself. However, some employers offer personal pensions as workplace pensions. Personal pensions are also known as *defined contribution* or *"money purchase" pensions*.[602]

The money paid into a personal pension plan is put into investments by the pension provider. At retirement, the individual gets a pension depending on how much money has been paid in, how the fund's investments have performed, and how he/she decides to take out the money. Paying into a personal pension can be done by means of regular payments or an individual lump sum.

The UK government tries to encourage taxpayers to enter personal pensions by offering a tax relief on the payments made the individual, by not taxing the individual for the contribution made by the employer (the employer himself also gets a tax relief), by not taxing the scheme during the period of building up the pension and by giving some benefits from the scheme tax-free.[603]

There is no limit to the amount one can contribute into a personal pension. There are, however, limits on the amount that qualifies for tax relief, and one must also consider the annual and lifetime allowance.[604]

Most personal pensions set an age at which one can start taking money out. This is usually not before the age of 55 (58 from 2028). Up to 25% of the money built up in the personal pension can be taken out as a tax-free lump sum. The individual then has 6 months to start taking out the remaining 75%, which one will usually pay tax on. The options for taking out the rest of

[601] Pensions Policy Institute, The Pensions Primer: A Guide to the UK Pensions System (May 2020) 22.
[602] Most information in this paragraph is obtained from www.gov.uk.
[603] The EET-system thus applies to personal pensions. More on taxation can be found in para 4.2.6.
[604] More on the annual and lifetime allowance can be found in para 4.2.6.

one's pension pot include taking all or some of it as cash[605], buying an annuity for life, or investing it to get a regular, adjustable income – also known as "*flexi-access drawdown*".

Several types of personal pensions exist, including *stakeholder pensions* and *self-invested personal pensions (SIPPs)*. These personal pension plans work according to the same principle as workplace pension schemes but often have higher costs because the pension provider administers the plan for one person only, instead of for a group. Personal pension plans are open to anyone under the age of 75 and benefits can be received from the age specified in the plan onwards.[606]

4.2.4.1 Stakeholder pensions

Stakeholder pensions are a type of individual pension. Some employers also offer them, but an individual can also start one himself. Stakeholder pensions are required to meet minimum standards set by the UK government.[607] These standards include a legal limit on charges[608], charge-free transfers, the ability to stop and re-start contributions at any time – without penalty, low minimum contributions of no more than £20, and a default investment fund. The pension provider will claim tax relief at the basic rate and add it to the individual's pension pot.[609] Many of the default funds feature "lifestyling". This means that funds are moved – usually automatically – into lower risk investments as one approaches retirement. It is not necessary to stop work to take out money from a stakeholder pension. There usually is, however, an age requirement of at least 55 (58 from 2028). When taking out money, up to 25% of the pension pot can be withdrawn as a tax-free lumpsum. The remainder can be used to provide one with a taxable income and/or one or more taxable lump sums.

4.2.4.2 Self-invested personal pensions

A self-invested personal pension (SIPP) is a type of personal pension and works in a similar way as a standard personal pension.[610] The main difference is that individuals have more flexibility with the investments they can choose. In fact, with a SIPP an individual manages their own investments. Furthermore, they control how much they save and how often. Contributions into a SIPP also qualify for tax relief. This relief means that contributions are boosted by a payment

[605] With this option it is also possible to still pay in, but one will have to pay tax on contributions over £4,000 a year.
[606] GOV.UK, *Personal pensions* https://www.gov.uk/personal-pensions-your-rights accessed 3 November 2020; Pensions Policy Institute, *The Pensions Primer: A Guide to the UK Pensions System* (May 2020) 26.
[607] Most information in this paragraph is obtained from www.gov.uk and moneyhelper.org.uk. MoneyHelper is a free service provided by the Money and Pensions Service, which is an arm's-length body, sponsored by the Department for Work and Pensions. It brings together the support and services of three government-backed financial guidance providers: Money Advice Service, The Pensions Advisory Service and Pension Wise.
[608] 1.5% a year of the value of the pension pot in the first 10 years, then 1% a year. However, if an employer uses stakeholder pension to meet their automatic enrolment duties, these are subject to a charge cap of 0.75%.
[609] Higher rate taxpayers need to claim the additional relief through their tax return.
[610] Most information in this paragraph is obtained from www.gov.uk and moneyhelper.org.uk.

from the government. Contributions receive the basic rate income tax relief at the source.[611] If, for example, an individual contributes a lump sum of £ 2,000 into their SIPP, they will get a tax relief of £ 500 from the government, hence a total of £ 2,500 is invested in the SIPP. There are, however, limits to how much one can contribute and how much tax relief one gets in any one year. From the age of 55 (57 in 2028), one can begin taking money from the pension pot. The main options in doing so are the following:

1. Keep the pension savings where they are and take them later.
2. Use the pension pot to buy a guaranteed income for life or a fixed term – also known as a lifetime or fixed term annuity.
3. Use the pension pot to require a flexible retirement income – also known as pension drawdown.
4. Take several lump sums.
5. Take the pension pot in one go.
6. Mix the above options – one can choose any combination, using different parts of their pension pot or separate pots.

When taking out money, the income is taxable. However, taxpayers can normally choose to take up to 25% of their pension pot as a one-off tax-free lump sum at the start. The rest is taxable income.

SIPPs give a taxpayer flexibility and control, but on the other hand the individual needs to understand financial markets and be prepared to spend time researching, actively managing their investments, and need to be prepared to take responsibility for their decisions if things go wrong (if, e.g., investments fall tremendously).

4.2.4.3 Group Personal Pensions and Group Stakeholder Pensions

Group Personal Pensions (GPP) and Group Stakeholder Pensions (GSP) are contract-based, DC-pension schemes run by a pension provider designed for a group of employees working for a single employer. The schemes are sponsored by the employer, but the legal contract is still between the individual and the pension provider. Because these types of personal pensions are collective arrangements, they typically charge lower management fees than individual personal pension plans.[612]

[611] Higher rate (40%) taxpayers can claim extra tax relief of up to £ 500 through their tax return, and up to an extra £ 625 if one is an additional-rate (45%) taxpayer.
[612] Pensions Policy Institute, *The Pensions Primer: A Guide to the UK Pensions System* (May 2020) 19, 23.

4.2.5 Interactions between the three pillars

Looking at the three-pillar pension system in the United Kingdom, we see there is a connection between the three pillars of its pension system. Where the first pillar – the state pension – provides an income to see to the basic needs, the second and/or third pillar(s) provide an additional income to maintain the standard of living. Furthermore, the tax limits for both occupational and personal pensions are within the same type of legislation: the annual and lifetime allowance. In fact, one might say that there is no clear difference between occupational and personal pensions in the UK.

4.2.6 Taxation and social security contributions

The UK has no special tax relief for retirees. Pension income is thus taxed regularly. But like in the Netherlands, after one reaches the State Pension age, no more National Insurance Contributions are levied.[613]

The tax treatment of private pension provisions (both occupational and personal pensions) is generally expressed as Exempt, Exempt, Taxed (EET). Firstly, the contribution is exempt from taxation, although it is limited by the *lifetime allowance*, as well as the *annual allowance*. The annual allowance is a limit to the tax-free growth or input that a person can have in all pension plans in which he/she participates in a certain tax year. As with the lifetime allowance, the sum of all pension schemes, except the state pension, should be considered. Secondly, the return on the investment is exempt from taxation, and thirdly, most of the benefit is taxed. Since part of the pension assets (25%) can be withdrawn tax-free after reaching the State Pension age, we should speak of an *EEpT-system*: partially taxed. Also, the return is not completely exempt. Taxation of the fund return depends on the investment mix. Funds that invest directly in bonds, real estate, or cash are exempt from taxation. However, dividend income from shares is taxed at a corporate tax rate; exchange rate profit, however, is exempt. Individuals that contribute to a private pension scheme receive a tax relief at their highest marginal rate. As said before, these are, however, limited by the lifetime allowance and annual allowance. Contributions that employers make to the private pension schemes of their employees are tax deductible and thus reduce the amount of corporate tax the employer must pay.[614]

4.2.7 Freedom of Choice

There is some certainty about the level of income after retirement with both the State Pension and defined benefit schemes. This is, however, not the case with defined contribution schemes.

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[613] OECD, *Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: United Kingdom* (OECD Publishing 2019), 3.
[614] Pensions Policy Institute, *The Pensions Primer: A Guide to the UK Pensions System* (May 2020) 29-32.

Until June 2010, everyone with a DC scheme was obliged to convert any remaining pension savings – after taking a tax-free lump sum of up to 25% – into an annuity benefit when they reached the age of 75. In response to a demand for more flexibility, the British government has lifted this rule and introduced a new set of tax rules in April 2015 that provide people with more pension flexibility. Withdrawal of retirement income is now taxed at one's marginal income tax rate instead of at 55% for the full capital withdrawal. The tax-free withdrawal of a lumpsum up to 25% of the capital is also still possible.[615]

The government's goal was to make retirement savings more attractive by offering people more freedom of choice during retirement. To help people choose what best suits their needs, they introduced *Pension Wise*; here they can receive free independent counselling, by telephone or face-to-face.

There are six options when one reaches the State Pension age[616]:

1. leave the accumulated capital untouched;
2. buy an annuity benefit;
3. a flexible pension income (also known as *flexi access drawdown*);
4. withdrawing cash in instalments;
5. to withdraw the fully accrued capital; and
6. a combination of the aforementioned options.

The options for people with a DC plan are limited only by the products available and the amount of their savings.[617]

4.2.7.1 Lump sum

The concept of taking out a lump sum at retirement has deep historical roots in the United Kingdom, dating back over a century. As early as 1909, civil servants were granted a lump sum on retirement for a lower pension thereafter because of the Superannuation Act of 1909. The Inland Revenue[618] was asked whether the lump sum should be taxed, and it said that it should not be. No reason was given for this decision, although presumably the reason was that the lump sum was considered a capital payment rather than income and capital payments were not taxable in 1909. The lump sum has remained free of tax until the introduction of the *Taxation of Pensions Act 2014*. With the *Taxation of Pensions Act 2014*, the rules on taking out a lump sum were expanded in scope. It introduced the 'Uncrystallised Funds Pension Lump Sum', allowing

[615] Pensions Policy Institute, *The Pensions Primer: A Guide to the UK Pensions System* (May 2020) 32-33.
[616] The Pension Advisory Service, *Freedom and choice* <https://www.pensionsadvisoryservice.org.uk/about-pensions/pension-reform/freedom-and-choice> accessed 3 November 2020.
[617] Pensions Policy Institute, The Pensions Primer: A Guide to the UK Pensions System (May 2020) 32.
[618] The Inland Revenue was a department of the British government that existed from 1849 to 2005. As of 2005, it is replaced by the HMRC.

participants in a registered pension scheme to withdraw all their retirement savings as a lump sum at the retirement date. However, only 25% of this amount remains tax free.[619]

Taking out a lump sum is possible for personal pensions, and usually for workplace pensions. Workplace pensions can be defined contribution (DC) schemes as well as defined benefit (DB) schemes. In the case of a DC scheme, it is possible to take out a lump sum. With a DB scheme, it depends upon the pension provider.[620] Most pension schemes set an age at which the individual can start taking money from their pension pot. It is usually not earlier than at the age of 55 years.[621] Furthermore, the amount of the tax-free lump sum is limited to a maximum of 25% of the individual's total pension savings *and* a maximum of 25% of the individual's available lifetime allowance (LTA).[622] The remaining 75% is taxed at the individual's marginal rate.[623] It is also possible to take out a smaller sum than the 25%. The key fact is that if the amount of the lump sum withdrawal is within the 25% limit of the individual's total pension savings, it will not be taxed. This applies even if a lump sum is taken while still earning other taxable income from employment, total income for the year exceeds the higher or additional rate tax thresholds[624], and/or the individual draws taxable income from other pension pots at the same time. In other words, the tax treatment of a lump sum is the same whether an individual is retired or still working. The key being that the first 25% of one's total pension savings qualifies as tax-free cash. Any pension withdrawals above the 25% tax-free amount will be taxed as income at the individual's marginal rate. Hence, taking large cash sums could push one into a higher income tax bracket.

4.2.7.2 Inheritance

If a person dies before his/her retirement date, the accrued capital, plus an insured lump sum in the event of death, can be paid out tax-free to the heirs, up to a maximum of the available *lifetime allowance*[625] of the deceased. The total amount to be considered is the sum of all pension plans in which a person participates, excluding the state pension.[626]

When a member or beneficiary of registered pension schemes passes away, these schemes may provide a lump sum payment or death benefits, typically to the nominee designated by the

[619] Taxation of Pensions Act 2014, c 30, Sch 1 Pt 3 paras 57, 62.
[620] While it may be possible to take some money as a tax-free lump sum, the rest is paid out as a guaranteed amount each year; see also GOV.UK, 'Workplace pensions' <gov.uk/workplace-pensions>.
[621] Some exceptions do apply. If, for example, if an individual is retiring due to ill health.
[622] For most individuals, the standard lifetime allowance applies. This is currently (2023/24) £1,073,100.
[623] Income Tax (Earnings and Pensions) Act 2003, c 1, Pt 9 Ch 15 s 636A.
[624] The "higher" and "additional" rate tax thresholds are the third and fourth bracket within the UK's income tax. The tax rates in these brackets are 40% and 45% respectively.
[625] The lifetime allowance is the total value of all retirement savings that a person can have at retirement before a tax charge applies.
[626] Pensions Policy Institute, *The Pensions Primer: A Guide to the UK Pensions System* (May 2020) 32.

individual.[627] These authorized benefits are divided into pension death benefits and lump sum death benefits, with detailed regulations outlined in the Finance Act 2004.[628]

Taxation of death benefits

The tax treatment of any death benefit depends on the form of payment, the nature of the inherited pension pot, and the age of the pension pot's owner at the time of death. For the most part, inherited retirement savings – excluding lifetime annuities with no capital guarantee – are tax-free if the fund holder dies before the age of 75. If the fund holder dies over 75 years of age, the inherited retirement savings are taxed at the beneficiary's marginal rate. Table 4.3 gives an overview of the different tax liabilities.[629]

Table 4.3: Taxation of death benefits

Type of payment	**Type of pot**	**Age owner at death**	**Tax**
Most lump sums	DC / DB	< 75	No tax, unless pension pots are greater than the lifetime allowance
Most lump sums	DC / DB	> 75	Income tax
Trivial commutation lump sums	DC / DB	Any	Income tax
Annuity or money from a new drawdown fund (set up or converted and first accessed from 6 April 2015)	DC	< 75	No tax
Money from an old drawdown fund (a 'capped' fund or a fund first accessed before 6 April 2015)	DC	< 75	Income tax
Annuity or money from a drawdown fund (old or new)	DC	> 75	Income tax
Pension provided by the scheme	DC / DB	Any	Income tax

Furthermore, any payment of death benefits that is not classified as an authorised payment, is an unauthorised payment[630] and will be taxed as such.[631]

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[627] This means that the deceased told their pension provider to give a certain individual money from their pension pot upon their death.
[628] To go into further detail about these different kind of death benefits goes beyond the scope of this research.
[629] Finance Act 2004, s 206.
[630] An unauthorised payment is a payment from a pension provider made outside of the UK government's tax rules.
[631] Unauthorised payments are subject to three tax charges: 1) unauthorised payment charge (40% - payable by the member or beneficiary), 2) unauthorised payments surcharge (15% - payable by the same individual who is responsible for paying the unauthorised payment charge), and 3) scheme sanction charge (40% - payable by the scheme administrator).

4.2.7.3 Variant careers

Early retirement is not possible with the State Pension. Deferral of the State Pension to earn extra increments, however, has always been possible. This is also known as an enhanced pension. The enhanced pension is paid on top of the regular State Pension when a person claims their pension. The amount of the extra pension depends on how long a person has put off claiming their State Pension.[632] Furthermore, before April 2016, one could defer their basic State Pension and receive either an enhanced pension or a one-off taxable lump sum. For each year people deferred, they could receive an increase of 10.4% in their pension. The lump sum consists of the foregone State Pension during the deferral period plus interest. The choice between receiving an enhanced pension or the lump sum had to be made when the State Pension is claimed.[633] For people who defer their pension from April 2016 onwards, it is only possible to receive an enhanced pension. For each year they defer, they receive an increase of just under 5.8% in their pension.[634]

Voluntary pension benefits, however, can be claimed from the age allowed by the scheme. This thus can be at an earlier age than the statutory pension age.[635]

As said before, periods of unemployment or sickness when someone is entitled to insurance or social assistance benefits are credited to a person's national Insurance contributions record for the State Pension. Furthermore, the system provides protection for periods of childcare. Both people who are not in paid work and those working but earning below the lower earnings limit, and therefore do not contribute to the system, are covered.[636]

[632] OECD, *Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: United Kingdom* (OECD Publishing 2019), 2; Pensions Policy Institute, *The Pensions Primer: A Guide to the UK Pensions System* (May 2020) 6.
[633] OECD, Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: United Kingdom (OECD Publishing 2019), 2; Pensions Policy Institute, *The Pensions Primer: A Guide to the UK Pensions System* (May 2020) 9.
[634] OECD, Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: United Kingdom (OECD Publishing 2019), 2–3; Pensions Policy Institute, *The Pensions Primer: A Guide to the UK Pensions System* (May 2020) 9.
[635] OECD, Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: United Kingdom (OECD Publishing 2019), 2.
[636] OECD, Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: United Kingdom (OECD Publishing 2019), 3.

4.3 The owner-occupier housing market in the United Kingdom

4.3.1 Introduction

Despite recent falls, owner-occupation remains the main tenure in the United Kingdom at 65.2% (2018). Of these owner-occupied houses 57.5% are financed by means of a mortgage or other housing loan. The other 42.5% have no outstanding mortgage or housing loan (left).[637]

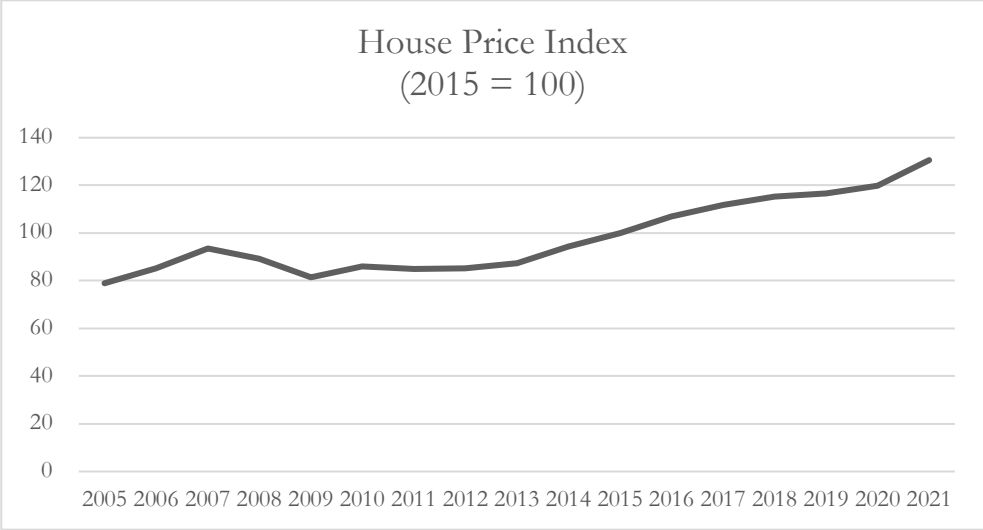

Figure 4.3: House Price Index in the UK (2015 = 100)[638]

The UK housing market has been subject to price increases since 1995. This increase only levelled off during the economic crisis. In fact, prices fell rapidly by no less than 18.7% from the peak in the third quarter of 2007 to the lowest level recorded in the first quarter of 2009. Average prices then stayed fairly consisted around £ 165,000 (± € 190,000) for several years, until house prices started increasing again after the financial crisis.[639] Figure 4.3 illustrates the recent increase in house prices.

The cause of the house price increases is mainly attributed to the insufficient housing stock in the United Kingdom. While low interest rates and real wage growth have sustained demand despite rising house prices, new demand has exceeded the supply of new homes in every year

[637] Eurostat, 'Database: ILC_LVHO02' (2023) <https://ec.europa.eu/eurostat/databrowser/view/ILC_LVHO02/default/table> accessed 13 March 2023.
[638] OECD, 'National and Regional House Price Indices' (OECD.Stat) <https://stats.oecd.org/Index.aspx?DataSetCode=RHPI>.
[639] M Munro, 'House Price Inflation in the News: A Critical Discourse Analysis of Newspaper Coverage in the UK' (2018) *Housing Studies* 33(7) 1085–1105, 1086-1087.

since 2008. The increasingly larger gap between supply and demand has let to rapid house price inflation with large numbers of prospective buyers being priced out of the market. This has affected buyers at all income levels. As a result, many are not able to buy their first home and the number of private renters has risen above the number of social tenants.[640] To overcome this problem and boost housing construction, the UK government has started facilities such as the *Home Building Fund* (see also paragraph 4.3.3.4).

Another cause of the rapid increase in house prices is attributed to the fact that housing has increased in importance as an investment that produces wealth and a store of value. House buyers see housing as a reliable way of accumulating wealth, as a way of hedging against life's uncertainties, to build an asset to pass on to children (the *bequest motive*) or even just extract money to enjoy an improved lifestyle. Furthermore, the relative advantage of investing in housing is probably one of the main drivers behind the recent boom in "buy to let" in the United Kingdom. Investors then buy houses not just, or even mainly, for the flow of rent payments, but for the anticipated capital gains which are seen as a more certain investment for funding a future pension or a savings nest egg than traditional savings or investment options. This is increasingly being recognised as problematic for those who are not (yet) in owner-occupation. Especially younger households are increasingly priced out of owner-occupation and out-competed in the property market in part by the buy-to-let landlords who subsequently rent to them. As a result, households are buying later than previous generations and increasingly need help from e.g., their parents with down payments to access a mortgage.[641] This is also reflected in the number of sales; only 157,715 out of 568,538 total (mortgage) sales in 2019 were first-time homebuyers.[642] The UK government has responded to this problem by introducing several demand-side schemes designed to help first-time buyers. An example hereof is the *relief for first-time buyers* (see also paragraph 4.3.3.1).

After a period of dampened price growth and very limited activity during the early stages of the COVID-19 pandemic, UK house price growth and housing market activity during the first half of 2021 were at their highest levels in over a decade. These higher levels are likely to reflect in part a temporary boost provided by the government in the form of the stamp duty holiday (the Stamp Duty Land Tax (Temporary Relief) Act 2020 – see also paragraph 4.3.3.1) and the mortgage guarantee scheme (see also paragraph 4.3.3.4). Furthermore, these higher levels of housing market activity may also partially reflect structural factors such as households

[640] T Sharma, D McKillop and D French, 'Pensions, Housing and Mortgage Markets in the UK' in M Eckardt, J Dötsch and S Okruch (eds), *Old-age Provision and Homeownership – Fiscal Incentives and Other Public Policy Options* (Springer International Publishing, Cham 2018) 107–142, 123.
[641] M Munro, 'House Price Inflation in the News: A Critical Discourse Analysis of Newspaper Coverage in the UK' (2018) *Housing Studies* 33(7) 1085–1105, 1088.
[642] Financial Conduct Authority, 'Product Sales Data 2019 H1' (data.gov.uk, 2019) <https://www.data.gov.uk/dataset/6fb95362-f41b-4b0a-a43c-53620b648bef/product-sales-data-2019-h1>.

prioritising additional space to be able to accommodate flexible working arrangements, increased savings accumulated during the pandemic, and a low interest rate.[643]

4.3.2 The main residence

The UK equivalent of the owner-occupied dwelling is referred to in legislation as *sole or main residence*[644] or *only or main residence*[645] (hereafter: *main residence*). Unlike in the Netherlands, an exact definition of the *main residence* is not given by the legislator. What qualifies as *main residence* can differ per type of tax. Sub-paragraph 4.3.3 will go into further detail about these types of taxes and each definition of the main residence. However, one common characteristic can be distinguished. Due to the lack of an official legal definition, an affiliation is often made with the commonly used definition of *home*. Or, in other words, the premises in which the taxpayer resides.[646] In the following sub-paragraphs I go into more detail about taxation and tax facilities regarding the main residence and for each I will describe the requirements that a home must meet to qualify as a *main residence*.

4.3.3 Taxation and (tax) facilities

To steer, improve and stimulate the UK owner-occupier housing market, the UK government has introduced various (tax) facilities regarding the main residence. Some are specifically included within the tax law; others are forms of government support. The following (sub)sections look at the *Stamp Duty Land Tax*, *Capital Gains Tax*, *Council Tax*, and several forms of government support. Though it is a non-exhaustive list, these (tax) facilities have been selected based on their unique design and (possible) relevance to the Dutch owner-occupier scheme (*eigenwoningregeling*).

4.3.3.1 Stamp Duty Land Tax

Stamp Duty Land Tax (SDLT) was introduced by the Finance Act 2003 (FA 2003).[647] It is a transfer tax on land transactions in England and Northern Ireland.[648] Named "stamp duty" because, historically, stamping of transfer documents following their presentation to the Stamp Office, was required in a real estate ownership transaction. The stamps indicated payment.

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[643] Bank of England, *Financial Stability Report* (Presented to Parliament pursuant to Sections 9E(5) and 9W(10) of the Bank of England Act 1998 as amended by the Financial Services Act 2012, July 2021) 5-6.
[644] Local Government Finance Act 1992, s 6(5).
[645] Finance Act 2018, Sch 6ZA para 1(4).
[646] R (Williams) v Horsham District Council [2004] EWCA Civ 39, [2004] 1 WLR 1137.
[647] Finance Act 2003, Pt 4 (Stamp Duty Land Tax).
[648] In Scotland: Land and Buildings Transaction Tax (Scotland) Act 2013 (LBTT Act); in Wales: Land Transaction Tax and Anti-avoidance of Devolved Taxes (Wales) Act 2017.

Nowadays, most of the transactions do not require the document to be stamped and are not technically required to stamp duty, but the name has remained unchanged.[649]

The SDLT makes a distinction between residential and non-residential property. Where residential property means "a building that is used or suitable for use as a dwelling or is in the process of being constructed or adapted for such use, (…)"and non-residential property means "any property that is not residential property". [650] There is thus no specific definition for the main residence, however, it does fall within the scope of the SDLT.

Following §1 (3) Stamp Duty Land Tax Act 2015 (SDLTA 2015)[651] and §128 – Part 1 §1 (2) Finance Act 2016[652], the SDLT rates for *residential property* (including main residences) are as follows:

Table 4.4: SDLT rates for residential property[653]

Purchase price of residential property (£)	**SDLT rate**	
	First property	**Additional property**
Up to 125,000	0%	3%
From 125,001 to 250,000	2%	5%
From 250,001 to 925,000	5%	8%
From 925,001 to 1,500,000	10%	13%
The remaining (above 1,500,000)	12%	15%

As can be seen from table 4.4 the SDLT is a progressive tax with five tax rate brackets. Hence, the higher the purchase price of the residential property, the higher the SDLT rate. To clarify, let us look at an example:

You buy a house for £ 575,000. The SDLT you owe will be calculated as follows:

- 0% on the first £ 125,000 = £ 0
- 2% on the next £ 125,000 = £ 2,500
- 5% on remaining £ 325,000 = £ 16,250

The total amount of SDLT then becomes £ 18,750.

[649] T Pope and T Waters, *A Survey of the UK Tax System* (IFS Briefing Note BN09, Institute for Fiscal Studies, November 2016) 27.
[650] Finance Act 2003, s 116(1).
[651] The Stamp Duty Land Tax (Amendment) Act 2015 (SDLT(A) Act) is an amending statute relating to the Stamp Duty Land Tax provisions set out in the Finance Act 2003 (FA 2003).
[652] The Finance Act 2016 (FA 2016) is an amending statute to the Finance Act 2003 (FA 2003).
[653] Stamp Duty Land Tax (Amendment) Act 2015, s 1; Finance Act 2016, Pt 1 s 128(2).

§128 (3)[654] Part 2 §3 (5) FA 2016 states that if one buys additional residential property which is not a replacement for the "only or main residence", hence owning more than one residential property, one must pay 3% on top of the standard SDLT rate for this additional property. If the new property is replacing the main residence and the main residence has already been sold, the extra 3% is not due. However, according to the FA 2018[655] Schedule 11 §2, if the (previous) main residence has not been sold on the day of completion, one owns two properties and the extra 3% is due. Pursuant §128 (3) Part 3 §8 (3) FA 2016, it is possible to apply for a refund of these extra 3% if the previous main residence is sold within 36 months after completing the purchase of the new main residence and the higher SDLT rates therefore no longer apply.[656]

Following §85 (1) FA 2003, the purchaser of the property is liable to pay the Stamp Duty Land Tax. The taxpayer must send a SDLT return to Her Majesty's Revenue and Customs (HM Revenue and Customs or HMRC) within 14 days after the effective date of the transaction.[657] Furthermore, the tax must be paid within these 14 days as well.[658] In practice, if one has a solicitor, agent or conveyancer, they'll usually file the SDLT return and pay the tax on your behalf on the day of completion and add the amount to their fees. They will also claim any relief the purchaser is eligible for, such as if the purchaser is a first-time buyer.[659] If the solicitor, agent, or conveyancer does not do this, the purchaser must file a return and pay the taxes himself.[660]

Relief for first-time buyers

With the FA 2018, first-time home buyers became entitled to a discount (relief) on the amount of SDLT payable when they buy their first main residence. Schedule 6ZA provides this relief for first-time buyers.[661] Part 1 §1 of Schedule 6ZA states the conditions a first-time buyer must meet to be eligible for the relief: the transaction must consist of a single dwelling ("the purchased dwelling"), which is not more than £ 500,000. The purchaser, or (if more than one) each of the purchasers, is a first-time buyer who intends to occupy the purchased dwelling as the purchaser's *only or main residence*. The purchase must stand on its own and have no connection with other transactions between the buyer and the seller, unless it is a transaction related to the land on which the property is located. Finally, relief may not be claimed if the transaction concerns an "additional property" as stated in Schedule 4ZA.[662] If the first-time buyer meets these conditions, he/she is entitled to the discount (relief) on the SDLT. The rates for first-time buyers are shown in table 4.5.

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[654] FA 2016, s 128(3) introducing Sch 4ZA ('Stamp duty land tax: higher rates for additional dwellings and dwellings purchased by companies').
[655] The FA 2018 is an amending statute to the FA 2003.
[656] GOV.UK, *Stamp Duty Land Tax* <https://www.gov.uk/stamp-duty-land-tax> accessed 24 February 2021.
[657] FA 2003, s 76(1).
[658] FA 2003, s 86(1).
[659] More on this can be found below.
[660] GOV.UK, *Stamp Duty Land Tax* <https://www.gov.uk/stamp-duty-land-tax> accessed 24 February 2021.
[661] FA 2018, s 41(3).
[662] FA 2016, s 128(3).

Table 4.5: SDLT rates for first-time buyers[663]

Purchase price of residential property	SDLT rate first-time buyer
So much as does not exceed £ 300,000	0%
Any remainder (so far as not exceeding £ 500,000)	5%

To illustrate the relief for a first-time buyer, let us again look at an example:

A first time-buyer buys a home for £ 400,000. The SDLT owed by the first-time buyer will be calculated as follows:

- 0% on the first £ 300,000 = £ 0
- 5% on the remaining £ 100,000 = £ 5,000

The total amount of SDLT then becomes £ 5,000

If the buyer were not a first-time buyer, the SDLT amount would be calculated as follows:

- 0% on the first £ 125,000 = £ 0
- 2% on the next £ 125,000 = £ 2,500
- 5% on the remaining £ 150,000 = £ 7,500

The total amount of SDLT then becomes £ 10,000.

The first-time buyer thus gets an advantage of £ 5,000 through the relief for first-time buyers.

Temporary Relief Act 2020

The Stamp Duty Land Tax (Temporary Relief) Act 2020[664] is a law that temporary reduces the amount of stamp duty land tax that is due on the acquisition of residential property in England and Northern Ireland.[665] It was introduced in response to the COVID-19 pandemic because the housing market was largely put on hold due to the coronavirus (COVID-19) lockdown between 26 March and 13 May 2020, and since then there has been reduced activity in the UK housing market compared with the period prior the lockdown. The relief means that all individual purchasers of residential property who complete their purchase between 8 July 2020 and 31 March 2021, will pay less or no SDLT. These reduced rates apply to any that purchases residential property whether they are buying for the first time or have owned property before. This measure is part of the UK government's strategy to maintain confidence in the housing market following the coronavirus pandemic.[666] On 3 March 2021, the HM Revenue & Customs

[663] FA 2018, Sch 6ZA para 41(4).
[664] The Stamp Duty Land Tax (Temporary Relief) Act 2020 temporarily amends the Finance Act 2003 (FA 2003) provisions relating to Stamp Duty Land Tax.
[665] Separate provisions have been made in Scotland and Wales.
[666] Stamp Duty Land Tax (Temporary Relief) Act 2020: Explanatory Notes; GOV.UK, *Stamp Duty Land Tax: temporary reduced rates* <https://www.gov.uk/guidance/stamp-duty-land-tax-temporary-reduced-rates> accessed 3 March 2021; HM Revenue & Customs, *Temporary increase to Stamp Duty Land Tax nil rate band for residential properties* (Policy Paper,

published a policy paper announcing the extension of the temporary increase to the SDLT nil rate band for residential properties. First, the deadline of 31 March 2021 is extended to 30 June 2021.[667] Table 4. shows the reduced rates on residential property for this period.

Table 4.6: Reduced SDLT rates for the period from 8 July 2020 up to and including 30 June 2021[668]

Purchase price of residential property (£)	**SDLT rate**	
	First property[669]	***Additional property[670]***
Up to 500,000	0%	3%
From 500,001 to 925,000	5%	8%
From 925,001 to 1,500,000	10%	13%
The remaining (above 1,500,000)	12%	15%

Second, for the period 1 July 2021 to 30 September 2021 they introduced a nil rate for those properties with a purchase price of up to £ 250,000.[671] Table 4.7 shows the reduced rates on residential property for this period.

Table 4.7: Reduced SDLT rates for the period from 1 July 2021 up to and including 30 September 2021[672]

Purchase price of residential property (£)	**SDLT rate**	
	First property[673]	***Additional property[674]***
Up to 250,000	0%	3%
From 250,001 to 925,000	5%	8%
From 925,001 to 1,500,000	10%	13%
The remaining (above 1,500,000)	12%	15%

4.3.3.2 Capital Gains Tax

Section 1 (1) of the Taxation of Chargeable Gains Act 1992 (TCGA92) states that:

"Capital gains tax is charged for a tax year on chargeable gains accruing in the year to a person on the disposal of assets"

2020) <https://www.gov.uk/government/publications/temporary-increase-to-stamp-duty-land-tax-nil-rate-band-for-residential-properties> accessed 3 March 2021.

667 HM Revenue & Customs, *Extension of the Temporary Increase to the Stamp Duty Land Tax Nil Rate Band for Residential Properties* (Policy Paper, 3 March 2021) <https://www.gov.uk/government/publications/extension-of-the-temporary-increase-to-the-stamp-duty-land-tax-nil-rate-band-for-residential-properties/extension-of-the-temporary-increase-to-the-stamp-duty-land-tax-nil-rate-band-for-residential-properties>.

668 SDLT (Temporary Relief) Act 2020, s 1.

669 SDLT (Temporary Relief) Act 2020, s 1(2).

670 SDLT (Temporary Relief) Act 2020, s 1(3).

671 HM Revenue & Customs, *Extension of the Temporary Increase to the Stamp Duty Land Tax Nil Rate Band for Residential Properties* (Policy Paper, 3 March 2021) <https://www.gov.uk/government/publications/extension-of-the-temporary-increase-to-the-stamp-duty-land-tax-nil-rate-band-for-residential-properties/extension-of-the-temporary-increase-to-the-stamp-duty-land-tax-nil-rate-band-for-residential-properties>.

672 SDLT (Temporary Relief) Act 2020, s 1A.

673 SDLT (Temporary Relief) Act 2020, s 1A(2).

674 SDLT (Temporary Relief) Act 2020, s 1A(3).

In other words, when a taxpayer sells assets, the benefit obtained is – in principle – taxed with capital gains tax. An exception applies to the sale of main residences. The result on the sale of the *only* or *main residence* is namely exempt based on TCGA92/S222(1). This is also called private residence relief. For the private residence relief to be applicable, it is important that a *home* is classified as a *main residence*. Since there is not an exact definition of the main residence given by the legislator, a manual has been drawn up by Her Majesty's Revenue and Customs (HM Revenue & Customs) which – among other things – contains the requirements a main residence must met for the application of the capital gains tax.[675] From this manual it follows that in order to qualify for private residence relief, the residence disposed of must have been occupied as the *only* or *main residence* of the individual making the disposal at some time during their period of ownership.[676] Furthermore, an intention to occupy is not enough, the house must have been physically occupied as a residence of the individual at some time during their period of ownership in order to qualify for the private residence relief.[677] Ownership can take different forms. The HM Revenue & Customs refers to this is as *interest*. An interest in a dwelling can be *legal interest* or *equitable interest*[678]. Each of the two forms of ownership is in itself sufficient to qualify the house as a main residence.[679]

There are certain exceptions to the requirement that the house must have been physically occupied as a residence in which the property is nevertheless considered to be the *main residence* for the purpose of computing private residence relief.[680] These circumstances are:

[675] HM Revenue & Customs, *CG64420P - Capital Gains Manual: Reliefs: Private residence relief: Identification of the only or main residence: Contents* (2016, updated 22 October 2020) <https://www.gov.uk/hmrc-internal-manuals/capital-gains-manual/cg64420p> accessed 21 April 2021.
[676] HM Revenue & Customs, *CG64420 - Private residence relief: only or main residence: introduction: residence* (2016, updated 22 October 2020) <https://www.gov.uk/hmrc-internal-manuals/capital-gains-manual/cg64420> accessed 21 April 2021.
[677] HM Revenue & Customs, *CG64465 - Private residence relief: only or main residence: occupation is a requirement* (2016, updated 22 October 2020) <https://www.gov.uk/hmrc-internal-manuals/capital-gains-manual/cg64465> accessed 21 April 2021.
[678] Where *legal interest* means that the homeowner is legally registered as the owner of the property, but that does not mean that the legal owner is also (automatically) entitled to the (financial) benefits of the property. The legal owner does have the exclusive right to transfer the property. On the other hand, *equitable interest* entitles the owner to the enjoyment and the right to use the house, as well as to enjoy the (financial) benefits. The equitable interest, however, may not pass in the same way as the legal ownership does e.g., in the event of death. A homeowner is the full owner of the property only if he/she has both the legal and equitable interest.
[679] HM Revenue & Customs, *CG64470 - Private residence relief: only or main residence: an interest in a dwelling house is a requirement* (2016, updated 22 October 2020) <https://www.gov.uk/hmrc-internal-manuals/capital-gains-manual/cg64470> accessed 21 April 2021.
[680] HM Revenue & Customs, *CG64477 - Private residence relief: only or main residence: deemed residence* (2016, updated 22 October 2020) <https://www.gov.uk/hmrc-internal-manuals/capital-gains-manual/cg64477> accessed 21 April 2021.

- Where an individual is currently living in job-related accommodation[681] and has an interest in the dwelling which he/she intends to occupy in due course as his/her *only* or *main residence*.[682]
- During specific periods of absence[683]:
    - Any periods of absence for whatever reason which do not exceed 3 years in total.[684]
    - Any periods of absence of any length throughout which the individual is working in an employment or office all the duties of which are performed outside the United Kingdom, or throughout which the individual lived with a spouse or civil partner who worked in such an office or employment.[685]
    - Any periods of absence up to a maximum of four years throughout which the individual could not live in the house because of the situation of his place of work or because of any condition imposed by his/her employer requiring him/her to live elsewhere, being a condition reasonably imposed to ensure the effective performance of his/her duties by the employee.[686]
    - Any periods of absence up to a maximum of four years throughout which the individual lived with a spouse or civil partner who is affected by the conditions above.[687]
- Where the individual's residency is delayed by certain events[688]:
    - The completion of the construction, renovation, redecoration or alteration of the house or the part of the house.[689]
    - The disposal by the individual of, or of an interest in, any other house or part of a house that immediately before the disposal was the individual's *only* or *main residence*.[690]
- Where an individual transfers the marital home, or an interest in the marital home, to his/her spouse or civil partner following separation.[691]

Based on the requirements and exceptions it is possible that an individual owns more than one main residence. If this is the case, TCGA92/S222(5) allows the taxpayer to choose which of the main residences he/she really sees as his/her *home*. A notice to a tax officer nominating which

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[681] Taxation of Chargeable Gains Act 1992 (TCGA 1992), s 222(8A)–(8D).
[682] HM Revenue & Customs, *CG64555 - Private residence relief: two or more residences: job related accommodation* (2016, updated 22 October 2020) <https://www.gov.uk/hmrc-internal-manuals/capital-gains-manual/cg64555> accessed 21 April 2021.
[683] TCGA 1992, s 223(3).
[684] TCGA 1992, s 223(3)(a).
[685] TCGA 1992, s 223(3)(b).
[686] TCGA 1992, s 223(3)(c).
[687] TCGA 1992, s 223(3)(d).
[688] TCGA 1992, s 223ZA.
[689] TCGA 1992, s 223ZA(2)(a).
[690] TCGA 1992, s 223ZA(2)(b).
[691] TCGA 1992, s 225B.

of the residences must be treated as the main residence must be given within two years from the date on which the taxpayer has more than one (main) residence.[692] Every time there is a change in the individual's combination of residences, a new period starts and there is a new opportunity to make a choice which residence to nominate as the main residence.[693] This obviously offers the taxpayer the opportunity of tax planning. Simply designating the property that is the most advantageous for tax purposes as the main residence to limit the total amount of tax to be paid.

It is, however, not mandatory for an individual with more than one residence to make a notice nomination which residence must be treated as the main residence. Whenever a notice is not made – or an invalid one is made – all the facts and circumstances of the case must be considered to conclude which of the residence is the main residence. Although it commonly will be, in practice the main residence is not necessarily the residence where an individual spends most of their time. This question was also considered in the case of Frost vs Feltham[694] and the High Court's decision in this case has set out a useful list of criteria to be applied. The following list with points to consider, although not exhaustive, may be useful in determining which residence is the main residence[695]:

- If the individual is married or in a civil partnership, where does the family spend its time?
- If the individual has children, where do they go to school?
- At which residence is the individual registered to vote?
- Where is the individual's place of work?
- How is each residence furnished?
- Which address is used for correspondence?
    - Banks & Building Societies
    - Credit cards
    - HMRC
- Where is the individual registered with a doctor / dentist?
- At which address is the individual's car registered and insured?
- Which address is the main residence for council tax?

[692] TCGA 1992, s 225B(5)(a).
[693] HM Revenue & Customs, *CG64495 - Private residence relief: only or main residence: two or more residences: time limit for nominating* (2016, updated 22 October 2020) <https://www.gov.uk/hmrc-internal-manuals/capital-gains-manual/cg64495> accessed 22 April 2021.
[694] Frost v Feltham [1980] 55 TC 10.
[695] HM Revenue & Customs, *CG64545 - Private residence relief: two or more residences: no valid notice made* (2016, updated 22 October 2020) <https://www.gov.uk/hmrc-internal-manuals/capital-gains-manual/cg64545> accessed 22 April 2021.

4.3.3.3 Council Tax

Council tax was introduced by the *Local Government Finance Act 1992* and came into effect on 1 April 1993. It replaced the community charge or "poll tax". The levy takes place at the local level, but within the limits set by the national government in the 1992 Act. According to this Act, each local authority must calculate its budget requirement for each financial year. The council tax must be set to consider the local authority's budget requirement. This is done by dividing the total council tax requirement by the "council tax base"[696]. The result is the basic liability for a property. Each local authority (also called "billing authority") then applies any valid exemptions and discounts to individual bills. Most of these are, however, mandatory and governed by national regulations. All tax revenue through the council tax can be spent by the local government however it sees fit. Council tax does not pay for any specific local services, but is pooled with revenue from business tax rates, government grants and other sources of income for local authorities.[697]

Anyone who is over 18 and owns or rents a house which is on the billing authority's list of domestic property, will have to pay council tax. In most cases, it is the *occupant* of the property who is liable for council tax. *Owners* are liable when a property is empty.[698] Section 6 of the Local Government Finance Act 1992 provides a "hierarchy of liability", with liability falling to the highest applicable person in the hierarchy[699]:

1. a resident who lives in the dwelling and who owns the freehold (in the whole or any part of the dwelling);
2. a resident who lives in the dwelling and who has a leasehold interest (in the whole of any part of the dwelling) which is not inferior to another such interest held by another resident;
3. a resident who lives in the dwelling and who is a statutory, secure or introductory tenant (of the whole or any part of the dwelling);
4. a resident who lives in the dwelling and who is a licensee[700] (able to occupy the whole or any part of the dwelling);
5. any resident living in the dwelling[701];
6. the owner of the dwelling (who does not live there).

Thus, if a tenant lives with a landlord, the tenant cannot be held liable for council tax if the landlord fails to pay, because the landlord is at number 1 in the hierarchy while the tenant is at number 3. If, however, the landlord lets the property out, but does not live in it, the tenant is

[696] The "council tax base" is the number of properties in the local authority's area that are liable for council tax.
[697] M Sandford, *Council Tax: FAQs* (House of Commons Library Briefing Paper No 6583, 10 January 2018) 5.
[698] M Sandford, *Council Tax: FAQs* (House of Commons Library Briefing Paper No 6583, 10 January 2018) 7.
[699] Local Government Finance Act 1992, s 6(2).
[700] This means that they are not a tenant but have permission to stay there.
[701] For example, a squatter.

liable. In that case, the rented house is the tenant's *main residence*. The main reason for being liable for council tax is thus having a *main residence*. If residents fall into the same category (e.g., spouses), they are jointly and severally liable for the council tax.[702] This means that all residents can be pursued for the full amount if the tax bill is unpaid. However, students and severely mentally impaired people cannot be held jointly and severally liable.[703]

When determining the amount of council tax, the number of chargeable dwellings in the billing authority's area is considered.[704] These chargeable dwellings are valued for the council tax by placing them in one of the council bands. In England and Wales this is done by the local listing officer on behalf of the Valuation Office Agency (VOA). In Scotland, this is done by the local Assessor.[705] Generally speaking, there are eight council tax bands in England (A through H) based on 1 April 1991 values.[706] Council tax is set by each billing authority, as an example, Table 4.8 shows the council tax per property for 2021/22 by valuation band for the City of London.

Table 4.8: Council tax per property for 2021/22 by valuation band for the City of London

Band	**Value at 1 April 1991**[707]	**Proportion of Band D**[708]	**The City's Council Tax**[709]
A	Up to £ 40,000	6/9	£ 699.62
B	£ 40,001 - £ 52,000	7/9	£ 816.23
C	£ 52,001 - £ 68,000	8/9	£ 932.83
D	£ 68,001 - £ 88,000	9/9	£ 1049.44
E	£ 88,001 - £ 120,000	11/9	£ 1282.65
F	£ 120,001 - £ 160,000	13/9	£ 1515.86
G	£ 160,001 - £ 320,000	15/9	£ 1749.06
H	More than £ 320,000	18/9	£ 2098.88

The band in which a property is placed is solely based on the property's sale value. There is no (direct) link to e.g., the number of rooms in a dwelling nor is there any link between council tax and the amount of the mortgage loan.[710]

According to section 4(1) of the Local Government Finance Act 1992, *"council tax shall be payable in respect of any dwelling which is not an exempt dwelling."* Any dwelling on which council tax is payable,

[702] Local Government Finance Act 1992, s 6(3).
[703] Local Government Finance Act 1992, s 6(4).
[704] Local Government Finance Act 1992, s 30.
[705] M Sandford, *Council Tax: FAQs* (House of Commons Library Briefing Paper No 6583, 10 January 2018) 14.
[706] The value is based on the price the property would have sold for on the open market on 1 April 1991 in England. Council tax bands in Wales differ slightly from those in England. In Wales, the value is based on the price the property would have sold for on the open market on 1 April 2003 in Wales.
[707] Local Government Finance Act 1992, s 5(2).
[708] City of London Corporation, *Council Tax and Rates Booklet 2021/22* (City of London Corporation 2021) 7.
[709] City of London Corporation, *Council Tax and Rates Booklet 2021/22* (City of London Corporation 2021) 7.
[710] M Sandford, *Council Tax: FAQs* (House of Commons Library Briefing Paper No 6583, 10 January 2018) 14.

is called a "chargeable dwelling". An "exempt dwelling" is exempt from council tax.[711] Which dwelling classifies as an exempt dwelling is laid out in the *Council Tax (Exempt Dwellings) Order 1992*. Section 3 of the Council Tax (Exempt Dwellings) Order 1992 classifies the different exemptions. For example, there are unoccupied dwellings, which are owned by a charity (Class B), dwellings that were used as main residence, but of which the occupant has gone to live in a care home (Class E), Students' Hall of Residence (Class M) or accommodation intended for the military (UK armed forces accommodation – Class O or visiting armed forces accommodation – Class P).

Based on section 11 of the Local Government Finance Act 1992, it is also possible to get a discount on the amount of council tax payable. The difference between an exemption and a discount is that exemptions (meaning no liability to pay council tax) apply to *properties*, whilst discounts (liability for less than the full amount) relate to *people*. If one falls into a discount category, they are "disregarded" for council tax purposes. The *Council Tax (Discount Disregards) Order 1992* sets out the different categories of discounts. Examples hereof are persons in detention, the severely mentally impaired, students, and hospital patients. A discount also applies to vacant homes based on section 11(2) of the Local Government Finance Act 1992.

An individual living alone is entitled to the "single person discount". This single person discount is not a form of discount regard as stated in the Council Tax (Discount Disregards) Order 1992, but a separate provision in the Local Government Finance Act 1992. If a taxpayer is entitled to the single person discount, he/she is entitled to a discount of 25% from the standard liability for council tax.[712] People who fall into a discount category and are disregarded for council tax purposes, are omitted when calculating the number liable persons in a property. Hence, in a dwelling occupied by 3 people of which two are disregarded and only one is liable, a 25% single person discount would apply. If, in contrast, two liable persons share the property with e.g., a student (which is disregarded), the discount would not apply.[713]

For persons who are in financial need or persons in classes consisting of persons whom the authority, in general, considers to be in financial need, the billing authority is required to draw up a council tax reduction scheme. This scheme must specify the reductions which apply to the amount of council tax payable in respect of dwellings in the billing authority's area occupied by the before mentioned persons.[714] Furthermore, the billing authority has the discretion to reduce the council tax payable to such extent as the billing authority thinks fit.[715]

[711] Local Government Finance Act 1992, s 4(2).
[712] Local Government Finance Act 1992, s 11(3).
[713] M Sandford, *Council Tax: FAQs* (House of Commons Library Briefing Paper No 6583, 10 January 2018) 11.
[714] Local Government Finance Act 1992, ss 13A(1)(a) and 13A(2).
[715] Local Government Finance Act 1992, s 13A(1)(c).

4.3.3.4 Government support

The UK government has set up several facilities mainly aimed at making buying a home affordable. With this, the government helps first-time buyers and certain other groups of people – like low-income taxpayers – to enter the housing market and get on the property ladder.

Affordable Home Ownership

The Affordable Home Ownership programme consists of three different schemes. The *Help to Buy: Equity Loan*, the *Buying through shared ownership*, and *Help to Buy Individual Savings Account*.

Help to Buy: Equity Loan (hereafter: *Equity Loan*) provides first-time buyers with an equity loan towards the cost of buying a newly build house. *Equity Loan* is a loan from the government[716] which first-time buyers can use to buy a new-build house. It aims to help first-time buyers get on the property ladder. To be eligible for *Equity Loan*, one must be at least 18 years old, a first-time buyer, and able to afford the fees and interest payments. There are also some requirements regarding the property. This must be a new build, sold by a Help to Buy registered homebuilder, and the only house the buyer owns and lives in. There is also a "maximum property purchase price" limit for the house one buys. This limit depends on the region the house is in. For example, the maximum property purchase price in London is £ 600,000. One can buy a house up to and including the maximum property purchase price limit. If one is eligible for a loan, they can borrow a minimum of 5% up to a maximum of 20% (or even 40% if the property is in London) of the market value of the new-build house. Furthermore, if one buys a house with *Equity Loan*, the individual must pay a deposit of 5% of the property purchase price at the moment of exchange of contracts and arrange a repayment mortgage of at least 25% of the property purchase price. Figure 4.4 shows an example of how much a deposit, mortgage and equity loan may be if a person buys a new home with a purchase price of £ 400,000. An equity loan is secured against the property in the same way a repayment mortgage is. The equity loan percentage is used to calculate the interest and equity loan repayments. If, for example, a person buys a property for £ 400,000 and the equity loan amount borrowed is £ 80,000 – which is equal to 20% of the property purchase price – the equity loan percentage used to calculate the interest and equity loan repayments is 20%. For the first five years, however, the equity loan is interest free.[717] From year six onwards the interest payment is equal to 1.75% of the equity loan amount borrowed. The interest rate increases each year in April by the Consumer Price Index plus 2%.[718]

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[716] Provided by the *Homes and Communities Agency* (in sort: *Homes England*), a government agency funded by the Ministry of Housing, Communities and Local Government.

[717] One does have to pay a £1 monthly management fee by Direct Debit.

[718] The amount of the monthly interest payment is calculated by multiplying the equity loan amount (property purchase price x equity loan percentage – the equity loan percentage will decrease when a repayment is done) by the interest rate (which equals 1.75% of the equity loan amount in the first year of paying interest, and increases every year by adding CPI plus 2%.) The interest rate from the previous year is then used to calculate the interest rate increase for the following year. Hence in years 1 – 5 no interest is paid. In year 6 the interest rate is equal to 1.75%. In year 7 the interest rate is equal to *1.75% (= year 6 interest rate) + (1.75% x (CPI + 2%)*. The £1 monthly management fee also stays applicable when one starts paying interest.

If one changes their equity loan, including remortgage or make an equity loan repayment, they also must pay administration fees. The equity loan is not repaid by monthly instalments. It is, however, possible to pay off all or part of the equity loan any time before the end of the loan term. Repayments are based on the equity loan percentage and the current market value of the property. The smallest repayment that can be done is 10% of the market value of the property. Paying back (part) of the equity loan will reduce the monthly interest payments. In certain circumstances the equity loan must be repaid in full: 1) at the end of the equity loan term, 2) when the borrower pays off their repayment mortgage, 3) when the borrower sells his/her home, and 4) when the borrower does not comply with the terms set out in the equity loan contract and Homes England asks him/her to repay the loan in full. When one sells their dwelling, they pay the equity loan percentage of either the market value or the agreed sales price (depending on which one is higher). If previous repayments have been done, then the individual pays back the equity loan percentage they still owe of the market value. The *Help to Buy: Equity Loan* scheme is not regulated by the British Financial Conduct Authority (FCA).[719]

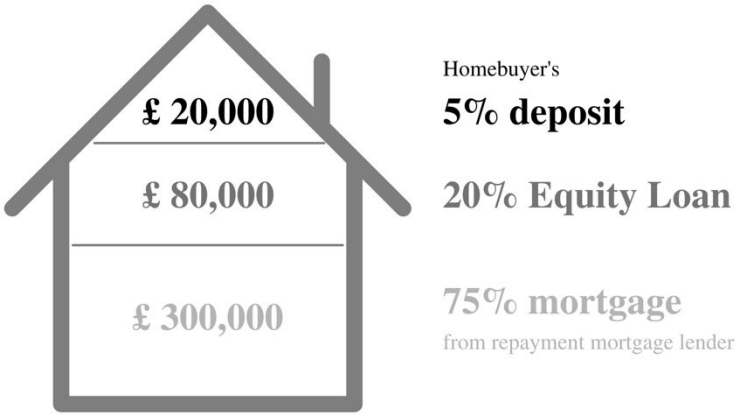

Figure 4.4: Help to Buy: Equity Loan example

Buying through shared ownership (hereafter: *shared ownership*) offers individuals the chance to buy a share of their home (between 25% and 75% of the property's value) and pay rent on the remainder. To be eligible for *shared ownership*, a household can earn a maximum of £ 80,000 a year (or £ 90,000 a year when the household lives in London), and the individual is a first-time buyer, used to own a home but cannot afford to buy one now, or the individual is an existing shared owner looking to move. With *shared ownership* it is possible to buy either a newly built home or an existing one through resales programmes from housing associations. *Shared ownership* properties are always leasehold. Anyone aged 55 or over can buy up to 75% of the house through the *Older People's Shared Ownership (OPSO) scheme*. It works the same as the general *shared*

[719] Homes England, 'Help to Buy: Buyers' Guide' (amended June 2020) 6, 8, 9, 22; GOV.UK, 'Help to Buy: Equity Loan' <https://www.gov.uk/help-to-buy-equity-loan>.

ownership scheme, but once they own 75% of the property, they will not pay rent on the rest. People with a long-term disability can get help buying a house with the *Home Ownership for People with Long-Term Disabilities (HOLD)* if other *Help to Buy* scheme properties do not meet their needs. For example, when someone needs a ground-floor property. With HOLD, the one can buy up to 25% of the home. When someone has bought a home through *shared ownership*, it is possible to buy more shares of the property. This is also known as "staircasing". The cost of a new share will depend on how much the property is worth when one wants to buy the share. Hence, the cost of the share will be more than the first share if property prices in the area have gone up. However, if property prices in the area have gone down, the cost of the share will be less than the first share. The housing association that shares the ownership will have the property valued and will let the individual know the cost of the new share. The valuer's fee has to be paid by the individual. If one owns a share of their home and wants to sell, the housing association has the right to buy it first. This is also known as "first refusal". Furthermore, the housing association also has the right to find a buyer for the property. If one owns 100% of the property, they can sell it themselves.[720]

Help to Buy Individual Savings Account (hereafter: *Help to Buy ISA*) helps individuals save for their first home. Even though it is now closed to new applicants[721], if one had already opened a *Help to Buy ISA*, they are able to continue saving into their account until November 2029. So how does *Help to Buy ISA* work? If one is saving to buy their first home, they can do so by saving money into a *Help to Buy ISA* and the British Government will top up their savings by 25% (up to a maximum of £ 3,000). The accounts are available for each first-time buyer, not each household. Therefore, if two individuals are buying their first home together and both have a *Help to Buy ISA*, they will both receive the 25% bonus. The minimum government bonus is £ 400, which means that a person must have saved a minimum of £ 1,600 into their *Help to Buy ISA* before they can claim a bonus. To kick-start one's account, it is possible to deposit a lump sum of up to £ 1,200. When the individual(s) buys a property, the home must 1) have a purchase price of up to £ 250,000 (or up to £ 450,000 in London), 2) be the only home they own, 3) be where the individual(s) intend to live, and 4) be purchased with a mortgage. Furthermore, they will need to instruct their solicitor or conveyancer to apply for their bonus. Once the government bonus is received, it will be added to the amount that the individual is putting towards his/her first home. There are some requirements on how to use the government bonus: it must be included with the funds consolidated at the completion of the property transaction and cannot be used for the deposit due at the exchange of contracts, to pay for solicitor's, estate agent's fees or any other indirect costs associated with buying a house. It is possible to combine a *Help to Buy ISA* with other government schemes, including an *Equity Loan* and *shared ownership*.[722]

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[720] GOV.UK, 'Shared ownership scheme' <https://www.gov.uk/shared-ownership-scheme>.
[721] The *Help to Buy ISA* closed to new applicants at midnight on 30 November 2019.
[722] GOV.UK, 'Help to Buy: ISA' <https://www.gov.uk/help-to-buy-isa>.

Support for Mortgage Interest

Homeowners might be able to get help regarding interest payments on their mortgage or loans taken out for certain repairs and improvements to their home. This help is called *Support for Mortgage Interest (SMI)*. The SMI is paid as a loan, which needs to be repaid with interest when one sells or transfers ownership of the property. SMI is not meant to be used to pay for the amount one borrowed – only for the interest on the mortgage. Neither can it be used for anything towards insurance policies nor for missed mortgage payments. To be eligible for a SMI-loan, one usually needs to get one of the following qualifying benefits: Income Support, income-based Jobseeker's Allowance (JSA), income-based Employment and Support Allowance (ESA), Universal Credit, or Pension Credit.[723] If one is eligible, they usually get help paying the interest up to £ 200,000 on their loan or mortgage. However, one can only get up to £ 100,000 if either they are getting Pension Credit, or they started claiming another qualifying benefit before January 2009 and had not yet reached the State Pension age at that time. The interest rate used to calculate the amount of SMI one can get is 2,09% (2021). SMI is usually paid directly to one's lender. Since SMI is paid as a loan, it needs to be repaid with interest when one sells or transfers ownership of the property. The interest added to the loan can go up or down, but it will not change more than twice a year. The current interest rate is 0,3% (2021). It is also possible to pay back the SMI-loan more quickly. One can then make voluntary repayments. The minimum voluntary repayment is £ 100 or the outstanding balance if it is less than £ 100.[724]

The mortgage guarantee scheme

The worldwide COVID-19 pandemic has reduced the availability of high LTV mortgage products in the UK. This has been the case for first-time homebuyers with smaller deposits as well as existing homeowners with low(er) level of equity. As a result, many households are unable to get onto or move up the housing ladder. The inability of existing homeowners to move up the housing ladder has also limited the number of properties on the market available for first-time buyers. Because of this, the government has introduced a mortgage guarantee scheme to support these homeowners. The scheme is designed to increase the willingness of mortgage lenders to give out high LTV mortgage loans to creditworthy borrowers. It provides lenders with the option to purchase a government guarantee that will compensate them for a part of their loss in the event of foreclosure. The government charges a commercial fee for providing this guarantee. The guarantee will apply up to 80 per cent of the purchase value of the guaranteed property. Lenders take a 5% share of net losses above this 80% threshold. This will help ensure that lenders are not incentivised to provide poor quality mortgage loans. The guarantee will be

[723] Pension Credit is also treated in para 4.2.2.3. To go into further detail about all these benefits goes beyond the scope of this research. For further information on these benefits, please refer to the GOV.UK website.
[724] GOV.UK, 'Support for Mortgage Interest (SMI)' <https://www.gov.uk/support-for-mortgage-interest>.

valid up to seven years after the mortgage has been taken out.[725] The overarching design principles are to provide a scheme that[726]:

- is focused on helping borrowers and at the same time is simple for these borrowers;
- is as administratively straightforward for lenders as possible;
- does not encourage irresponsible lending;
- contains the level of risk being borne by the government; and
- can be put into place rapidly and effectively.

The scheme is designed to help creditworthy households obtain a higher LTV mortgage. A mortgage eligible for a guarantee under this scheme will need to (i) be a residential mortgage (i.e., not to be used for second homes) and not buy-to-let, (ii) be taken out by an individual or individuals (i.e., not by an incorporated company), (iii) be on a property in the UK with a purchase value of maximum £ 600,000, (iv) have a LTV of between 91% and 95%, (v) be taken out between the dates specified by the scheme, (vi) be a repayment mortgage (not interest-only), and (vii) meet the standard requirements in terms of the assessment of the borrower's ability to pay the mortgage (e.g., LTI and the credit score test[727]). Furthermore, with this scheme, the government wants to help to ensure the mortgage market provides options for consumers with smaller deposits who also want a mortgage with the security of predictable repayments for a longer period. Hence, it is required that any lender participating in the scheme must offer a five-year fixed rate product as part of their range of mortgages offered under the guarantee. For a lender to be eligible for the scheme, it must have a permission under the Financial Services and Markets Act to enter regulated mortgage contracts in the UK. The scheme is intended as a temporary measure. It will be open for new mortgage applications from April 2021 to December 2022. However, the government will review the continuing need for the scheme towards the planned end date and determine whether extending the period would be beneficial for prospective homeowners.[728]

Lifetime ISA (Individual Savings Account)

A lifetime ISA is a type of Individual Savings Account (ISA) which serves as a dual-purpose financial instrument enabling individuals in the UK to either facilitate the purchase of their first residential property or save for retirement purposes. A lifetime ISA can be opened by those aged 18 to 40[729], providing a window for long-term financial planning and asset accumulation.[730]

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[725] HM Treasury, 'The Mortgage Guarantee Scheme' (March 2021) 2, 4.
[726] HM Treasury, 'The Mortgage Guarantee Scheme' (March 2021) 2.
[727] These are treated in more detail in para 4.3.4.
[728] HM Treasury, 'The Mortgage Guarantee Scheme' (March 2021) 7.
[729] Individual Savings Account Regulations 1998, reg 12B.
[730] Most information in this paragraph is obtained from www.gov.uk/lifetime-isa.

Participants are allowed to contribute up to £ 4,000 annually until reaching the age of 50, however, the initial deposit must be made before the age of 40. To encourage savings, the government provides a 25% bonus on contributions, up to £ 1,000 per year. Notably, the Lifetime ISA contribution limit of £ 4,000 is part of the broader annual ISA limit, which was £ 20,000 for the 2023/24 fiscal year. No tax is levied on interest earned on cash in an ISA, nor on income or capital gains from ISA investments.[731]

Within the Lifetime ISA framework, individuals have the flexibility to allocate funds into cash or stocks and shares, or a combination of both, tailored to their risk tolerance and financial objectives.[732] Upon reaching the age of 50, contributions cease, and the associated government bonus is no longer applicable. Nonetheless, the account remains active, accruing interest or investment returns until accessed.

Eligibility for opening and maintaining a Lifetime ISA mandates UK residency, except for specific exemptions such as crown servants or their spouses.[733] Withdrawals from the Lifetime ISA are permissible under designated circumstances, including first-time home purchases, being aged 60 and over, or a prognosis of terminal illness of less than 12 months.[734]

Withdrawals for reasons other than the prescribed conditions incur a 25% withdrawal charge[735], intended to recoup the government bonus initially awarded. For instance, withdrawal from an account with £ 800 savings and a £ 200 government bonus would result in a £ 250 penalty, leaving the account holder with £ 750.

Regarding home acquisitions, funds from the Lifetime ISA can be utilized if the property's value does not exceed £ 450,000 and the purchase occurs at least 12 months after the initial contribution. Collaboration with a conveyancer or solicitor is requisite, with funds disbursed directly from the ISA provider to facilitate the transaction. For co-purchasers possessing their own Lifetime ISAs, a combined utilization of savings and government bonuses is admissible, contingent upon fulfilling first-time buyer criteria and home purchase conditions.[736]

Additionally, individuals with both a *Help to Buy ISA* and a Lifetime ISA must opt for one account to access the government bonus for home buying. Transfers between these accounts are feasible, though incurring a 25% withdrawal charge for transfers from Lifetime ISA to *Help to Buy ISA*.[737]

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[731] HM Treasury, 'Design of the Lifetime ISA: Updated Technical Note' (2016) <https://www.gov.uk/government/publications/design-of-the-lifetime-isa-technical-note>.
[732] Individual Savings Account Regulations 1998, reg 8ZA.
[733] Individual Savings Account Regulations 1998, reg 10A.
[734] Individual Savings Account Regulations 1998, Sch 1 para 4.
[735] Individual Savings Account Regulations 1998, Sch 1 para 5.
[736] Individual Savings Account Regulations 1998, Sch 1 para 6.
[737] Individual Savings Account Regulations 1998, Sch 1 para 8.

As an instrument for retirement planning, funds within the Lifetime ISA can be accessed penalty-free upon reaching the age of 60. Premature withdrawals or transfers before this age trigger the aforementioned 25% charge. In the event of the account holder's death, the Lifetime ISA ceases, allowing beneficiaries to access the funds without penalty.

4.3.4 Homeownership and the UK mortgage market

At the beginning of this section, we have seen that owner-occupation is the main tenure in the United Kingdom at 65.2% (2018). Of these owner-occupier houses, 42.5% own their property outright and no less than 57.5% are (entirely or partly) financed by means of a mortgage or other housing loan.[738]

4.3.4.1 Mortgages

Mortgage loans in the UK usually have a maturity of between twenty and thirty-five years. Borrowers must meet minimum down payment requirements and undergo several affordability checks. In the UK, mortgage loans with an LTV of above 90% are rare. The interest rate on mortgage loans depends primarily on the LTV and increases with jumps (*notches*) at certain LTV thresholds. These thresholds are at LTVs of 60%, 70%, 75%, 80%, and 85%. In principle there is also a threshold at 90%. However, very few banks offer mortgages above 90% after the financial crisis. As a result, borrowers typically bunch just below the threshold(s) to benefit from the lower interest rate.[739] Other variables that affect loan pricing are borrower type (first-time buyer, home mover, remortgage, etc.) and rate type (i.e., the length of the fixation period). Borrower characteristics (including income and credit score) determine whether a borrower qualifies for a given mortgage product. They do not affect pricing directly. Affordability checks used to determine whether a borrower qualifies for a given mortgage product are both a maximum LTI and limits on the maximum monthly mortgage payments. A LTI of 4.5 is most used. Furthermore, mortgage applicants must undergo an affordability assessment to evaluate whether they are able to meet the required monthly mortgage payments. Lenders need to consider not only the borrower's income, but also other outstanding debts and fixed monthly recuring expenses, such as education and travel costs. This assessment is done by analysing bank and credit card statements of borrowers. The maximum loan amount is then also stress tested, i.e., borrowers must still be able to meet their mortgage payments in case of an interest rate increase of three percentage points. These affordability checks are used to determine the maximum loan amount, but do not have a significant effect on the loan cost.[740]

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[738] Eurostat, 'Database: ILC_LVHO02' (2023) <https://ec.europa.eu/eurostat/databrowser/view/ILC_LVHO02/default/table> accessed 13 March 2023.
[739] MC Best, JS Cloyne, E Ilzetzki and HJ Kleven, 'Estimating the Elasticity of Intertemporal Substitution Using Mortgage Notches' (2020) 87(2) *Review of Economic Studies* 656, 657 and 660 <https://doi.org/10.1093/restud/rdz025>.
[740] M Benetton *et al*, 'Credit Supply, House Prices and Household Debt: Evidence from the UK' (Bank of England Staff Working Paper No 790, 2019) 7-8.

Most UK mortgages have an initial period during which the loan interest rate is fixed. This is often a period of two years; however, it can also be as long as five years. The interest during this initial period is discounted and reverts to a higher (and variable) rate afterwards. Early repayment is fined during the initial fixation period, but not once this period ends. The notched interest rate schedule described above applies to the rate charged during this initial two-to-five-year period as opposed to the rate charged over the entire term of the mortgage. The high(er) and variable reset rate after the initial period, creates a very strong incentive for borrows to refinance at the end of the initial (lower-rate) period. Resulting in many borrowers that remortgage at the end of the fixation period.[741] On the other hand, there is also an incentive to refinance no sooner than the end of this period. As said before, UK mortgage contracts have high prepayment charges (often 5-10% of the outstanding loan) for borrowers who refinance before the interest rate is revised. Hence, the combination of disadvantageous refinancing rates and high prepayment costs implies that households have strong incentives to refinance around the end of the initial lower interest rate period.[742] Finally, mortgage interest payments are not deductible from one's income taxes, hence there is no tax incentive to take on additional mortgage debt.[743]

4.3.4.2 Loan to Value

Due to the economic crisis, UK banks have become more cautious regarding the level of the LTV and often expect higher down payments. As a result, mortgages with a high LTV (90% or more) are issued by only very few banks.[744]

The Bank of England oversees financial stability through the Financial Policy Committee (FPC), which came into effect on 1 April 2013. The responsibility of the Committee regarding the Financial Stability Objective as set by the Bank of England, relates primarily to identify, monitor, and take action to remove or reduce systemic risks with a view to protect and enhance the resilience of the UK financial system without jeopardizing economic growth. To be able to do so, the FPC has received powers of Direction from the Government in respect of LTV and DTI[745] limits on owner-occupied lending. Imposing limits on owner-occupied lending enhances the resilience of the UK financial system against risks that arise from the housing market. On the one hand, lenders with a less risky mortgage portfolio are less vulnerable to credit losses.

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[741] MC Best, JS Cloyne, E Ilzetzki and HJ Kleven, 'Estimating the Elasticity of Intertemporal Substitution Using Mortgage Notches' (2020) 87(2) *Review of Economic Studies* 656, 660-661 <https://doi.org/10.1093/restud/rdz025>; M Benetton *et al*, 'Credit Supply, House Prices and Household Debt: Evidence from the UK' (Bank of England Staff Working Paper No 790, 2019) 7.

[742] MC Best, JS Cloyne, E Ilzetzki and HJ Kleven, 'Estimating the Elasticity of Intertemporal Substitution Using Mortgage Notches' (2020) 87(2) *Review of Economic Studies* 656, 661 <https://doi.org/10.1093/restud/rdz025>.

[743] M Benetton *et al*, 'Credit Supply, House Prices and Household Debt: Evidence from the UK' (Bank of England Staff Working Paper No 790, 2019) 8.

[744] M Benetton *et al*, 'Credit Supply, House Prices and Household Debt: Evidence from the UK' (Bank of England Staff Working Paper No 790, 2019) 7.

[745] DTI ratios, including ICRs in respect of buy-to let lending. DTI is the ratio of borrower's outstanding debt to his/her annual income. ICR is the ratio of expected rental income from a buy-to-let property to estimated mortgage interest payments during a given period.

Evidence shows that mortgages with an LTV above 90% (at origin) have been four times more likely to have payment arrears than mortgages with an LTV of below 90%. On the other hand, borrowers with lower debts relative to their income and rent are less exposed to unexpected changes to these variables or to the interest rate. High(er) household indebtedness is often associated with a higher probability of household distress, and subsequent fall in consumer spending because of a shock to interest rates or income, ultimately affecting GDP.[746]

In June 2014, the FCP recommended both an affordability test and LTI flow limit. The affordability test involves that when mortgage lenders assess affordability, they should apply an interest rate stress test that assesses whether borrowers can still afford their mortgages if the Bank Rate were to be 3 percentage points higher than the prevailing rate at origin at any point over the first five years of their loan. The LTI flow limit implies that mortgage lenders do not extend more than 15% of their total number of new residential mortgages at LTI ratios at or greater than 4.5.[747]

In its latest Financial Stability Report of July 2021, the FCP reports that since the start of the COVID-19 pandemic, the share of UK households with high debt-servicing burdens on their mortgages, i.e., debt-servicing ratios (DSRs)[748] of 40% or more, has increased. However, it remains below its pre-global financial crisis level. Furthermore, the FCP expects that households' finances remain resilient even after some support measures come to an end. For example, a significant number of households has made use of the ability to take a payment deferral on its mortgage(s) and consumer credit without this being reflected on their credit file. As of May 2021, however, over 80% of these households has again returned to full repayments after their deferrals ended. A recent increase in housing market activity has been accompanied by increased mortgage availability and with it an increase for mortgages with LTV-ratios at 90% or above. In fact, the number of mortgage products available at these higher LTV-ratios has more than tripled since the start of 2021. However, the actual share of new mortgages issued at LTV-ratios of 90% and above remains low relative to the pre-pandemic period. To illustrate: in the first quarter of 2021, just under 6% of new mortgages was at 90% LTV or above, compared to 20% in 2019. LTI ratios of 4.5 or higher with new mortgage loans increased from 9.5% in 2020 Q1 to 10.4% in the first quarter of 2021, which is still below the FCP's limit of 15%.[749]

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[746] Bank of England, Financial Policy Committee, The Financial Policy Committee's Powers over Housing Policy Instruments: A Draft Policy Statement (November 2016) 3, 11-12, 20-21.
[747] Bank of England, *Financial Stability Report* (Presented to Parliament pursuant to Section 9W(10) of the Bank of England Act 1998 as amended by the Financial Services Act 2012, December 2014) 59-68.
[748] The debt service ratio is calculated as the amount of debt service payments relative to disposable income. It is often used to assess the financial obligations of mortgage-indebted households and their ability to repay debt.
[749] Bank of England, *Financial Stability Report* (Presented to Parliament pursuant to Sections 9E(5) and 9W(10) of the Bank of England Act 1998 as amended by the Financial Services Act 2012, July 2021) 4-6.

4.3.4.3 Inheritance of the owner-occupied dwelling

Inheritance Tax (IHT) is levied on the transfer of owner-occupied dwellings as part of the deceased's estate, encompassing property, money, and possessions. Governed by the regulations stipulated in the Inheritance Tax Act 1984 (IHTA), the tax implications vary based on the value of the inherited estate. Estates falling below the £ 325,000 threshold, also known as the nil rate band (NRB), are exempt from Inheritance Tax. Furthermore, transfers of owner-occupied dwellings to spouses or civil partners incur no Inheritance Tax liabilities. Conversely, when bequeathed to children, grandchildren, or other direct descendants, the owner-occupied dwelling may qualify for additional tax-free residence allowance, referred to as the residence nil rate band (RNRB). The RNRB, set at £ 175,000, is applicable to direct descendants inheriting a qualifying residence. However, the RNRB undergoes a tapering process, reducing its value by £ 1 for every £ 2 that the net value of the residence surpasses £ 2,000,000.[750] Table 4.9 below gives an overview of the Inheritance Tax thresholds and bands for owner-occupied dwellings.

Table 4.9: Overview of Inheritance Tax Thresholds and Bands for Owner-Occupied Dwellings (2023/24)

Threshold/Band	**Description**	**Amount**
Nil Rate Band (NRB)	The threshold below which no Inheritance Tax is levied on the estate.	£ 325,000
Spousal/Civil Partner Exemption	Exemption for transfers of owner-occupied dwellings to spouses or civil partners.	Unlimited
Residence Nil Rate Band (RNRB)	Additional tax-free allowance for owner-occupied dwellings passed to direct descendants.	£ 175,000
Taper Relief for RNRB	Gradual reduction in the RNRB when the net value of the residence exceeds £ 2,000,000.	£ 1 reduction for every £2 exceeding £ 2,000,000

Inheritance tax is typically charged at a flat rate of 40% on the portion of the estate that exceeds the available nil rate band and any applicable additional allowances.[751]

4.4 Interactions between retirement savings and real-estate ownership

This section explores the interplay between retirement savings and real estate ownership in the United Kingdom. In particular, it delves into the benefits and challenges associated with the Lifetime Individual Savings Account (ISA) as highlighted in the literature. Following this, a quantitative illustration is presented to demonstrate key concepts, such as the use of a Lifetime ISA and the withdrawal of a lump sum from an individual's accrued pension savings.

[750] Inheritance Tax Act 1984, s 8D.
[751] Inheritance Tax Act 1984, s 4.

4.4.1 Benefits and challenges of the Lifetime ISA: insights from the literature

The Lifetime ISA (LISA), designed to help individuals save for their first home or retirement, offers attractive tax benefits and a government bonus. However, it also comes with certain risks and limitations. Existing literature provides a range of perspectives on both the advantages and challenges of the LISA. This analysis draws from prior research to explore its key benefits, such as the government incentives for savings, alongside the challenges and drawbacks, including its impact on retirement planning and housing affordability. By examining these diverse viewpoints, we can better understand the implications of the LISA in the context of personal finance in the UK.

4.4.1.1 Benefits of the Lifetime ISA

Government bonus and tax advantages

The most prominent feature of the Lifetime ISA is the 25% government bonus on annual contributions of up to £ 4,000, offering substantial support to individuals aiming to purchase their first home or save for retirement. Salutin (2024) argues that this incentive is particularly effective for individuals in more affordable regions, where the combined government bonus and personal savings can make a significant contribution toward meeting deposit requirements.[752] Cribb and Simpson (2018) emphasize how the bonus facilitates quicker deposit accumulation and enables larger deposits, which in turn reduce the required mortgage.[753] Similarly, Pannell and Jenkins (2018) note that the scheme enhances the savings capacity of individuals under 40, a demographic often constrained by financial pressures.[754] Mayhew (2019) also highlights the value of the government bonus in boosting savings, which can meaningfully improve the affordability of homeownership for young buyers.[755]

Dual-purpose flexibility

One of the LISA's unique features is its flexibility, as funds can be used either for purchasing an owner-occupied dwelling or for retirement savings. Pannell and Jenkings (2018) suggest that this flexibility is particularly appealing to young adults, who primarily focus on buying their first home but also value the security of long-term financial planning.[756] Mayhew (2019) adds that the scheme's dual-purpose nature provides young savers with an adaptable, government-supported savings option, accommodating both immediate and future financial goals.[757]

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[752] G Salutin, 'Home Economics: Financial Policies to Increase Homeownership' (Social Market Foundation 2024) 15–16.
[753] J Cribb and P Simpson, 'Barriers to Homeownership for Young Adults' in C Emmerson, C Farquharson and P Johnson (eds), *The IFS Green Budget: February 2018* (Institute for Fiscal Studies 2018) 23–25.
[754] B Pannell and D Jenkins, 'Building on the Bank of Mum and Dad' (Building Societies Association 2018) 17–18.
[755] L Mayhew, 'The Last-Time Buyer: Housing and Finance for an Ageing Society' (CSFI 2019) 26–27.
[756] B Pannell and D Jenkins, 'Building on the Bank of Mum and Dad' (Building Societies Association 2018) 17–18.
[757] L Mayhew, 'The Last-Time Buyer: Housing and Finance for an Ageing Society' (CSFI 2019) 26–27.

Support for first-time homebuyers

The LISA was specifically designed to address the challenges faced by first-time buyers, particularly those struggling to save for a deposit due to rising housing costs. Salutin (2024) states that the scheme enhances the purchasing power of young buyers in affordable regions, enabling them to meet deposit requirements more easily and lowering one of the primary barriers to homeownership.[758] Cribb and Simpson (2018) further argue that the policy targets buyers purchasing properties valued at £ 450,000 or less – a group that frequently faces affordability constraints in entering the housing market. This targeted approach can offer young buyers a comparative advantage in securing their first property, making the scheme an effective tool for encouraging homeownership among this group.[759]

4.4.1.2 Drawbacks of the Lifetime ISA

Limited impact in high-cost areas

Despite its benefits, the Lifetime ISA is less effective in high-demand, high-cost areas. Salutin (2024) points out that the 25% government bonus is often insufficient in bridging the affordability gap in regions like London, where property prices far exceed the reach of most first-time buyers.[760] The scheme's restriction to properties valued at £ 450,000 or less further limits its applicability in these markets, as noted by Cribb and Simpson (2018).[761] Mayhew (2019) also highlights the risk that the combined savings and government bonus may fail to keep pace with rapidly rising house prices, rendering the funds inadequate by the time savers are ready to purchase a home. This undermines the scheme's ability to deliver meaningful affordability benefits in high-cost regions.[762]

Regressive benefits and deadweight loss

A recurring criticism of the LISA is its regressive nature, as the scheme disproportionately benefits wealthier households. Salutin (2024) notes that 47% of the funds are directed to individuals in the top income quintile, raising concerns about the fairness of a policy that primarily aids higher-income groups.[763] Cribb and Simpson (2018) further argue that the LISA often fails to reach those most in need, as it tends to benefit young adults who are already financially capable of purchasing homes or those receiving significant family support. This results in a phenomenon known as "deadweight loss," where government support is provided

[758] G Salutin, 'Home Economics: Financial Policies to Increase Homeownership' (Social Market Foundation 2024) 15–16.
[759] J Cribb and P Simpson, 'Barriers to Homeownership for Young Adults' in C Emmerson, C Farquharson and P Johnson (eds), *The IFS Green Budget: February 2018* (Institute for Fiscal Studies 2018) 23–25.
[760] G Salutin, 'Home Economics: Financial Policies to Increase Homeownership' (Social Market Foundation 2024) 15–16.
[761] J Cribb and P Simpson, 'Barriers to Homeownership for Young Adults' in C Emmerson, C Farquharson and P Johnson (eds), *The IFS Green Budget: February 2018* (Institute for Fiscal Studies 2018) 23–25.
[762] L Mayhew, 'The Last-Time Buyer: Housing and Finance for an Ageing Society' (CSFI 2019) 26–27.
[763] G Salutin, 'Home Economics: Financial Policies to Increase Homeownership' (Social Market Foundation 2024) 15–16.

to individuals who would have achieved homeownership without the bonus.[764] Similarly, Pannell and Jenkins (2018) highlight that lower-income buyers may struggle to maximize the £ 4,000 contribution limit, exacerbating existing inequalities in housing access.[765]

Potential to exacerbate housing affordability issues

As a demand-side intervention, the LISA has been criticized for unintentionally contributing to housing price inflation, particularly in areas with limited housing supply. Salutin (2024) compares this to the Help to Buy scheme, noting that such policies may stimulate demand without addressing supply constraints, driving up property prices in already overheated markets.[766] Cribb and Simpson (2018) echo these concerns, arguing that the increase in purchasing power afforded by the LISA risks reverse its benefits by inflating house prices in constrained markets like London and the South East.[767] Without corresponding efforts to increase supply, the LISA is unlikely to resolve systemic affordability challenges, as observed by Pannell and Jenkins (2018).[768] Mayhew (2019) adds that such schemes may inadvertently worsen affordability issues by driving demand without adequately addressing the housing shortage.[769]

Inflexibility in savings transfer and withdrawal

Although marketed as a flexible savings tool, the LISA imposes restrictions that limit its usability. Pannell and Jenkins (2018) highlight the inability to transfer savings between providers, which reduces flexibility and has attracted criticism from savers. This limitation, along with penalties for early withdrawals for other purposes than the purchase of the first owner-occupied dwelling or retirement, diminishes the scheme's appeal as a versatile savings mechanism.[770]

Budgetary costs and tax implications

The Lifetime ISA's fiscal implications are another concern. Salutin (2024) observes that the scheme costs the government a substantial amount, with foregone tax revenue and direct payments amounting to £ 1.1 billion in the 2024–25 fiscal year alone. These budgetary implications raise questions about the sustainability of the scheme, particularly as the funds are largely directed towards households that may already have significant savings capabilities.[771]

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[764] J Cribb and P Simpson, 'Barriers to Homeownership for Young Adults' in C Emmerson, C Farquharson and P Johnson (eds), *The IFS Green Budget: February 2018* (Institute for Fiscal Studies 2018) 23–25.
[765] B Pannell and D Jenkins, 'Building on the Bank of Mum and Dad' (Building Societies Association 2018) 17–18.
[766] G Salutin, 'Home Economics: Financial Policies to Increase Homeownership' (Social Market Foundation 2024) 15–16.
[767] J Cribb and P Simpson, 'Barriers to Homeownership for Young Adults' in C Emmerson, C Farquharson and P Johnson (eds), *The IFS Green Budget: February 2018* (Institute for Fiscal Studies 2018) 23–25.
[768] B Pannell and D Jenkins, 'Building on the Bank of Mum and Dad' (Building Societies Association 2018) 17–18.
[769] L Mayhew, 'The Last-Time Buyer: Housing and Finance for an Ageing Society' (CSFI 2019) 26–27.
[770] B Pannell and D Jenkins, 'Building on the Bank of Mum and Dad' (Building Societies Association 2018) 17–18.
[771] G Salutin, 'Home Economics: Financial Policies to Increase Homeownership' (Social Market Foundation 2024) 15–16.

In conclusion, while the Lifetime ISA offers notable advantages, such as the 25% government bonus and flexibility in supporting first-time homebuyers and retirement savings, it is accompanied by significant limitations that diminish its overall effectiveness. The literature consistently highlights concerns regarding its disproportionate benefit to higher-income individuals, its inability to keep pace with rising house prices in high-demand areas, and its potential to exacerbate housing affordability challenges through demand-side inflation. Without parallel supply-side reforms, the scheme's long-term impact on systemic housing issues remains limited. Consequently, while the Lifetime ISA can provide targeted financial support to first-time buyers, its broader implications raise concerns about its role in maintaining inequality and its limited contribution to resolving the ongoing housing affordability crisis.

4.4.1.3 Usefulness of the Lifetime ISA for the Netherlands

In considering the applicability of the LISA to the Dutch context and its alignment with the review framework, the scheme's dual-purpose flexibility emerges as one of its most valuable features. By enabling savers to use funds either for purchasing a home or for retirement, the LISA aligns with the overarching goal of integrating real estate purchases and pension savings. This dual functionality reduces the need for separate financial instruments, thereby potentially helping to shorten household balance sheets. For Dutch households, the ability to combine these savings goals could provide a more cohesive financial planning strategy while addressing the challenges of both housing affordability and adequate retirement savings.

LISA's emphasis on incentivizing savings through a government bonus also encourages disciplined financial behaviour, since the scheme provides a clear motivation for individuals to prioritize saving. In the Netherlands, this incentive could support first-time buyers by helping them accumulate deposits more quickly, potentially easing their path into homeownership. Furthermore, LISA's tax benefits and its emphasis on giving individuals control over their savings align with broader goals of creating fair and efficient ways to encourage saving.

An important drawback of the LISA that needs to be addressed is the potential for the LISA to exacerbate housing market tightness. Demand-side interventions such as the LISA risk inflating property prices, particularly in markets with constrained supply. Any adaptation of the LISA model should therefore be carefully integrated with policies to increase housing supply and prevent further strain on the owner-occupier housing market.

The UK LISA offers a valuable example for the Netherlands in developing a model that integrates retirement savings with real estate purchases. By combining a government bonus with tax-free savings growth, the LISA effectively encourages individuals to save for both their first home and retirement, addressing two critical financial priorities simultaneously. However, it is essential to critically examine its limitations and explore how its features could be adjusted to overcome these challenges and better suit the Dutch context.

4.4.2 Quantitative illustration

This quantitative illustration demonstrates how various life events impact a household's balance sheet, focusing on the interaction between retirement savings and real estate decisions in the UK. The narrative begins with key milestones such as opening a Lifetime ISA and accruing pension savings upon entering the workforce, progressing to the purchase of a first owner-occupied home. Through analysis and simulation, this illustration aims to offer insights into the relationship between retirement savings and homeownership dynamics in the UK.

The reference scenario features an individual who undergoes significant life events, including purchasing and selling an owner-occupied home, accruing pension benefits, retiring, and eventually, death. London is used as the primary reference city due to its status as the political, economic, and cultural heart of the UK. Furthermore, London ranks second on the *Global Financial Centres Index* – surpassed only by New York City.[772] The average house price within the UK is £ 288,000 (June 2023). In England, this is equal to £ 306,000 (June 2023), and London's average house price of £ 528,000 (June 2023) is the most expensive of any region in the UK.[773]

Below the different events are described, as well as relevant additional information about the reference person is given.

Event 1: Opening a Lifetime ISA

At 18 years old, the reference person opens a lifetime individual savings account (Lifetime ISA).

Additional information regarding this event:

- Monthly contribution into the Lifetime ISA: £ 100
- Interest on savings in the Lifetime ISA: 3%
- Government bonus equal to 25% of yearly savings (up to a maximum of £ 1,000 per year)

Event 2: Pension accrual

The reference person starts working at a full-time job with an employer who provides an occupational pension scheme for its employees. As paragraph 4.2.3 has illustrated, as of October 2012, *automatic enrolment* for workplace pension schemes was introduced. Employees between the age of 22 and the State Pension age are automatically enrolled in a pension scheme chosen by their employer but still have the right of *opting out*. Furthermore, the annual income threshold

[772] M Wardle and M Mainelli, *The Global Financial Centres Index 34* (Z/Yen Partners 28 September 2023) <https://www.longfinance.net/media/documents/GFCI_34_Report_2022.09.28_v1.0.pdf>.
[773] Office for National Statistics (ONS), 'UK House Price Index: June 2023' (Statistical Bulletin, 16 August 2023) <https://www.ons.gov.uk/economy/inflationandpriceindices/bulletins/housepriceindex/june2023>.

above which each employee is automatically enrolled is £ 10,000 (2020/21). As of 1 February 2018, all employers must automatically enrol all eligible employees.

Additional information regarding this event:

- Reference person aged 24
- Wages equal to £ 45,000 per year
- Pension assets (2nd and 3rd pillar) of £ 0
- *Workplace pension scheme* provided by the employer qualifies as a defined contribution scheme
    - Earnings trigger: £ 10,000
        - The individual is automatically enrolled and decides to stay enrolled in the pension scheme (hence, the individual does not *opt out*)
    - Lower earnings limit (LEL): £ 6,240[774]
    - Upper earnings limit (UEL): £ 50,270[775]
    - Savings contributions:
        - Employer: 3% of pensionable salary[776]
        - Employee: 5% of pensionable salary[777]

Event 3: Purchase of the (first) owner-occupied dwelling

The reference person purchases his/her first house.

Additional information regarding this event:

- Reference person aged 34
- Yearly income from employment is equal to £ 80,000
- Financial wealth:
    - Regular savings of £ 35,000[778]
    - Lifetime ISA savings of £ 80,000[779]
- Purchase price of the dwelling £ 415,000, a new-build house located in London

The reference person wants to buy his/her first dwelling with a value of £ 415,000. Up to 90% of the value of the dwelling can be financed by means of a mortgage loan. Furthermore, a

[774] 2023/24 numbers.
[775] 2023/24 numbers.
[776] Pensionable salary equals the minimum of *wages/UEL -/- LEL*.
[777] Pensionable salary equals the minimum of *wages/UEL -/- LEL*.
[778] Rounded numbers from simplified calculations based on monthly savings contributions equal to 5% of the reference person's monthly salary and interest rate of 1% per year. Please also refer to appendix C1 for the complete table.
[779] Rounded numbers from simplified calculations based on monthly savings contributions equal to 10% of the reference person's salary, a 25% government bonus, and interest rate of 3% per year. Please also refer to Appendix C3 for the complete table.

maximum loan-to-income ratio of 4.5 is most often used. The lower value of the two determines the maximum amount of mortgage loan. Interest is not deductible, hence there is no incentive to take out additional mortgage debt. Hence, the following information can be added to the analysis:

- Maximum LTV: £ 373,500 (90% of £ 415,000)
- Maximum LTI: £ 360,000 (4.5 times £ 80,000)

A property transfer tax – Stamp Duty Land Tax (SDLT) – is levied on transfers of real estate. The purchaser of the property is liable to pay the Stamp Duty Land Tax.[780] Because the reference person is a first-time buyer, he/she could be entitled to a discount (relief) on the amount of SDLT payable. Other conditions an individual must meet to be eligible are the following[781]:

- The transaction must consist of a single dwelling, which is not more than £500,000.
- The individual is a first-time buyer who intends to occupy the purchased dwelling as the purchaser's *only or main residence*.
    - Relief may not be claimed if the transaction concerns an "additional property" as stated in Schedule 4ZA.[782]
- The purchase must stand on its own and have no connection with other transactions between the buyer and the seller, unless it is a transaction related to the land on which the property is located.

In this example, the reference person meets all the conditions to be eligible for the relief for first-time buyers. Hence, the following information can be added to the analysis:

- Property transfer taxes (in accordance with the relief for first-time buyers): £ 5,750

Based on the above-mentioned information, the following synopsis can be made:

[780] Finance Act 2003, s 85(1).
[781] Finance Act 2018, Sch 6ZA Pt 1 para 1 and s 41(3).
[782] As introduced by s 128(3) Finance Act 2016.

Financial wealth			
- Regular savings	£	35,000	
- Lifetime ISA	£	80,000	+
Total financial wealth	**£**	**115,000**	
SDLT payable	£	5,750	-/-
Financial wealth minus SDLT payment	**£**	**109,250**	
Value of the dwelling	£	415,000	
Down payment (financial wealth after taxes)	£	109,250	-/-
Remaining (financing needed)	**£**	**305,750**	

The individual takes out a mortgage loan for the remaining amount of £ 305,750. The mortgage loan is a repayment mortgage, which can be classified as a type of annuity mortgage. The loan is repaid in 25 years. The following information can then be added to the analysis:

- Annuity mortgage
  - Amount: £ 305,750
  - Duration: 25 years
  - Interest rate: 5.21%
  - Gross monthly payment: £ 1,824.99
    - Interest: £ 1,327.46[783]
    - Monthly repayment: £ 497.53[784]

The reference person now enters the saving phase of their financial journey. Firstly, they allocate resources towards pension savings. Additionally, the individual is committed to repaying a repayment mortgage loan, making regular payments towards this obligation as part of their overall saving strategy.

Event 4a: Sale of the owner-occupied dwelling and purchase of another owner-occupied dwelling

After 10 years, the owner-occupied dwelling is sold, and the reference person purchases his/her second owner-occupied dwelling ("levelling-up").

[783] Month 1, on the assumption that the entire mortgage is being repaid in 25 years. Also refer to appendix C5 for the complete table.
[784] Month 1, on the assumption that the entire mortgage is being repaid in 25 years. Also refer to appendix C5 for the complete table.

Additional information regarding this event:

- Reference person aged 44
- Yearly income from employment is equal to £ 125,000
- Financial wealth:
    - Regular savings of £ 55,000[785]
- Value of the dwelling to be sold £ 550,000, located in London
- Value of the dwelling to be bought £ 650,000, located in London

Step 1: sale of the owner-occupied dwelling

The dwelling is sold for £ 550,000. Hence, the capital gain is equal to £ 135,000.[786] In the UK, capital gains from the sale of the main residence are tax-free.[787] Furthermore, after 10 years, the remaining mortgage amount is equal to £ 226,782[788], which is paid off using the proceeds of the sale of the property.

Step 2: purchase of another owner-occupied dwelling

The reference person purchases his/her second house in London with a value equal to £ 650,000. To finance the purchase of this dwelling, the individual uses the remainder of the sale of his/her previous dwelling, his/her savings ("financial wealth") minus taxes (SDLT), and a mortgage loan for the remaining amount.

Based on the above-mentioned information, the following synopsis can be made:

SDLT					
Up to					
£	125,000	0%	£	-	
£	250,000	2%	£	2,500	+
£	925,000	5%	£	20,000	+
SDLT payable			**£**	**22,500**	

Proceeds of the sale dwelling #1	£	550,000	
Repayment of remaining mortgage dwelling #1	£	226,782	-/-
Remainder sale dwelling #1	**£**	**323,218**	

[785] Rounded numbers from simplified calculations based on monthly savings contributions equal to 5% of the reference person's monthly salary and interest rate of 1% per year. Please also refer to appendix C1 for the complete table.
[786] £ 550,000 – £ 415,000 = £ 135,000
[787] TCGA 1992, s 222(1). Also refer to para 4.3.3.2.
[788] Also refer to appendix C5, month 121.

Financial wealth (regular savings)	£	55,000	
SDLT payable	£	22,500	-/-
Financial wealth minus SDLT payment	**£**	**32,500**	

Value of the dwelling to be bought	£	650,000	
Down payment:			
- Remainder sale dwelling #1	£	323,218	-/-
- Financial wealth after taxes	£	32,500	-/-
Remaining (financing needed)	**£**	**294,282**	

The individual takes out a mortgage loan for the remaining amount of £ 294,282. The mortgage loan is a repayment mortgage, which can be classified as a type of annuity mortgage. The loan is repaid in 25 years. The following information can then be added to the analysis:

- Repayment mortgage
  - Amount: £ 294,282
  - Duration: 25 years
  - Interest rate: 5.21%
  - Gross monthly payment £ 1,756.54
    - Interest: £ 1,277.67 [789]
    - Monthly repayment: £ 478.87 [790]

Event 4b: Sale of the owner-occupied dwelling without purchasing another dwelling

An alternative option is to sell the owner-occupied dwelling, without purchasing a new one, and instead transfer to e.g., rented housing. The analysis would then become the following.

After 10 years, the owner-occupied dwelling is sold. Additional information regarding this event:

- Reference person aged 44
- Value of the dwelling to be sold £ 550,000, located in London
- No additional dwelling is bought after the sale of the first

The remaining mortgage is fully paid off with the proceeds from the sale of the property.

[789] Month 1, on the assumption that the entire mortgage is being repaid in 25 years. Also refer to appendix C6 for the complete table.
[790] Month 1, on the assumption that the entire mortgage is being repaid in 25 years. Also refer to appendix C6 for the complete table.

Based on the above-mentioned information, the following synopsis can be made:

Proceeds of the sale dwelling #1	£	550,000
Repayment of remaining mortgage dwelling #1	£	226,782
Remainder sale dwelling #1	**£**	**323,218**

The remaining amount of £ 323,218 is then added to the individual's financial wealth.

Event 5: Taking out a lump sum

Following event 4a, the reference person has decided to take out a lump sum to repay (part of) his/her mortgage.

Additional information regarding this event:

- Reference person age 57
- Pension assets
    - Workplace pension scheme: £ 140,000 [791]
- Remaining mortgage: £ 186,831.48 [792]

The reference person can take out a lump sum of £ 35,000 (25% of £ 140,000) tax-free. Let us assume this amount is used for repayment of the individual's mortgage loan. Extra payments can be done without a penalty; however, how much can be overpaid depends on the terms and conditions of the mortgage.[793] Let's assume the lump sum amount can be fully used for an extra repayment towards the individual's mortgage.

Based on the above-mentioned information, the following synopsis can be made:

Remaining mortgage	£	186,831.48	
Extra repayment	£	35,000.00	-/-
Remainder	**£**	**151,831.48**	

The following information can then be added to the analysis:

- Repayment mortgage
    - Remaining amount: £ 151,831.48

[791] Rounded numbers from simplified calculations based on 8% savings contributions (3% employer and 5% employee) and interest rate of 1% per year. Please also refer to Appendix C4 for the complete table.
[792] Month 157, on the assumption that the entire mortgage is being repaid in 25 years. Also refer to appendix C6 for the complete table.
[793] See e.g. Barclays, 'Overpayments and Underpayments Explained' <https://www.barclays.co.uk/mortgages/existing-customer-centre/overpayment-underpayment-explained/>.

- Remaining duration: 12 years
- Interest rate: 5.21%
- Gross monthly payment £ 1,420.32
  - Interest: £ 659.20 [794]
  - Monthly repayment: £ 761.12 [795]

Event 6: Retirement

The current State Pension age is equal to 66 years. The reference person retires and receives a (full) new State Pension. Furthermore, the individual has pension savings in a workplace pension scheme.

Depending on the continuation of his/her path following either event 4a or event 4b, the following information can be added to the analysis:

	Following event 4a		**Following event 4b**	
Pension savings	£	149,405	£	187,684
Lifetime ISA	£	160,918	£	160,918
Regular savings	£	182,153	£	652,928
Remaining mortgage	£	46,026	£	-

The options the individual has for taking the rest of his/her pension savings are the following:

- Taking all or some of it in cash[796]
- Buying a (financial) product that gives the individual a guaranteed income for life (i.e., an annuity)
- Investing it to get a regular, adjustable income – also known as flexi-access drawdown

The individual decides to buy an annuity, hence giving him/her a guaranteed income for life. Furthermore, he/she can withdraw funds from their Lifetime ISA as a lump sum without facing any penalties. Additionally, they are not liable to pay taxes on the withdrawn amount from the Lifetime ISA. The withdrawn amount can then be added to the individual's regular savings.

[794] Month 1, on the assumption that the remaining mortgage is being repaid in 12 years. Also refer to appendix C7 for the complete table.
[795] Month 1, on the assumption that the remaining mortgage is being repaid in 12 years. Also refer to appendix C7 for the complete table.
[796] Dependant on the continuation of event 4a or 4b, this is subject to income tax. Following event 4a, the individual has already taken out a 25% tax-free lump sum, hence the remainder is subject to income tax. Following event 4b, however, the individual has the possibility to take out a 25% tax-free lump sum.

Event 7: Death

At the age of 87 years, the individual dies. The heir is the individual's only child. Depending on the continuation of his/her path following either event 4a or event 4b, the following information can be added to the analysis:

	Following event 4a		Following event 4b	
Value of the dwelling	£	900,000	£	-
Regular savings	£	425,000	£	1,000,000
Total value of the estate	**£**	**1,325,000**	**£**	**1,000,000**

The framework for inheritance law in the UK is laid out in the Inheritance Tax Act 1984 (IHTA). The estate (i.e., property, money, and possessions) goes to his/her legal heirs. Relevant thresholds/bands regarding this event are presented in the table below.

Table 4.10: Overview of the relevant Inheritance Tax thresholds and bands for owner-occupier dwellings regarding this event

Threshold/Band	Description	Amount
Nil Rate Band (NRB)	The threshold below which no Inheritance Tax is levied on the estate.	£ 325,000
Residence Nil Rate Band (RNRB)	Additional tax-free allowance for owner-occupied dwellings passed to direct descendants.	£ 175,000

Furthermore, since the individual has taken out an annuity when retiring, the terms of the annuity contract will determine what happens upon their death. Some annuities provide for payments to continue to a surviving spouse or dependents, while others may cease upon the individual's death.

Depending on the continuation of his/her path following either event 4a or event 4b, the following information can be added to the analysis:

	Following event 4a		Following event 4b		
Total value of the estate	£	1,325,000	£	1,000,000	
Nil Rate Band	£	325,000	£	325,000	-/-
Residence Nil Rate Band	£	175,000	£	-	-/-
Taxable estate	**£**	**825,000**	**£**	**675,000**	

Since inheritance tax is typically charged at a flat rate of 40% on the portion of the estate that exceeds the available nil rate band and any applicable additional allowances, and depending on the continuation of the individual's path following either event 4a or event 4b, the following information can be added to the analysis:

	Following event 4a		Following event 4b	
40% inheritance tax over taxable estate	£	330,000	£	270,000

Based on the above-mentioned information, the following synopsis can be made:

	Following event 4a		Following event 4b		
Total value of the estate	£	1,325,000	£	1,000,000	
Inheritance tax payable	£	330,000	£	270,000	-/-
Inheritance after taxes	**£**	**995,000**	**£**	**730,000**	

Alternative: the individual dies before retirement

If the individual passes away before reaching their retirement age, their accumulated pension capital alongside an insured lump sum can be disbursed tax-free to their beneficiaries, up to the deceased's available lifetime allowance. This collective sum includes all pension schemes the individual was enrolled in, excluding the state pension.

4.5 Addressing sub-questions: towards a comprehensive understanding

This chapter explored the structure and functioning of both the pension system and the owner-occupier housing market in the United Kingdom. It addressed four key sub-questions, each of which is answered below.

Question 1: Which elements are characteristic of the pension system in the United Kingdom?

The pension system in the United Kingdom comprises a public pension, supplemented by occupational pensions and personal pensions. Key features include the relatively low basic State Pension, the gradual increase in the retirement age for claiming the State Pension, and the replacement of the two-tier system with the single-tier new State Pension based on individual contribution records. Like other countries, the UK relies on a pay-as-you-go public pension—the Basic State Pension and Additional State Pension for those retired before 6 April 2016, and the new State Pension for those retiring from 6 April 2016 onwards. However, this basic pension is relatively modest: the UK's replacement rate is just 31.9 per cent, compared to the OECD average of 58.8 per cent. Like other EU countries, the UK faces significant challenges in ensuring

pension adequacy, prompting the government to implement reforms that emphasise the role of employers.

Key characteristics include:

- The retirement age is gradually increasing and will reach 67 between 2026 and 2028. It will be reviewed at least once every five years, based on life expectancy and other factors.
- The two-tier system has been replaced with a single-tier new State Pension to ensure that entitlements are based on individuals' own contribution records, rather than those of a (former) spouse or civil partner.
- Unlike the Netherlands, occupational pensions are not mandatory for employers in the UK. However, automatic enrolment has been introduced to increase participation.
- Both defined benefit (DB) and defined contribution (DC) schemes are used, but DC schemes have become increasingly common, likely due to policy reforms and cost considerations for employers.
- There is no clear distinction between occupational and personal pensions, as both can be arranged through the workplace and are subject to the same annual and lifetime allowances.
- There is no special tax relief for retirees, although individuals no longer pay National Insurance Contributions once they reach the State Pension age.
- Both occupational and personal pensions are taxed under the EET model, within the limits of the annual and lifetime allowances.
- Up to 25% of pension assets can be withdrawn tax-free.
- Since April 2015, individuals with DC plans are no longer required to convert their pension into an annuity at age 75. The system now allows for a wide range of withdrawal options, depending on the products available and the size of the pension pot.
- Inheritance of pension savings is possible. If a person dies before retirement, the capital plus any insured lump sum may be transferred tax-free to heirs, within the lifetime allowance. If death occurs before age 75, most retirement savings can be passed on tax-free; after 75, they are taxed at the beneficiary's marginal rate.
- Early retirement is not possible under the State Pension. However, deferral is permitted and results in a higher pension upon claiming.

Question 2: Which elements are characteristic of the owner-occupied housing market in the United Kingdom?
The UK housing market has several distinctive features. In the absence of an official legal definition, the concept of "main residence" aligns closely with the commonly understood notion of "home." Owner-occupation is the dominant tenure form. Over half of these homes are financed through a mortgage or other loan.

House prices have generally increased since 1995, with only a temporary dip during the financial crisis. Rising prices are primarily attributed to supply shortages, prompting the UK government to introduce several measures aimed at stimulating housing construction and supporting first-time buyers. Another driver is the increased role of housing as a financial asset, particularly through buy-to-let investments. Property is increasingly seen as a reliable store of value, especially in comparison to traditional savings or investments. This trend has intensified challenges for would-be homeowners, who now tend to buy later in life than previous generations.

To address these problems, the UK government introduced demand-side measures targeting first-time buyers. The early stages of the COVID-19 pandemic led to a temporary downturn in housing activity. However, by the first half of 2021, price growth and transaction volumes had reached decade-high levels. This was partly due to policy measures such as the stamp duty holiday and mortgage guarantee scheme, but also reflected deeper structural shifts—such as increased household savings, greater demand for space due to remote work, and historically low interest rates.

Additional observations include:

- The UK government has introduced several tax and non-tax instruments to support homeownership.
- Stamp Duty Land Tax (SDLT) is a progressive tax levied on land transactions, with higher rates for second homes or non-primary residences.
    - First-time buyers are eligible for SDLT relief, provided specific conditions are met.
    - To mitigate COVID-19 impacts, the Stamp Duty Land Tax (Temporary Relief) Act 2020 temporarily reduced SDLT on residential purchases in England and Northern Ireland.
- Capital gains tax does not apply to the sale of a taxpayer's main residence, provided it qualifies for private residence relief.
- Council tax is levied by local authorities.
- Government-backed programmes such as the Affordable Home Ownership scheme, Support for Mortgage Interest, and the Lifetime ISA aim to support first-time buyers and low-income households.
- High-LTV mortgages (above 90%) are uncommon in the UK.
- Mortgage interest is not tax deductible.
- The Financial Policy Committee (FPC) oversees financial stability and has implemented macroprudential tools, including LTV, DTI, and LTI limits, along with affordability checks.
- Although mortgage debt burdens have risen somewhat since COVID-19, they remain below pre-2008 levels, and UK household finances are expected to remain resilient.

Question 3: How are retirement savings and real-estate purchases being combined in the United Kingdom?
While there is no formal system in the UK that integrates retirement savings and homeownership, several mechanisms allow individuals to use pension resources for housing purposes. One option is the 25% tax-free lump sum, which can be used without restriction. Individuals may choose to apply this amount toward a down payment or mortgage repayment, effectively reducing their housing debt and shortening their balance sheet.

In addition, the Lifetime Individual Savings Account (Lifetime ISA) enables individuals aged 18 to 50 to save for both retirement and first-time homeownership. Participants can contribute up to £4,000 annually and receive a 25% government bonus (up to £1,000 per year). Contributions stop at age 50, but the account continues to grow through interest or investment returns. Withdrawals are permitted for first-time home purchases (under £450,000), at age 60 or above for retirement, or in the event of terminal illness. Withdrawals for other purposes are subject to a 25% penalty. Two individuals may combine their Lifetime ISAs when buying a home, provided they meet the eligibility criteria.

Question 4: What role do taxes play herein?
Examining various aspects can shed light on how taxes influence the relationship between retirement savings and real estate purchases in the United Kingdom.

First, individuals in the UK can access a portion of their pension funds as a lump sum, with 25% of it being tax-free. This tax-free component incentivises the use of pension assets, and although it is not explicitly regulated for real estate use, it allows individuals to strengthen their capital position – either by increasing their own contribution when purchasing a home or by reducing existing mortgage liabilities.

Second, the Lifetime ISA serves as a vehicle for saving toward both the first owner-occupied dwelling and retirement. It offers a 25% government bonus on contributions, acting as a strong incentive for individuals to save. Withdrawals for purposes other than a first home purchase or retirement are subject to a 25% penalty, which reinforces its intended uses. These features serve as fiscal nudging instruments, shaping individual behaviour. While there is no formal or direct integration between retirement and housing finance, tax design strongly encourages savings for both purposes. If individuals are unable to use their Lifetime ISA savings for home acquisition, the funds remain available for retirement, preserving long-term savings objectives.

Finally, pension savings more broadly benefit from tax incentives, such as the EET system and the 25% tax-free lump sum, which further encourage the accumulation of resources for both retirement and, potentially, for housing-related use.

These tax incentives collectively promote the allocation of household savings toward retirement and homeownership, contributing to greater financial security in later life and supporting access to the owner-occupied housing market.

Concluding reflection

This chapter examined two domains: the pension system and the owner-occupier housing market in the United Kingdom, addressing four fundamental research questions. It began by outlining the structure of the UK's pension system, comprising public, occupational, and personal components. It also described the characteristics of the owner-occupied housing market, including government interventions, tax measures, and regulatory oversight. Furthermore, it illustrated how retirement savings and real estate purchases interact through mechanisms such as lump sum withdrawals and the Lifetime ISA. The analysis of taxes underscored their role in shaping behaviour through both incentives and disincentives. Overall, the chapter highlighted the interconnectedness of pension savings, housing finance, and fiscal policy – and how these factors collectively shape the financial decisions and balance sheets of households in the United Kingdom.

5. Switzerland

5.1 Introduction

Over the centuries, Switzerland developed from a collection of alliances to a confederation of states to the federal state it is today. In 1815, the Swiss national borders and neutrality were established and recognised internationally. Switzerland, also referred to as the *Swiss Confederation*, has been a federal state since 1848. It consists of 26 cantons – also known as "states". The 26 cantons are divided into communes. State power is divided between the federal government, the cantons, and the communes.[797]

Switzerland has a surface of 41,291 square kilometres and more than 8.5 million inhabitants and no less than four national languages.[798] GDP per capita is equal to € 76,478.29 – more than twice as much as the average GDP per capita in the EU and the highest in this study. At the same time, its price level is also significantly higher than in the other countries included in this study. Table 5.1 shows these – and other – key economic indicators for Switzerland compared to the EU average (2019 numbers, unless stated otherwise).

Table 5.1: Key economic indicators for Switzerland and the EU (year: 2019, unless stated otherwise)[799]

	Switzerland	**EU**
People & society		
Surface (km2) [a]	41,291	4,214,996
Population (as of 1 January)	8,544,527	446,824,564
Old age dependency ratio [b]	30.0	34.1
Life expectancy at birth	83.8	81.0
Tertiary educational attainment [c]	44.4%	31.6%
Employment rate [d]	82.9%	73.1%
Economy & business		
GDP (millions) [e]	€ 653,470.80	€ 13,963,560.90

[797] Swiss Federal Chancellery, The Swiss Confederation: A Brief Guide (42nd edn, Federal Chancellery, Communication Support 2020) <https://www.bk.admin.ch/bk/en/home/dokumentation/the-swiss-confederation--a-brief-guide.html> accessed 10 December 2020, 10, 13.
[798] Swiss Federal Chancellery, The Swiss Confederation: A Brief Guide (42nd edn, Federal Chancellery, Communication Support 2020) <https://www.bk.admin.ch/bk/en/home/dokumentation/the-swiss-confederation--a-brief-guide.html> accessed 10 December 2020, 8.
[799] Eurostat (2020) – Databases: DEMO_R_D3AREA, DEMO_GIND, DEMO_PJANIND, DEMO_MLEXPEC, EDAT_LFSE, LFSA_ERGAN, NAMA_10_GDP, NAMA_10_PC, PRC_HICP_AIND, PRC_PPP_IND.

	Switzerland	EU
GDP per capita	€ 76,478.29	€ 31,250.66
Inflation (2015 = 100) [f]	101.41	105.04
Price level [g]	170.3	100

[a] Surface area in square kilometres (year = 2015)
[b] Number of persons aged 65 or older per 100 persons aged between 20 and 64.
[c] People with tertiary educational attainment as % of the population aged 25 to 64.
[d] Percentage of people employed in the age group from 20 to 64 years.
[e] In Millions of euros at current prices.
[f] Annual average index, with 2015 as the base year.
[g] Total prices in Switzerland are 70.3% higher than the EU27 average.

While all but one (Liechtenstein) of Switzerland's neighbours are EU member states, Switzerland is not a member state of the European Union. However, the EU is Switzerland's main trading partner and Switzerland is the EU's fourth trading partner (after the USA, China, and the UK). The trade relations between Switzerland and the EU are governed through a series of bilateral treaties in which Switzerland has agreed to adopt certain aspects of EU legislation in exchange for access to the EU's single market, without joining as a member state.[800]

5.1.1 Taxation in Switzerland

As said before, Switzerland consists of 26 cantons, which are divided into communes. Furthermore, state power is divided between the federal government, the cantons, and the communes.[801] The Swiss tax system reflects the federal state structure as the Confederation, the 26 cantons and approximately 2.150 communes, all levy taxes based on their own legislation. While the cantons have the original authority to levy taxes, the Confederation has the sovereign powers granted to it by the Swiss Federal Constitution (*Bundesverfassung der Schweizerischen Eidgenossenschaft* (hereafter: *BV*)), and the extent of the communes' autonomy is determined by cantonal law. Hence, in addition to the federal government, each canton has its own tax law. Within the framework of their autonomy and the harmonisation requirements for direct taxes, the cantons can levy taxes on income, assets, inheritances, capital gains, and real estate gains differently. The communes are authorized either to decide on surcharges as part of the basic cantonal tariffs or the cantonal tax owed, or to levy municipal taxes according to their own tariff. In addition, the federal government also taxes income, although it obtains most of its fiscal revenue from other sources, such as VAT, withholding tax, stamp duties and special consumption taxes. However, the right of each of these bodies to levy taxes is restricted by the

[800] European Commission, 'Switzerland' (Trade Policy, Countries and Regions, n.d.) <https://ec.europa.eu/trade/policy/countries-and-regions/countries/switzerland/> accessed 10 December 2020.
[801] Swiss Federal Chancellery, The Swiss Confederation: A Brief Guide (42nd edn, Federal Chancellery, Communication Support 2020) <https://www.bk.admin.ch/bk/en/home/dokumentation/the-swiss-confederation--a-brief-guide.html> accessed 10 December 2020, 10, 13.

BV. The aim is to distribute fiscal sovereignty in such a way that, on the one hand, the three bodies do not interfere with one another, and, on the other hand, taxpayers are not burdened with an excessive overall tax burden. The Swiss Confederation may only levy those taxes that the *BV* explicitly authorizes to levy. The cantons are "sovereign insofar as their sovereignty is not restricted by the Federal Constitution; they exercise all rights not vested in the Confederation"[802]. Therefore, they are fundamentally free to levy taxes unless the *BV* explicitly prohibits the collection of certain taxes by the cantons. The communes may only levy taxes within the scope of the authorization granted to them by their canton.[803]

Regarding the structure of tax sovereignty, Swiss tax law must adhere to several principles enshrined in the *BV*. These principles are the following:

- The principle of legal equality[804]
- The principle of economic freedom[805]
- The principle of property[806]
- The principle of freedom of belief and conscience[807]
- Prohibition of intercantonal double taxation[808]
- Prohibition of unjustified tax advantages[809]

In fulfilment of a constitutional mandate adopted in 1977 to harmonize taxes on income and wealth, and on profit and capital[810], parliament passed the federal law *Harmonisierung der direkten Steuern der Kantone und Gemeinden (StHG)* on December 14, 1990. The StHG is a framework law, meaning that it is aimed at the cantonal and communal legislators and stipulates the principles according to which they have to design their tax code with regard to tax liability, object and timing, procedural law and criminal tax law. Tax tariffs, tax rates, and tax-free amounts remain a matter for the cantons.[811]

The rest of this chapter explores Switzerland's financial landscape, specifically its pension system and the owner-occupier housing market. It aims to answer the following questions:

1. Which elements are characteristic of the pension system in Switzerland?

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[802] art 3 BV.
[803] Eidgenössische Steuerverwaltung (ESTV), Handänderungssteuer (D Einzelne Steuern, November 2022) 6–8; ESTV, Das Schweizer Steuersystem (Bern, Bundesamt für Bauten und Logistik 2021) 6–8.
[804] art 8 BV.
[805] arts 27 and 94–107 BV.
[806] art 26 BV.
[807] art 15 BV.
[808] art 127(3) BV.
[809] art 129(3) BV.
[810] See art 129 BV.
[811] arts 129(2) BV and 1(3) StHG.

2. Which elements are characteristic of the owner-occupier housing market in Switzerland?
3. How are retirement savings and real-estate purchases being combined in Switzerland?
4. What role do taxes play herein?

To answer these questions, the following paragraphs each delve into one of the topics. Beginning with an exploration of the Swiss pension system (paragraph 5.2), analysing its three pillars – public-, occupational-, and personal pensions. Additionally, it examines taxation, social security contributions, and the ramifications of freedom of choice in retirement and pension savings. Transitioning to the discussion of the Swiss owner-occupier housing market (paragraph 5.3), this paragraph sheds light on the relatively low homeownership rate in Switzerland. It defines the concept of the main residence, scrutinizes taxation and tax facilities associated with homeownership, and investigates the Swiss mortgage market. A central theme of this chapter is the interplay between retirement savings and real estate ownership (paragraph 5.4). Within this paragraph, a numerical example is presented to demonstrate how principles such as the early withdrawal of pension assets manifest in practice. Finally, the chapter ends with addressing the questions outlined above (paragraph 5.5), by offering a synopsis of the findings and implications from the previous paragraphs.

5.2 The Swiss pension system

5.2.1 Introduction

The Swiss pension system can also be divided into three pillars. The figure below represents the three pillars of retirement provision in Switzerland.

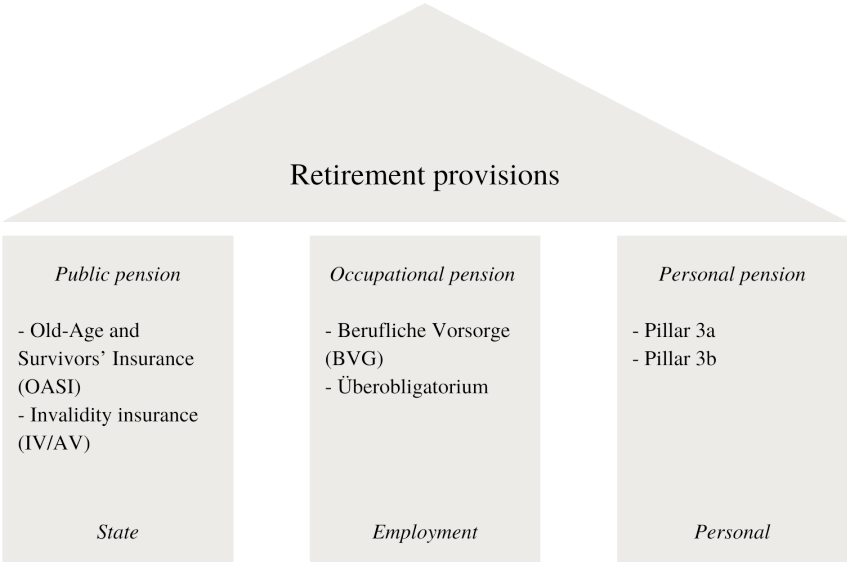

Figure 5.1: The three pillars of retirement provision in Switzerland

The first pillar consists of the basic state pension, the second contains the occupational pension insurance and the third pillar includes individual (private) pension provisions. Although the Swiss pension system appears very similar as the Dutch, German or the British at first sight, the pillars themselves are defined slightly different.

The following paragraphs explain the different retirement provisions in greater depth.

5.2.2 Public pensions

5.2.2.1 Old-age and survivors' insurance (AHV) and disability insurance (IV)

First pillar pension is also in Switzerland provided by the state. And equally it concerns a basic provision to prevent old-age poverty by providing for the basic costs of living.[812] Swiss first pillar pension consists of an old-age and survivors' insurance – *Alters- und Hinterlassenenversicherung* (AHV) – a disability insurance – *Invalidenversicherung* (IV) – and supplementary charges for situations where one's pension and other income does not cover the basic costs of living. These additional allowances depend on both a person's income as well as their assets. The AHV and IV are compulsory insurances for everyone living or working in Switzerland above the age of 17.[813] The retirement age is currently 65 for men and 64 for women. Unlike in the Netherlands,

[812] art 112 BV.

[813] Treaties with other countries may provide for divergent rules in individual cases. However, to go into further detail about this goes beyond the scope of this research.

the amount of the pension benefit depends on a person's average lifetime earnings. These average lifetime earnings depend on the number of years one made contributions as well as the person's average income from the age of 20 until reaching the retirement age.[814] There are three ways to meet one's obligation to pay contributions[815]:

- The payment of one's own contributions
- Contributions of their spouse[816]
- Parental credits and care credits[817]

In 2023, the pension benefit was between CHF 1,225 (approximately € 1,250) and CHF 2,450 (approximately € 2,500) per month. The exact amount depends on the taxpayer's last relevant income.[818] If contributions have not always been paid during one's entire working period, the benefit can be (partially) reduced.[819] Income earned during marriage is added up and divided 50/50 between both spouses. Parental and care credits are also divided 50/50 between the two.[820] In order to receive a full pension, men are required to contribute for 44 years and women for 43 years.[821]

Like in the Netherlands, the first pillar is financed by means of a pay-as-you-go system.[822] A fixed premium of 8.7% is levied on the income from work. Half of this is paid by the employer. The other half is borne by the employee and is deducted directly from his salary and paid by the employer.[823] These contributions finance about three quarters of all AHV/IV income. The remaining quarter is financed from three other sources[824]:

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[814] OECD, Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: Switzerland (OECD Publishing 2019), 1.
[815] Federal Social Insurance Office (FSIO), *Switzerland's Old-Age Insurance System: A Tried-and-Tested System* (FSIO 2020) <https://www.bsv.admin.ch/bsv/en/home/social-insurance/ahv.html> 20.
[816] These must amount to at least twice the minimum contribution.
[817] Parental credits are granted for every year you look after children under the age of 16. Care credits are granted for years spent caring for close relatives. For more information see also Federal Social Insurance Office (FSIO), *Switzerland's Old-Age Insurance System: A Tried-and-Tested System* (FSIO 2020) <https://www.bsv.admin.ch/bsv/en/home/social-insurance/ahv.html> 20.
[818] R M Cadosch, 'Switzerland – Individual Taxation', Country Tax Guides (IBFD, sec 3) <https://research.ibfd.org/#/doc?url=/document/ita_ch_s_3> accessed 28 June 2023.
[819] Federal Social Insurance Office (FSIO), *Switzerland's Old-Age Insurance System: A Tried-and-Tested System* (FSIO 2020) <https://www.bsv.admin.ch/bsv/en/home/social-insurance/ahv.html> 20.
[820] Federal Social Insurance Office (FSIO), *Switzerland's Old-Age Insurance System: A Tried-and-Tested System* (FSIO 2020) <https://www.bsv.admin.ch/bsv/en/home/social-insurance/ahv.html> 21.
[821] OECD, Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: Switzerland (OECD Publishing 2019), 1.
[822] Centraal Planbureau (CPB), *Keuzevrijheid in de uitkeringsfase: internationale ervaringen* (CPB Achtergronddocument, Den Haag, 10 July 2018) 22.
[823] R M Cadosch, 'Switzerland – Individual Taxation', Country Tax Guides (IBFD, sec 3) <https://research.ibfd.org/#/doc?url=/document/ita_ch_s_3> accessed 28 June 2023; Federal Social Insurance Office (FSIO), *Switzerland's Old-Age Insurance System: A Tried-and-Tested System* (FSIO 2020) <https://www.bsv.admin.ch/bsv/en/home/social-insurance/ahv.html> 16.
[824] Federal Social Insurance Office (FSIO), *Switzerland's Old-Age Insurance System: A Tried-and-Tested System* (FSIO 2020) <https://www.bsv.admin.ch/bsv/en/home/social-insurance/ahv.html> 22.

- Federal subsidy – funded through proceeds from alcohol and tobacco taxes and other general funds.
- VAT – the VAT was raised by one percentage point in 1999, AHV/IV receive 100% of this increase.
- Tax on gambling – AHV/IV receives 100% of the proceeds.

The Swiss first pillar offers the possibility to retire at an earlier age than the state pension age. Men can do this from the age of 63, women from 62. In the event of early retirement, the pension benefit is reduced by 6.8% for each year of claiming the retirement benefit early.[825] Postponement is also possible; the state pension can be postponed for a maximum of five years. If this is chosen, the benefit will be increased. This increase can amount to 31.5% with a five-year delay.[826]

Referendum of 25 September 2022

On September 25, 2022, the Swiss electorate voted on the additional financing of AHV by amending the VAT increase and the Federal Law on *Alters- und Hinterlassenenversicherung* (AHV) (AHV 21). Additional funding is needed because AHV's financial stability is at risk as baby boomers reach the retirement age and life expectancy rises at the same time. In a few years' time, AHV's (current) income will no longer be sufficient to finance all pension payments. The reform to stabilize AHV (AHV 21) is intended to guarantee AHV pensions for the next ten years. It provides both savings and additional income. From now on, a uniform retirement age of 65 applies to both women and men. The retirement age for women is gradually being raised from 64 to 65 years. This increase will be compensated by compensatory measures: if the reform takes effect in 2024 as planned, women born between 1961 and 1969 can take early retirement under better conditions or receive a higher AHV pension if they continue to work until the age of 65. Additional income will come from an increase in VAT. The reduced tax rate will be increased from 2.5 to 2.6 percent, the standard rate from 7.7 to 8.1 percent. The reform also brings more flexibility. It will be possible to opt for a transition to retirement between the ages of 63 and 70 and to gradually reduce the number of (working) hours while claiming a partial pension. Those who continue to work after reaching the age of 65 can, in certain cases, close contributions gaps and thus increase their pension. This in turn creates an incentive to work longer.[827]

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[825] OECD, Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: Switzerland (OECD Publishing 2019), 2.
[826] Federal Social Insurance Office (FSIO), *Switzerland's Old-Age Insurance System: A Tried-and-Tested System* (FSIO 2020) <https://www.bsv.admin.ch/bsv/en/home/social-insurance/ahv.html> 17; OECD, *Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: Switzerland* (OECD Publishing 2019), 3.
[827] Ch.ch, 'Old-Age and Survivors' Insurance (OASI) Reform' (25 September 2022) <https://www.ch.ch/en/popular-vote-on-25-september-2022/#old-age-and-survivors-insurance-oasi-reform>.

5.2.2.2 Means-tested benefits

Supplementary benefits are granted in addition to old age and survivors' benefits (AHV) and disability benefits (IV) when an individual does not have sufficient income to meet his/her basic needs. An income-related allowance is paid if income-related benefits and other sources of income are insufficient to cover basic living expenses. The amount of these additional allowances corresponds to the difference between the "recognised expenses" and the income (total of benefits, salary, return on assets, etc.). The supplementary allowances therefore depend on both a person's income and assets.[828]

5.2.3 Occupational pensions

The Swiss second pension pillar consists of occupational pension insurance through the employer. The mandatory insurance was introduced in 1985, with the *Bundesgesetz über die berufliche Alters-, Hinterlassenen- und Invalidenvorsorge (BVG)* and aims to enable employees to maintain their standard of living after retirement.

This pillar is funded through a capital system and is built around "defined credits", where every person has their own individual pension account.[829] Furthermore, the pillar is divided into a mandatory part – the *Berufliche Vorsorge*[830] – and a voluntary part – the *Überobligatorium*[831].

Employees who are insured under the first pillar and who receive an annual salary of more than CHF 22,050 from an employer[832], are subject to compulsory insurance for the risk of death and disability from January 1 after reaching the age of 17, and also for old age from January 1 after reaching the age of 24.[833] The part of the annual salary from CHF 25,725 to CHF 88,200 must be insured. This part is called the "coordinated" salary.[834] In doing so, the second pillar builds on the first pillar by taking those benefits into account. The coordinated salary corresponds to an employee's annual salary minus the coordination deduction. The coordination deduction amounts to CHF 25,725 (the lower bound of the annual salary that must be insured), and the coordinated salary must be at least CHF 3,675. If the coordinated salary is less than CHF 3,675 per year, it must be rounded up to this amount.[835] The highest coordinated salary under the mandatory occupational insurance is thus equal to CHF 62,475 (CHF 88,200 minus CHF 25,725).[836] The defined credits are calculated annually as a percentage of the coordinated salary.

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[828] OECD, 'Pensions at a Glance 2021: Country Profile – Switzerland' (OECD Publishing 2021), 2.
[829] OECD, Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: Switzerland (OECD Publishing 2019), 1.
[830] arts 2 and 3 BVG.
[831] art 4 BVG.
[832] The entry threshold must be earned with one employer for the insurance to be mandatory.
[833] art 7(1) BVG.
[834] art 8(1) BVG.
[835] art 8(2) BVG.
[836] Figures for 2023

Table 5.2 provides an overview of these percentages.[837] Pension funds can also insure employees with incomes outside of the bandwidth. These cases are referred to as non-mandatory occupational insurance.[838]

Table 5.2: BVG rates (2023) [839]

Age		Percentage of the coordinated salary
Men	***Women***	
25-34	25-34	7%
35-44	35-44	10%
45-54	45-54	15%
55-65	55-64	18%

The mandatory part – the *Berufliche Vorsorge* – corresponds to a pension accrual equal to a statutory minimum. In addition, voluntary pension can be accrued through the *Überobligatorium* on an income above CHF 88,200. As a result, most pensioners also receive a benefit from the voluntary *Überobligatorium*.[840]

The premium increases with age and is equal to a percentage of the coordinated salary. The value of accumulated defined credits depends on the interest rate applied to the contributions of previous years. At least half of the contribution is paid by the employer, though many employers pay a higher proportion.[841] The supplementary pension is thus part of the terms of employment and is an important component in attracting skilled employees.

Value transfer of pension capital is possible between all funds. There is even a legal obligation to transfer pension capital in the event of dismissal or change of employer. If an employee changes employer, the accrued pension capital is automatically transferred to the pension provider of the new employer. In the event of unemployment or a switch to self-employment, the accrued pension capital is transferred to a public institution and further managed there.[842]

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[837] art 16 BVG.
[838] Ch.ch, 'How Do I Manage My Retirement Provision?' <https://www.ch.ch/en/manage-retirement-provision/> accessed 17 November 2020; Federal Social Insurance Office (FSIO), 'Meaning and Objectives of Occupational Pension Funds' <https://www.bsv.admin.ch/bsv/en/home/social-insurance/bv/grundlagen-und-gesetze/grundlagen/sinn-und-zweck.html> accessed 17 November 2020.
[839] art 16 BVG.
[840] Federal Social Insurance Office (FSIO), *Switzerland's Old-Age Insurance System: A Tried-and-Tested System* (FSIO 2020) <https://www.bsv.admin.ch/bsv/en/home/social-insurance/ahv.html> 23–26; OECD, *Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: Switzerland* (OECD Publishing 2019), 2.
[841] Federal Social Insurance Office (FSIO), *Switzerland's Old-Age Insurance System: A Tried-and-Tested System* (FSIO 2020) <https://www.bsv.admin.ch/bsv/en/home/social-insurance/ahv.html> 25, 27; OECD, *Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: Switzerland* (OECD Publishing 2019), 1–2.
[842] Federal Social Insurance Office (FSIO), *Switzerland's Old-Age Insurance System: A Tried-and-Tested System* (FSIO 2020) <https://www.bsv.admin.ch/bsv/en/home/social-insurance/ahv.html> 26.

It is also possible to retire earlier in the second pillar. This is possible from the age of 58. Pension funds determine the terms for early retirement. As a general rule, the pension benefit is reduced by 0.15 to 0.2 percentage points for each year of early retirement. When one retires early, there is also a loss of contributions and credits. All in all, the (theoretical) benefit is 6.8% lower per year of early retirement. Postponement is also possible. The supplementary pension can be deferred for a maximum of five years, up to a maximum age of 70 years. Even in case of a delay, it is the pension funds who define the conditions. As a general rule here, the benefit is increased by 0.2 percentage point for each year of deferral for the ages of 66 and 67 and by 0.25 percentage points for the ages 68 to 70. With late retirement one makes extra contributions, including these, the theoretical benefit is 7.1% higher per year of late retirement.[843]

5.2.4 Personal pensions

The third pension pillar consist of private pensions. The Swiss know a voluntary, individual pension accrual, which is fully privately financed and provides a "nice to have" piggy bank for old age. The third pillar is divided into a regulated (3a) tax-favoured scheme and an unregulated (3b) scheme without preferential tax treatment. Each of them will be treated in turn below.

5.2.4.1 Pillar 3a

The 3a pillar is only accessible to a limited group. It consists of private pension schemes for persons with an income. No distinction is made here between the employed and self-employed. As soon as someone has an income, one can take out a pension product in the 3a pillar with a bank or an insurance company. Contributions are saved in a bank account or paid into a specific insurance policy from which no withdrawals are permitted. Benefits are subject to income tax. Contributions paid can be deducted from one's taxable income. Accumulated savings are exempt from wealth tax, and interest and capital gains are exempt from income taxation.[844]

Within the 3a pillar, a distinction is made between people without a supplementary (occupational) pension scheme, such as the self-employed, and people with a supplementary pension scheme via the employer. Anyone without a supplementary scheme is allowed to invest a higher amount than a person who is also already investing in a supplementary scheme. The maximum amount that can be invested, is set each year by the Swiss Federal Social Insurance Office and published on its website. In 2020, employees with a supplementary pension scheme can invest up to CHF 6,826. For self-employed persons without a supplementary pension scheme, this is a maximum of 20% of the annual income, up to a maximum of CHF 34,128.[845]

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[843] OECD, *Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: Switzerland* (OECD Publishing 2019), 3.
[844] Ch.ch, 'The 3rd Pillar – Private Pension Plans' <https://www.ch.ch/en/3rd-pillar/>
accessed 16 November 2020; OECD, *Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: Switzerland* (OECD Publishing 2019), 2.
[845] Ch.ch, 'The 3rd Pillar – Private Pension Plans' <https://www.ch.ch/en/3rd-pillar/>

5.2.4.2 Pillar 3b

Unlike with the 3a pillar, the private pension schemes in the 3b pillar are accessible to everyone and there is no limit as to how much contributions can be deposited into the scheme. However, there is also no preferential tax treatment.[846]

5.2.4.3 Withdrawal of funds

Upon retirement, one is obliged to withdraw the accrued pension capital. Generally, accumulated savings within the 3a pillar can be withdrawn at most five years before the official retirement age. Earlier withdrawals are possible on the condition that the money is used to finance home ownership or repayment of a mortgage, when people (permanently) emigrate abroad, or to set up their own business. Money can also be withdrawn if one is unable to work and receives full disability benefits.[847] If one continues working after the official retirement age, it is also possible to continue to contribute into the scheme and/or postpone the withdrawal up to five years after reaching the official retirement age. No special conditions apply to private pension funds in the 3b pillar. If pension money from the third pillar is withdrawn before the official retirement age, it is taxed separately from other income and at a considerably lower rate.[848]

5.2.5 Interactions between the three pillars

The previous paragraphs show that the three pension pillars in Switzerland also interact with one another. Occupational pensions from the second pillar are seen as supplementary to the public pension from the first pillar. Furthermore, the second pillar takes the first pillar into account in defining its aspiration level. Hence, occupational pension insurance covers only part of an individual's total income. This is called the "coordinated" salary. It corresponds to a person's annual salary minus the coordination deduction. The third pillar is mostly seen as a "nice to have" for old age. However, pension accrual in the third pillar takes the second into account. In particular pillar 3a, which distinguishes between individuals with and without a supplementary pension scheme from the second pillar. Those without a supplementary scheme can invest a higher amount in the 3a pillar (against tax favourable conditions).

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accessed 16 November 2020; Federal Social Insurance Office (FSIO), *Switzerland's Old-Age Insurance System: A Tried-and-Tested System* (FSIO 2020) <https://www.bsv.admin.ch/bsv/en/home/social-insurance/ahv.html> 31.

[846] M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 100261, 3.

[847] Ch.ch, 'The 3rd Pillar – Private Pension Plans' <https://www.ch.ch/en/3rd-pillar/> accessed 16 November 2020; M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 100261, 3; OECD, *Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: Switzerland* (OECD Publishing 2019), 2.

[848] Ch.ch, 'The 3rd Pillar – Private Pension Plans' <https://www.ch.ch/en/3rd-pillar/> accessed 16 November 2020.

5.2.6 Taxation and social security contributions

Switzerland has no special relief for retirees. Pension income is thus taxed regularly. However, like in the Netherland and the UK, social security contributions are not levied on pension income. Pensioners do still pay premiums for the mandatory health insurance scheme. Once retired, one often receives an additional allowance from the canton you live in, but there is no additional allowance in the Swiss Federal income tax.[849]

Old-age and survivors' insurance (AHV), Invalidity insurance (IV/AV) and occupational pensions (BVG) must be declared as income and are (in most cases) fully liable to taxation. Supplementary benefits to AHV and IV are exempt from taxation, while payments of capital into occupational and private pension schemes are taxed at a special rate.[850]

The tax treatment of private pension provisions (the third pillar) is generally expressed as exempt, exempt, taxed (EET). Contributions paid into a 3a pension scheme are exempt from taxation and can be deducted from one's taxable income. Accumulated savings are exempt from wealth tax, and interest and capital gains are exempt from income taxation. Benefits, however, are subject to income tax.[851] The 3b pillar knows no preferential tax treatment.[852] If a person withdraws pension money from the third pillar before the official retirement age, the withdrawal is taxed separately from one's other income and at a considerably lower rate.[853]

5.2.7 Freedom of Choice

As said before, it is possible to retire earlier or later in Switzerland. Furthermore, participants in the second pillar are completely free to choose how they use their accrued pension capital. When a person retires, they can choose between a full lump sum, a full annuity or a combination of the two. The individual's pension assets are converted into an annuity by using the conversion rate, which specifies what percentage of the assets equates to the annual pension benefit provided by the pension fund. With the mandatory occupational pension insurance, the conversion rate is fixed by law. Pension funds are free to set the conversion rate for non-mandatory occupational pension insurance. However, the pension funds are not allowed to apply a lower conversion rate than the one set by law for the mandatory occupational pension insurance. This conversion rate is therefore referred to as the minimum conversion rate. In 2020,

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[849] OECD, *Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: Switzerland* (OECD Publishing 2019), 4.
[850] Ch.ch, 'Paying Tax on Pension Income' <https://www.ch.ch/en/tax-pension-income/> accessed 19 November 2020.
[851] OECD, *Pensions at a Glance 2019: OECD and G20 Indicators – Country Profile: Switzerland* (OECD Publishing 2019), 2; Ch.ch, 'The 3rd Pillar – Private Pension Plans' <https://www.ch.ch/en/3rd-pillar/> accessed 16 November 2020.
[852] M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 100261, 3.
[853] Ch.ch, 'The 3rd Pillar – Private Pension Plans' <https://www.ch.ch/en/3rd-pillar/> accessed 16 November 2020.

the minimum conversion rate is equal to 6.8% of the pension assets. By determining the conversion rate for non-mandatory occupational pension insurance, pension funds take life expectancy into account. The higher the insured person's life expectancy, the lower the conversion rate – since the accumulated pension capital has to last for a person's entire life. The conversion rate also depends on the return the pension fund expects to make on the remaining capital.[854]

Research shows that the majority of the participants opt for one of the extremes: either 100% annuity or 100% lump sum. As many as 44.6% opt for a full annuity and even 49.4% for a full lump sum; the remaining 6% opt for a combination of the two. The choice also differs per income. This is partly due to the fact that (the level of) the pension in the first pillar is income and asset dependent. Resulting in low incomes mainly opting for the lump sum, while for high incomes - with a fairly large pension capital in the second pillar - the annuity strategy usually turns out to be more attractive. The desire for a predictable and fairly flat consumption pattern and insurance against longevity risk outweighs the incentive to quickly consume pension assets in order to subsequently be able to appeal to the income and asset-related supplements.[855]

5.2.7.1 Early withdrawal of pension assets

Early withdrawal of pension assets increases equity, which makes owning a house possible with less capital. As a result of the increase in equity, it also reduces interest costs and serves as a substitute for other forms of equity in relation to down payments. Pension assets can thus alleviate liquidity constraints.

Since 1995, it is possible in Switzerland to withdraw pension wealth accumulated in the second- and third pension pillar for the purchase of the owner-occupied dwelling.[856] This should facilitate the acquisition of the owner-occupied dwelling even for households with little wealth (i.e., non-pension). However, this policy never targeted low-income households specifically. It rather aims to alleviate liquidity constraints of many potential beneficiaries, in particular young households, whose savings outside the second pension pillar are insufficient to meet down payment requirements.[857]

Advance withdrawal of pension assets for homeownership is possible from both the second and third pension pillar. Each of these options will be treated in more detail below.

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[854] Federal Social Insurance Office (FSIO), *Switzerland's Old-Age Insurance System: A Tried-and-Tested System* (FSIO 2020) <https://www.bsv.admin.ch/bsv/en/home/social-insurance/ahv.html> 26, 28.
[855] M Bütler, K Peijnenburg and R Staubli, 'How Do Means-Tested Benefits Reduce the Demand for Annuities?' (2017) 16 *Journal of Pension Economics & Finance* 419, 431–441 <https://doi.org/10.1017/S1474747216000081>.
[856] This is regulated in the Bundesgesetz über die berufliche Alters-, Hinterlassenen- und Invalidenvorsorge (BVG) and the Verordnung über die Wohneigentumsförderung mit Mitteln der beruflichen Vorsorge (WEFV).
[857] M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 100261, 3.

Early withdrawal from the second pension pillar

It is possible to use second pillar pension assets before the retirement date to buy a house, pay off a mortgage, or acquire shares in a housing cooperative.[858] However, it is subject to several restrictions[859]:

- The property must be the main residence.[860]
- The minimum amount for an advance withdrawal is CHF 20,000 (± € 18,000).[861]
- Advance withdrawals are possible up to three years before retirement.[862]
- Up to the age of 50, the total amount of pension assets can be fully withdrawn.[863]
- After the age of 50, only part of the pension assets can be withdrawn. The maximum amount is equal to the higher amount of either[864]:
    - The accumulated wealth at age 50 (plus repayments made after the age of 50, minus the amount used for homeownership (both advance withdrawals and pledged deposits)); or
    - Half of their current accumulated pension wealth.
- It is possible to apply for an advance withdrawal once every five years.[865]
- If the individual is married or lives in a registered partnership, the consent of the spouse or partner is needed.[866]
- If the property is sold, the withdrawal must – under certain conditions – be repaid.[867]

Upon request, an individual can receive an application form for an advance withdrawal of pension assets for the purchase of the own dwelling from the pension provider. The applicant must provide supporting documents that the home is indeed intended for personal use (qualifies as a main residence). Furthermore, the applicant never "sees" the withdrawal because the pension provider transfers the money from the individual's pension account directly to either the seller or developer of the property or the loan provider.[868] The aim of this is to prevent usage of the advance withdrawal for other purposes than home ownership.

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[858] art 1(1) WEFV; art 331e(3) OR.
[859] art 30c BVG; M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 100261, 4; Ch.ch, 'Vorzeitige Auszahlung der 2. Säule' <https://www.ch.ch/de/pensionierung/altersvorsorge/2-saule--pensionskasse-/#vorzeitige-auszahlung-der-2-saule> accessed 11 July 2023.
[860] art 30c(1) BVG.
[861] art 5(1) WEFV.
[862] art 30c(1) BVG; art 331e(1) OR.
[863] art 30c(2) BVG.
[864] art 30c(2) BVG; art 331e(2) OR; art 5(4) WEFV.
[865] art 5(3) WEFV.
[866] art 30c(5) BVG.
[867] art 30d BVG.
[868] art 6(2) WEFV.

In accordance with article 38 *Bundesgesetz über die direkte Bundessteuer* (DBG), the advance withdrawal is subject to a one-off capital withdrawal tax (*Kapitalauszahlungssteuer*) upon pay-out. The tax is calculated at one fifth of the (regular) rates in accordance with article 36 DBG and is set for the tax year in which the corresponding capital payment was received.[869] It is, however, a separate tax, calculated regardless of income and/or assets. The tax burden is dependent upon the size of the withdrawal and the canton.[870] Based on the municipality of residence, the tax amount varies significantly. The calculation method is based on cantonal specifications, rendering inter-cantonal disparities more pronounced than those within a given canton. Regardless of the canton of residence, the capital withdrawal tax is a progressive tax. Since the capital withdrawal tax is assessed independently of other income streams, it is possible that two individuals may be subject to an identical tax amount, despite significant variations in their taxable incomes. This hinges on the condition that the capital or advance withdrawal is the same for both individuals. In cases where multiple lump-sum benefits accrue in a tax year (arising from Pillar 2 or Pillar 3), these benefits are combined to calculate the capital withdrawal tax. Spousal payments are typically subject to joint taxation. Contrary to the usual application of social deductions in the computation of taxable income, such deductions are not applicable to capital benefits.[871] This capital withdrawal tax is due every time pension funds are withdrawn. The taxes due cannot be paid with the funds from the advance withdrawal.[872]

If the property is sold or the rights are transferred that are economically equivalent to a sale, the amount of the early withdrawal needs to be paid back to the pension fund.[873] Some exceptions do apply. First, when the property is transferred to a beneficiary under pension law (e.g., minor child or spouse), the repayment obligation is suspended, and the advance withdrawal does not have to be repaid until the beneficiary sells the property to a non-beneficiary third party. Second, if the insured buys another (replacement) property within two years, the amount of the advance withdrawal can be (temporarily) transferred to a vested benefit institution.[874] Third, if the property is first occupied by the owner and rented out at a later stage. The rental should, however, not be planned from the beginning.[875] The minimum amount for a repayment is CHF 10,000.[876] If the outstanding amount is less than the minimum amount, repayment must be made in a single amount.[877] The individual can repay the amount at any time until he/she is entitled

[869] art 48 DBG.
[870] art 97(2) BVG; M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 100261, 4.
[871] art 38(3) DBG.
[872] Bundesamt für Sozialversicherungen (BSV), Mitteilungen über die berufliche Vorsorge: Zusammenstellung der Hinweise, Stellungnahmen des BSV und der Rechtsprechung zur Wohneigentumsförderung (WEF) (Stand 11 May 2023) 88.
[873] art 30d(1) BVG.
[874] art 30d(4) BVG.
[875] Bundesgericht, Urteil vom 1. Juli 2021 (9C_293/2020).
[876] art 7(1) WEFV.
[877] art 7(2) WEFV.

to retirement benefits, the occurrence of another insured event (e.g., death, disability), or until the repayment of vested benefits.[878]

Early withdrawal from the third pension pillar

Early withdrawal of pension assets is also possible from the third pension pillar. It may be more attractive to withdraw pension assets from the third pillar before withdrawing assets from the second pension pillar for several reasons. First, withdrawing assets from the third pillar is easier since this pillar is only lightly regulated (much less than the second pillar).[879] Second, third pillar pension wealth is less attractive as a base for retirement income than second pillar wealth because it does not benefit from legal minimal accrual rates and does not offer beneficial annuity conversion options.[880]

There is a difference, however, between withdrawing pension assets from the 3a pillar and the 3b pillar.[881] When withdrawing 3a pillar savings, the individual must usually withdraw the full amount and is subject to a single flat-rate capital gains tax. However, it is possible to withdraw a part of the assets when the amount is used for home ownership. With a partial withdrawal one also owes capital gains tax. Withdrawing 3b pillar savings is not subject to any conditions. These savings can be withdrawn at any time. Pillar 3b generally does not provide tax benefits. Hence, unlike with pillar 3a funds, no taxes must be paid when the accrued capital is withdrawn. There is no minimum amount when withdrawing from the third pillar, however, pension providers often charge a flat fee for early withdrawals hence making it not worthwhile to withdraw small(er) amounts. In contrast to the second pillar – where only half the amount of the required own funds to finance the dwelling can come from – there is no maximum amount set for early withdrawal from the third pillar. Early withdrawal from the third pillar is only possible until the age of 58 for woman and 59 for men. Hereafter, the total amount must be withdrawn since it is possible to withdraw third pillar pension assets from that age onwards anyway.

In contrast to funds originating from the second pension pillar, early withdrawal from the third pillar does not offer the option of being reinstated. Meaning that once funds have been withdrawn from the third pillar, they cannot be contributed to the pension scheme anymore. However, annual contributions into the third pillar are still possible. Even in the year an early withdrawal is taken out, it remains possible to contribute funds to the third pillar and hence benefit from the tax deduction.[882]

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[878] art 30d(3) BVG.
[879] M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 100261, 4.
[880] M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 100261, 4.
[881] Most of the information in this paragraph is obtained from ch.ch - Die 3. Säule.
[882] Following the EET-system of taxation, contributions are exempt.

5.2.7.2 Pledging pension assets

Another option to use pension assets for the owner-occupied dwelling is pledging. Pledging pension assets means that the pension assets can be used as collateral when taking out a mortgage loan. The money remains in the pension scheme but is pledged to the loan provider as collateral. It thus does not reduce the amount of pension assets unless the pledge is realised.

Since a pledge allows for better borrowing conditions with lower interest rates and amortization because loan providers use the pledge as collateral, it makes it possible to take out a higher mortgage loan. Furthermore, pledging does not reduce pension wealth if the mortgage loan is being repaid.[883] However, if the mortgage can no longer be serviced, i.e., if interest and/or amortizations can no longer be paid, the loan provider can access the pledged pension assets. The system thus protects the loan provider against a possible loss.

Pledging pension assets means that the financing of the house can include a larger debt component. This could result in an increase in interest payments. However, this depends on the relation between a lower interest rate and a higher debt amount whether – and how much – the interest charges will be higher. Furthermore, these interest payments can be deducted from one's taxable income. At the same time, the higher level of debt means that more income is needed to meet the income criteria.

Individuals can pledge their entitlement to pension benefits in accordance with article 331d *Obligationenrecht*[884] (OR).[885] Pledging can be done with pension assets from both the second- and third pension pillar. Like an advance withdrawal, pledging is subject to a few restrictions:

- Up to the age of 50, the total amount of pension assets can be fully pledged.
- After the age of 50, only part of the pension assets can be pledged. The maximum amount is equal to the higher amount of either[886]:
    - The accumulated wealth at age 50 (plus repayments made after the age of 50, minus the amount used for homeownership (both advance withdrawals and pledged deposits)); or
    - Half of their current accumulated pension wealth.
- Pledging is possible up to 3 years before becoming entitled to retirement benefits.[887]
- Written consent of the spouse or partner is needed in the case the individual is married or lives in a registered partnership.[888]

[883] M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 100261, 3.
[884] Bundesgesetz betreffend die Ergänzung des Schweizerischen Zivilgesetzbuches (Fünfter Teil: Obligationenrecht).
[885] art 30b BVG.
[886] art 331d(4) OR.
[887] art 331d(1) OR.
[888] art 331d(5) OR.

Unlike an advance withdrawal, there is no minimum amount for a pledge. Pledging does not trigger a tax liability since the money is only used as collateral. Tax is only due if the pledge is realised because then capital is being withdrawn from the pension scheme. In such a case, the same rules and regulations apply as those with an advance withdrawal.[889]

On reaching the retirement age, the pledge expires as the retirement assets are used to finance the old-age benefit.[890]

5.2.7.3 Tax Administration

Pursuant chapter 3 of the *Verordnung über die Wohneigentums förderung mit Mitteln der beruflichen Vorsorge* (hereafter: WEFV), it is mandatory for the pension scheme provider to promptly report any advance withdrawal or realization of a pledge concerning vested benefits to the Swiss Federal Tax Administration within a 30-day period. The Federal Tax Administration maintains comprehensive records of all reported early withdrawals, realized pledges, and the subsequent repayments of such early withdrawals. Upon written request from the insured individual, the Federal Tax Administration is obliged to confirm the outstanding amount of early withdrawals and direct the individual to the appropriate authority responsible for refunding the paid taxes. In cases where an early withdrawal is repaid, the taxes originally paid will be refunded without any interest. Refunds of taxes for multiple early withdrawals will follow the chronological order in which these withdrawals were disbursed. Similarly, if multiple cantons are involved, the same order applies. To obtain a refund of the tax amount, the applicant must submit a written request to the relevant tax authority. This request should be accompanied by a certificate validating the following[891]:

a. The repayment of the withdrawn amount,
b. The pension capital invested in home ownership,
c. The tax amount paid to the Confederation, canton, and municipality in relation to the early withdrawal or pledge realization.

From the above, we can conclude that as soon as an advance withdrawal or realisation of a pledge occurs, tax is due. Similarly, when a repayment is done, a refund of the tax amount can be obtained.

[889] art 331d(6) OR.
[890] art 30d(3) BVG.
[891] art 14(3) WEFV.

5.3 The Swiss owner-occupier housing market

5.3.1 Introduction

With only 42.5% (2018) of the population owning a house, the share of homeownership in Switzerland is the lowest in Europe. Of these owner-occupied houses 90.1% are financed by means of a mortgage or other housing loan. The other 9.9% have no outstanding mortgage or housing loan (left).[892] So why do the Swiss rent? Bütler & Stadelmann (2020) give two explanations for this. First, the relatively high house prices due to land scarcity in high density urban areas. And second, the relatively attractive rental market in terms of cost and supply. Furthermore, the rental market for apartments is liquid and well-functioning. Renting is very common in Switzerland, even among the high-income households. Also, in contrast to many other countries, house owners hardly benefit from preferential tax treatments or easier access to social assistance in Switzerland.[893] However, promotion of Swiss homeownership is stated in the Swiss constitution, the *Bundesverfassung der Schweizerischen Eidgenossenschaft (BV)*, since 1972.[894] With this, the Swiss government aims to facilitate the acquisition of residential property to a wide spectrum of the population. Examples of such measures are favourable imputed rental value for tax purposes, full deductibility of interest and most renovation costs. The implementation of these measures to facilitate owner-occupied housing was usually left to the different cantons. An important nationwide policy to promote homeownership is the possibility to withdraw pension assets in advance to finance the owner-occupied dwelling.[895] I will go into more detail regarding the different measures to promote homeownership in paragraph 5.3.3.

[892] Eurostat, 'Database: ILC_LVHO02' (2023) <https://ec.europa.eu/eurostat/databrowser/view/ILC_LVHO02/default/table> accessed 13 March 2023.
[893] M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 100261, 3.
[894] art 108 BV.
[895] M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 100261, 3.

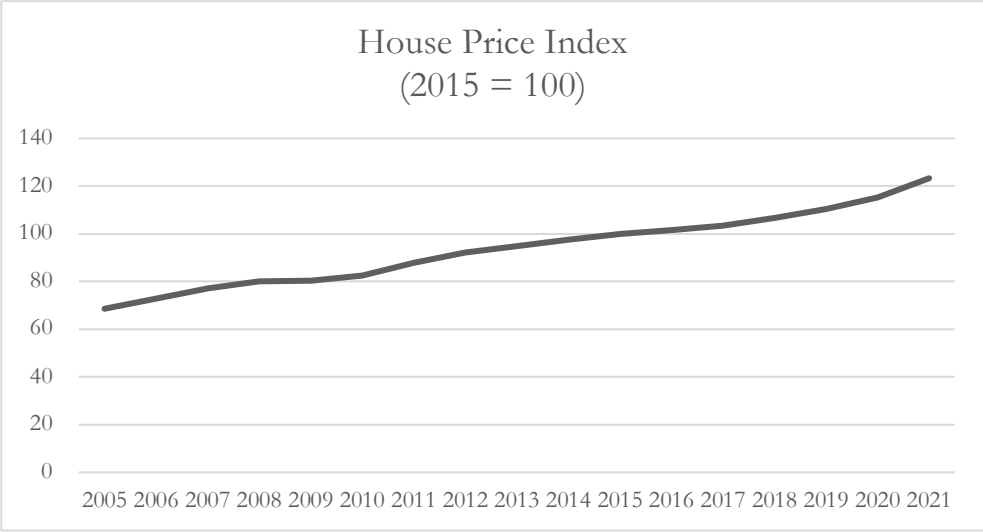

Figure 5.2: House Price Index in Switzerland (2015 = 100)[896]

As we have seen has been the case for all countries in this research, the Swiss housing market has been subject to price increases as well. Figure 5.2 also illustrates this increase in house prices.

5.3.2 The main residence

There is no formal definition for the main residence stated in the Swiss (income) tax law. A distinction is made, e.g., with respect to "first" and "second" homes regarding the promotion of homeownership. Where the Swiss federal government is legally obliged to promote housing construction and home ownership, the focus is on housing construction, the purchase of housing and home ownership that serves *private* needs.[897] Hence, this applies to main residences. Furthermore, owning a second home is actually made more difficult since article 75b BV states that the share of second homes in the total stock of residential units and the gross floor area used for residential purposes in a municipality is limited to a maximum of 20 percent. The law further obliges the municipalities to publish their first home share plan and the detailed status of its implementation every year.

[896] OECD, 'National and Regional House Price Indices' (OECD.Stat) <https://stats.oecd.org/Index.aspx?DataSetCode=RHPI>.
[897] art 108(1) BV.

5.3.3 Taxation and (tax) facilities

5.3.3.1 Eigenmietwert

Switzerland also knows a tax on imputed rental value (*Eigenmietwertbesteuerung*). It is a general tax on the use and ownership of the owner-occupied dwelling. A hypothetical rental value is taxed as income, but in return house owners are allowed to deduct real estate expenses.[898]

Taxation of imputed rental value was introduced at the national level in the course of The Great Depression as a crisis policy measure – more precisely as part of the federal crisis levy of 1934, which was originally only planned as a temporary tax. Furthermore, the introduction of the *Eigenmietwertbesteuerung* was not a housing policy decision, but was subject to the logic of the new federal income tax as part of the crisis levy. In 1940, the *Eigenmietwertbesteuerung* was transferred to the *Eidgenössische Wehrsteuer*, the military tax.[899] The federal military tax of 1940 brought the cantonal tax legislation in line with that of the federal government, without, however, resulting in complete standardization. In most cantons, taxation of imputed rental value was introduced in the following 15 years as part of the introduction of the general income tax. In 1970, Glarus was the last canton to include the taxation of imputed rental value in its tax laws. There were, however, differences between cantonal tax practices.[900] With the implementation of the *Harmonisierung der direkten Steuern der Kantone und Gemeinden (StHG)*, taxation of imputed rental value has been fundamentally anchored by declaring the use of real estate as taxable. Furthermore, the *Bundesgesetz über die direkte Bundessteuer (DBG)* of December 14, 1990, and all cantonal tax laws record imputed rental value of owner-occupied dwellings as taxable natural income.[901] The *Eigenmietwert* is thus taxed twice. Once by the Federal State[902], and once by the relevant canton[903].

Including the *Eigenmietwert (EMW)* as taxable income results from the concept of income on which Swiss tax legislation is based. As a rule, Swiss tax laws do not define income exactly. They only list the individual types of income or describe the income and give examples. The *Bundesgericht (BGer)*[904] describes income as the totality of economic goods that flow to an individual during certain periods of time which he/she can use to satisfy their personal needs without reducing their assets.[905] This means that regardless of their source, and regardless

[898] Florian Müller, 'Die Besteuerung des Eigenmietwerts in der Schweiz. Eine kurze Geschichte einer kontroversen Steuer zwischen Steuergerechtigkeit und Wohneigentumsförderung (1934–2020)' (2022) 48 *Itinera* 122, 123.
[899] Florian Müller, 'Die Besteuerung des Eigenmietwerts in der Schweiz. Eine kurze Geschichte einer kontroversen Steuer zwischen Steuergerechtigkeit und Wohneigentumsförderung (1934–2020)' (2022) 48 *Itinera* 122, 126 –128.
[900] Florian Müller, 'Die Besteuerung des Eigenmietwerts in der Schweiz. Eine kurze Geschichte einer kontroversen Steuer zwischen Steuergerechtigkeit und Wohneigentumsförderung (1934–2020)' (2022) 48 *Itinera* 122, 133 –134.
[901] ESTV, *Das Schweizer Steuersystem* (Bern, Bundesamt für Bauten und Logistik 2021) 1.
[902] art 21(1)(b) DBG.
[903] art 7(1) StHG.
[904] The Swiss Federal Supreme Court.
[905] Urteil des Bundesgerichts vom 23 December 1996, StE 1997 B 72.11 No 5 E 3a; BGE 52 I 214; BGE 71 I 128; BGE 73 I 140.

whether the income accrues to the taxpayer in cash, in kind, or in money's worth, all net inflows are considered income components. At the same time, all necessary expenses directly associated with earning an income (so-called "income costs") are deductible.[906] Hence, Swiss tax laws are based on the taxation of the total net income (*Gesamtreineinkommens*) and are thus based on the principle of taxation according to the *wirtschaftlichen Leistungsfähigkeit,* or, economic ability of the taxpayer.[907] In line with this, is the reasoning behind taxation of the EMW. There is an inflow of value for the homeowner who uses the dwelling himself. He namely receives a utility value equal to the amount of rent saved.[908]

In the cantons, the EMW is sometimes well below market rental values. The Federal Supreme Court has set limits to this type of support so as not to impair the equal taxation of tenants on the one hand and homeowners on the other: the EMW cannot be less than 60% of the market value.[909] As the supervisory authority, the Swiss Federal Tax Administration (*Eidgenössische Steuerverwaltung* (ESTV)) is responsible for ensuring that direct federal taxes are assessed in a uniform manner. To this end, it periodically conducts surveys in the cantons on the determination of the EMW and intervenes when these exceed its discretion. According to common practice, this is the case if the cantonal average of the determined EMW is less than 70% of the market value.[910]

The *Eigenmietwert* is not only taxed on the owner-occupied dwelling that serves as the main residence, but also on other owner-occupied dwellings[911]. More specifically, the owner of the property is liable for tax on the imputed rental value if he uses the property himself. According to the case law of the Federal Court of Justice, there is also effective personal use if the owner keeps the property available without permanently inhabiting it.[912] Case law namely assumes that the owner has the economic advantage of having the property permanently available. The effective period of use is not taken into account as long as the owner can freely make use of his property at any time. However, this does not apply if permanent use is not possible for objective reasons (no heating, only temporary access, etc.). In such cases, the rental value is only charged for the practically usable time. If such a property is rented temporarily, the taxable income is made up pro rata temporis of rental income and EMW. If the property is vacant and the owner can prove that no tenant can be found for it, EMW is not taxed.[913]

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[906] ESTV, *Das Schweizer Steuersystem* (Bern, Bundesamt für Bauten und Logistik 2021) 3.
[907] art 127(2) BV.
[908] ESTV, *Das Schweizer Steuersystem* (Bern, Bundesamt für Bauten und Logistik 2021) 3.
[909] In the judgment of March 20, 1998 (BGE 124 I 145), the Federal Supreme Court held that the constitutionally recognized limit is just about permissible, which the cantons are entitled to exercise discretion when determining the imputed rental value.
[910] ESTV, *Das Schweizer Steuersystem* (Bern, Bundesamt für Bauten und Logistik 2021) 6–7.
[911] Second homes, holiday homes and the like.
[912] BGE 99 Ia 349; Entscheid des Bundesgerichts vom 14 April 1972, *Archiv für schweizerisches Abgaberecht* (ASA) 42 478 ff.
[913] ESTV, *Das Schweizer Steuersystem* (Bern, Bundesamt für Bauten und Logistik 2021) 8.

The *Eigenmietwertbesteuerung* taxes a hypothetical rental value as income, but in return property owners are allowed to deduct real-estate expenses.[914] More specifically, all expenses that are directly related to the generation of income from immovable property can be deducted from the gross income from property ownership – i.e., from the rental income or from the gross imputed rental value. These are the real estate costs and – in some cantons – the real estate taxes. In practice, this means that debt interest, property costs, and property taxes are deductible. Debt interest includes all obligations to pay interest to third parties due to a debt. This includes interest related to a mortgage loan (i.e., mortgage interest), and interest on a temporary loan from a bank or other financial institution (e.g., a construction loan). All Swiss income tax laws permit full deductibility of mortgage interest.[915] According to the case law of the *BGer*[916], construction loans that are taken out to finance a new building or remodelling – in contrast to mortgage loans – do not serve to maintain, but to create or improve a source of income. Due to their technical, economic and temporal connection with the construction project, interest due to a construction loan represents investment costs. They are therefore not deductible at the federal level. At the cantonal level, there are three different systems. These are i) the construction loan interest is included in the investment costs and is therefore not deductible, ii) the construction loan interest can be fully deducted as debt interest, and iii) the taxpayer can choose whether he wants to deduct the building loan interest from the current income assessment or as value-enhancing expenses from the real estate gains tax levied on the sale of the property. At federal and cantonal level, private debt interest is deductible to the extent of the taxable investment income and a further CHF 50,000 (± € 51.000). The net income calculated in this way is generally decisive for the cantonal and communal taxes as well as for the *direkte Bundessteuer* (dBSt). Property costs can be broken down into three components. These are maintenance, operating-, and administration costs. Both the Confederation and the cantons allow property costs to be deducted from one's taxable income. In addition to debt interest and property costs, real-estate owners in certain cantons[917] can also deduct property taxes (property- or real-estate taxes) when determining income from immovable property. Furthermore, the net income from the use of immovable property can be negative. In this case, the use of one's own property leads to a reduction in one's taxable income.[918]

[914] F Müller, 'Die Besteuerung des Eigenmietwerts in der Schweiz. Eine kurze Geschichte einer kontroversen Steuer zwischen Steuergerechtigkeit und Wohneigentumsförderung (1934–2020)' (2022) 48 *Itinera* 122, 123.
[915] Consequently, the Swiss tax system creates a financial incentive for households to retain mortgage debt rather than repay it, as the tax savings from interest deductions significantly reduce the effective cost of the debt, encouraging indirect amortisation over direct repayment (Steven C Bourassa and Martin Hoesli, 'Why Do the Swiss Rent?' (2010) 40 Journal of Real Estate Finance and Economics 286, 287 and 290–291).
[916] Archiv für schweizerisches Abgaberecht (ASA) 57, 654 ff; 60, 192 ff.
[917] In the cantons of Bern, Waadt and Jura, and – if they choose the effective cost deduction – in Freiburg, St. Gallen, Graubünden, Thurgau, Tessin, Wallis, Neuenburg and Genf.
[918] ESTV, *Das Schweizer Steuersystem* (Bern, Bundesamt für Bauten und Logistik 2021) 22–28.

5.3.3.2 Liegenschaftssteuer

Switzerland also knows a property tax – the *Liegenschaftsteuer* (also called *Grund-* or *Grundstücksteuer*). It is a periodic tax which is assessed and levied annually. As a rule, it is assessed and calculated on the basis of the tax value applicable at the end of the tax period. It is essentially a municipal tax. Where it is a cantonal tax, the municipalities usually have a significant share in its income. The taxpayers are the owners or co-owners named in the land register. A municipal property tax is levied on real estate owned by natural- and legal persons in all municipalities in the cantons St. Gallen, Tessin, Wallis, and Jura, while the municipalities in the cantons Bern, Freiburg, Appenzell Innerrhoden, Graubünden, and Waadt are entitled – though not obliged – to levy such a tax (i.e., it is an "optional" municipal tax). In the cantons of Thurgau and Genf, property tax is only levied by the canton. Hence, no municipal tax is levied in these cantons. In addition to the municipal tax on all properties, the cantons of Tessin and Wallis levy a cantonal tax on the properties of legal entities. The canton of Waadt also has an optional cantonal and municipal additional tax, but only on properties that serve as a capital investment for legal entities. However, real estate – or parts thereof – that legal entities use for their own economic or industrial purposes are exempt. The Canton of Neuenburg only levies a tax on real estate that serves as a capital investment for legal- and natural persons, as well as on real estate of pension funds. Property tax is levied by the canton and certain municipalities (called "extraordinary" municipal tax). The property is taxable at the location of the property, regardless of the domicile of the taxpayer. For the purpose of calculating the tax, non-agricultural properties are generally measured at their market value, while agricultural and forestry properties are measured at their earnings value. The property tax is calculated on the full value of the property, i.e., without taking into account the debts on them, which cannot be deducted. In the canton of Neuenburg, however, the property tax is calculated on the cadastral value of the real estate that serves as an investment. A debt deduction is also not possible here. The tax is always proportional. The tax rate is expressed in parts per thousand and varies between 0.2‰ and 3.0‰ of the market, income or cadastral value. The cantons of Luzern, Obwalden, Nidwalden, Schaffhausen, Appenzell Ausserrhoden, Thurgau, and Tessin levy a so-called minimum tax on real estate belonging to legal entities if this is higher than the sum of the profit- and capital taxes. The cantons Obwalden and Nidwalden also levy such a tax on the real estate of natural persons. The canton of Uri has a similar minimum tax, but only on property belonging to natural persons who pay less than CHF 300 in cantonal, communal and church taxes per tax year in the canton. The cantons of Zürich, Schwyz, Glarus, Zug, Solothurn, Basel-Landschaft, and Aargau do not levy any property tax.[919]

[919] ESTV, *Das Schweizer Steuersystem* (Bern, Bundesamt für Bauten und Logistik 2021) 69–71; ch.ch, 'Besteuerung von Immobilien' <https://www.ch.ch/de/steuern-und-finanzen/steuerarten/immobiliensteuer/>.

5.3.3.3 Vermögenssteuer

A wealth tax – *Vermögenssteuer* – is levied by all cantons and communes on the assets of individuals.[920] It is assessed annually at the same time as the income tax. The tax is levied on the value of the assets on December 31 of the relevant year.[921] Subject to this wealth tax are the total assets of the taxpayer. This includes all assets and rights the taxpayer owns or benefits from. They are generally measured at market value.[922] Taxable assets include, in particular, movable (e.g., securities, bank balances, car) and immovable (e.g., land, real-estate) assets, life- and pension insurance policies that can be redeemed, and assets invested in a business or farm. Household- and personal commodities are not taxed.[923] The assessment basis for the *Vermögenssteuer* is the taxpayer's net wealth, i.e., the taxpayer's gross wealth minus all debts. In addition, social deductions are granted on net assets, though these vary from canton to canton. Some cantons do not provide social deductions at all, but do have a tax-free minimum – which also varies from canton to canton. The tax rates for the *Vermögenssteuer* are mostly progressive, although some cantons have a proportional tax rate[924]. The canton Appenzell Ausserrhoden taxes assets according to a two-tier tariff. Taking into account the deductions granted and tax-free minimums, the beginning of the wealth tax liability varies greatly depending on the canton.[925]

5.3.3.4 Grundstückgewinnsteuer

At the federal level, capital gains from the sale of private property are tax-free. Article 16, §3, DBG explicitly states that the Federal State may not levy taxes on sales profits from private wealth. All cantons, however, do tax real estate gains. Article 2, §1, sub d StHG requires the cantons to levy a property gains tax (*Grundstückgewinnsteuer*). The main features of this tax are set out in article 12 StHG.

In most cantons, the *Grundstückgewinnsteuer* is levied exclusively by the canton. In the cantons of Bern, Obwalden, Freiburg, Basel-Stadt, Schaffhausen, Graubünden and Jura, both the canton and the communes levy a special tax on real estate gains, while in the cantons of Zürich and Zug only the communes levy such a tax in accordance with the regulations in the cantonal tax law. Furthermore, the cantons can determine that the property gains tax is levied solely by the communes.[926] When the real estate gains tax is levied exclusively by the canton, the communes usually participate in one way or another in the income from the cantonal tax.[927]

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[920] art 13(1) StHG.
[921] art 15(2) StHG.
[922] art 14(1) StHG.
[923] art 13(4) StHG.
[924] This concerns the cantons Luzern, Uri, Schwyz, Obwalden, Nidwalden, Glarus, Appenzell Innerrhoden, St. Gallen, and Thurgau.
[925] ESTV, *Das Schweizer Steuersystem* (Bern, Bundesamt für Bauten und Logistik 2021) 63–64.
[926] art 2(2) StHG.
[927] ESTV, *Besteuerung der Grundstückgewinne* (Bern, Eidgenössische Steuerverwaltung 2020) 11.

Real estate gains are usually taxed at the location of the property, i.e., the canton (or municipality) where the property in question is located. A tax liability arises from the (paid) sale of a property, a co-ownership share in a property or an independent and permanent right recorded in the land register (e.g., building rights, source rights, granting of water rights, easements). In principle, the seller is the person who is entered in the land register as the owner of a property under civil law.[928]

The tax object consists of three different elements, namely the profit, the property and the sale.[929] Only the presence of all three components triggers taxation.[930] *Grundstückgewinnsteuer* is then levied over the difference between the investment costs (purchase price plus value-enhancing expenses) and the sales proceeds reduced by the legally permitted deductions.[931] In addition to the purchase price, the investment costs also include the value-enhancing expenses made. This includes the expenses that bring about a permanent increase in the value of the property in question, i.e., that constantly increase its utility value or intrinsic value. These include in particular new buildings, extensions, conversions, development costs, soil improvements and bank protection structures. The value-preserving expenses are to be delimited from these value-enhancing expenses. These are expenses for measures that serve to maintain the value of the property. This includes in particular repairs and revisions as well as the replacement of disused systems (maintenance costs). In principle, value-preserving expenses cannot be claimed as investment costs and therefore cannot be deducted from the real estate gains. It is possible to deduct the extraction cost. These include, in particular, the costs of changing hands (transfer costs) and brokerage fees.[932]

In most cantons, the tariff for the *Grundstückgewinnsteuer* depends on two factors: the size of the real estate gain and the period of ownership. In the majority of cantons, the real estate gains tax is a progressive tax, depending on the amount of taxable real estate gains. The other cantons apply a proportional tariff. The cantons of Uri, Obwalden, Nidwalden, Freiburg, Basel-Stadt, Appenzell Ausserrhoden, Aargau, Thurgau, Tessin, Waadt and Genf apply such a proportional tax rate. In this case, every profit – regardless of its amount – is taxed at the same tax rate. However, these cantons do take into account the length of ownership with a degressive tax rate or with a surcharge or deduction. The shorter the ownership period, the higher the applicable tax rate. The other cantons apply progressive tariff, which varies depending on the amount of profit. Furthermore, a surcharge is usually levied on profits that are made in the short term, while a reduction is usually granted for those that only occur after a long period of ownership. In fact, following article 12, §5, StHG, the cantons are obliged to tax short-term real estate gains more heavily. With the exception of Solothurn, all cantons levy a higher tax on short-term real

928 ESTV, *Besteuerung der Grundstückgewinne* (Bern, Eidgenössische Steuerverwaltung 2020) 12–14.
929 art 12(1)–(2) StHG.
930 ESTV, *Besteuerung der Grundstückgewinne* (Bern, Eidgenössische Steuerverwaltung 2020) 16.
931 Depending on the canton, different deductions can be claimed.
932 ESTV, *Besteuerung der Grundstückgewinne* (Bern, Eidgenössische Steuerverwaltung 2020) 30–31.

estate gains. As a result, speculative profits in particular should be taxed more heavily. On the other hand, with the exception of the canton of Obwalden, all cantons provide a reduction in real estate gains tax for real estate gains that are made after a longer period of ownership. This is primarily intended to take account of the fact that profits that accrue after a long period of ownership are often largely due to currency depreciation. In the canton of Genf, for example, the tax does not apply anymore after 25 years of ownership.[933]

If the proceeds of the sale of a permanently and exclusively owner-occupied residential property (single-family house or condominium) are used within a reasonable period of time[934] for the purchase or construction of a replacement property in Switzerland for the same use, taxation is deferred in all cantons.[935]

5.3.3.5 Handänderungssteuer

In Switzerland, a property transfer tax (*Handänderungssteuer*) is levied on every transfer of ownership of real estate (and the rights associated with it). Hence, the object of the property transfer tax is the transfer of ownership as such. It is mostly levied by the canton, but also occasionally by the communes. Only in the cantons of Appenzell Ausserrhoden, St. Gallen and Graubünden is the property transfer tax designed as a cantonal tax, while in Freiburg, Waadt and Wallis the municipalities can also levy this tax in addition to the canton. If only the canton collects the tax, the communes often share in the tax revenue or can levy (limited) surcharges on top of the cantonal tax. The cantons of Zürich, Uri, Schwyz, Glarus, Zug, Schaffhausen, Aargau and Tessin do not actually have a property transfer tax but do have property transfer or land register fees.[936]

The tax is generally levied on the purchase price. If no such value has been determined (e.g., in the case of exchange, donation, or inheritance) or if it obviously deviates from the generally applicable market value, the market value of the property at the time of sale or its official value (e.g., tax or cadastral value) is used as a tax basis. Unless otherwise agreed, the taxpayer is the purchaser of the property (natural or legal person). However, in the cantons of Obwalden, Basel-Landschaft and Appenzell Ausserrhoden, both the purchaser and the seller each bear half the tax burden. The tax rate is generally a fixed proportional tax and ranges, in most cantons and communes, from 10‰ to 33‰ of the assessment basis, i.e., the purchase price, market value, or the official value of the property.[937]

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933 ESTV, *Besteuerung der Grundstückgewinne* (Bern, Eidgenössische Steuerverwaltung 2020) 34–37.
934 In about half of the cantons, the period is basically two years. In the other cantons, this can be between one and five years. In some cases, it applies both to the period before and to the period after the sale.
935 ESTV, *Besteuerung der Grundstückgewinne* (Bern, Eidgenössische Steuerverwaltung 2020) 23.
936 ESTV, *Handänderungssteuer* (Bern, Eidgenössische Steuerverwaltung 2022) 1, 3; ESTV, *Das Schweizer Steuersystem* (Bern, Bundesamt für Bauten und Logistik 2021) 71.
937 ESTV, *Handänderungssteuer* (Bern, Eidgenössische Steuerverwaltung 2022) 10, 19, 21; ESTV, *Das Schweizer Steuersystem* (Bern, Bundesamt für Bauten und Logistik 2021) 71.

5.3.3.6 Facilities

As said before, promotion of Swiss homeownership is stated in the constitution since 1972. While most countries in Europe promote homeownership through, for example, mortgage interest relief, Switzerland does this in an indirect way. Individuals can withdraw pension assets from the second- (occupational pension wealth) and third pension pillar (private pension wealth) to finance the purchase of the owner-occupied dwelling.[938] This can be done in the form of an advanced withdrawal of pension assets (equity) or in the form of a pledge (liability).[939] These options are treated in more detail in paragraph 5.4.

5.3.4 Homeownership and the Swiss mortgage market

At the beginning of this section, we have seen that with only 42.5% (2018) of the population owning a house, the share of homeownership in Switzerland is the lowest in Europe. Of these owner-occupied houses, only 9.9% own their property outright and no less than 90.1% are (entirely or partly) financed by means of a mortgage or other (housing) loan.[940]

5.3.4.1 Mortgages

Financing the owner-occupied dwelling is also in Switzerland often done by means of a mortgage loan. In Switzerland, a distinction is made between four types of mortgage loans. The first variant is a fixed-rate mortgage. As the name suggest, this is a mortgage with a fixed interest rate for a fixed term and fixed amount. Second, there are fixed-rate mortgages with a term start date in the future. These are a variation to the fixed-rate mortgages, whereby the mortgage interest rate can be set up to 36 months before the start date. The third variant is called a LIBOR mortgage. This is a mortgage with a fixed amount and for which the interest rate is linked to the LIBOR[941]. As a result, the development of the market interest rate is reflected in the mortgage interest. In the case that the LIBOR rate is negative, a rate of 0% will be used. The fourth, and final, mortgage variant is the adjustable-rate mortgage. This is a mortgage with both a flexible term and a flexible amount, whereby the interest rate is constantly adjusted to the current interest level.[942]

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[938] Other allowed reasons for advanced withdrawal of pension assets are for the investment into a home, amortization of a mortgage and the acquisition of shares of housing cooperatives or similar investments.
[939] M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 100261, 3.
[940] Eurostat, 'Database: ILC_LVHO02' (2023) <https://ec.europa.eu/eurostat/databrowser/view/ILC_LVHO02/default/table> accessed 13 March 2023.
[941] LIBOR stands for London Interbank Offered Rate. This is the rate at which banks lend money to each other in the short term.
[942] Credit Suisse, *Residential Property in Switzerland: What Newcomers to Switzerland Need to Keep in Mind* (Credit Suisse 2017) 1.

5.3.4.2 Loan to Value

A specific LTV-ratio cannot be enforced legally.[943] However, most mortgage lenders allow for a loan of up to 80% of the market value of the property.[944] Individuals purchasing property thus must contribute at least 20% of the purchase price as equity themselves. Furthermore, the mortgage debt must be amortized to 2/3 of the value of the property within a maximum of 15 years. This amortization must be linear, beginning at the latest at the end of the quarter 12 months after payment. Indirect amortization, for example by depositing and pledging Pillar 3a assets, is also possible. They begin at the latest at the end of the year following payment.[945]

Swiss budget advice centres recommend that total living expenses should not exceed 25 to 30 percent of net income. Living expenses include mortgage interest, amortization, maintenance, and ancillary costs[946] as well as opportunity costs.[947] Mortgage lenders assess the adequacy of a borrower's income to cover mortgage payments and other living expenses. As a rule of thumb, they use a long-term average rate of 5% to calculate the theoretical mortgage interest. In addition, when determining affordability, other living expenses must be considered as well. These expenses are generally estimated at 1% of the market value of the property.[948]

5.3.4.3 Tightening of down payment restrictions

At the beginning of the financial crisis, many central banks followed an expansive monetary policy, with interest rates lowered to (nearly) zero. This increased the attractiveness of real estate ownership such that household with ceteris paribus lower wealth could afford to borrow the means to finance a dwelling. These households are exposed to the thread posed by variable and potentially higher interest rates in the future which could make repayments more difficult. As a result of this (higher) risk exposure, stricter regulation regarding financing residential property were introduced in Switzerland. As of 1 July 2012, Swiss households are obliged to provide at least 10% of the property's value as equity other than hard equity (i.e., equity other than equity obtained by early withdrawal from the second pension pillar) from a minimal total amount of 20% equity necessary to purchase residential property. In addition, an amortization obligation was introduced that obliges new borrowers to reduce their LTV-ratio to a maximum of two

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[943] M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 100261, 3.
[944] Credit Suisse, *Residential Property in Switzerland: What Newcomers to Switzerland Need to Keep in Mind* (Credit Suisse 2017) 1.
[945] Schweizerische Bankiervereinigung (SBVg), *Richtlinien betreffend Mindestanforderungen bei Hypothekarfinanzierungen* (Schweizerische Bankiervereinigung 2019) 7.
[946] Maintenance and ancillary costs are costs like electricity, water, heating (all utility charges), insurance, property maintenance and minor repairs.
[947] Hausinfo, 'Wohnkosten: Wie viel Geld bleibt für das Wohnen übrig?' (15 January 2021) <https://hausinfo.ch/de/finanzieren-kaufen/immobilienverwaltung-wohnkosten/wohnkosten-nebenkosten/wohnkosten.html>.
[948] Credit Suisse, *Residential Property in Switzerland: What Newcomers to Switzerland Need to Keep in Mind* (Credit Suisse 2017) 1.

thirds within 20 years.[949] Furthermore, as of 1 September 2014, the amortization period was shortened to 15 years and linear repayment is required.[950]

In addition, if a mortgage granted after 1 July 2012, does not meet the new minimum requirements, mortgage lenders will be required to significantly increase the capital involved to cover it. This is stipulated in the Federal Council's revised Capital Adequacy Ordinance (*Eigenmittelverordnung*), which also contains a further instrument for reducing mortgage risks. As of 1 January 2013, if a bank grants a mortgage with an LTV of more than 80 percent, it will be required to back it with a higher level of capital. As of 1 July 2012, the Federal Council also has at its disposal a new capital buffer for all banks that can be selectively and temporarily activated for specific sectors, such as the mortgage business.[951]

Research by Bütler and Stadelmann (2020) shows that the new (stricter) down payment restrictions made home purchases more difficult for more financially vulnerable individuals. While this policy change was mainly triggered by macro-prudential concerns, at the same time there was also much public discussion around the vulnerability of owner-occupiers, especially in the case of divorce and retirement. The stricter down payment restrictions likely made it more difficult for elderly middle-income, asset poor households to purchase a dwelling. Simultaneously, it might have reduced the danger of foreclosure for elderly households entering retirement. Empirical research on the impact of the policy reform shows that the share of individuals who withdrew pension assets in a given year dropped by one sixth. Pledges do not count as (hard) equity; hence they were not directly affected by the 2012 reform. Research shows, however, that the probability to pledge also decreased in response to the stricter equity guidelines.[952]

5.4 Interactions between retirement savings and real-estate ownership

This section explores the relationship between retirement savings and real estate ownership in Switzerland. The BVG enables individuals to utilize pension assets to finance owner-occupied properties. Individuals can choose between two primary mechanisms: early withdrawal of pension funds or pledging. The subsequent analysis first examines the advantages and challenges

[949] Eidgenössische Finanzmarktaufsicht (FINMA), 'Hypothekarfinanzierung: FINMA anerkennt neue Mindeststandards' (Medienmitteilung, 1 June 2012) <https://www.finma.ch/de/news/2012/06/mm-hypo-richtlinien-20120601/>.
[950] FINMA, 'Hypothekarfinanzierung: FINMA genehmigt revidierte Selbstregulierung' (Medienmitteilung, 2 July 2014) <https://www.finma.ch/de/news/2014/07/mm-selbstregulierung-hypothekarbereich-20140702/>.
[951] FINMA, 'Hypothekarfinanzierung: FINMA anerkennt neue Mindeststandards' (1 June 2012).
[952] M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 100261, 12–13.

of each option as discussed in the literature, followed by a quantitative illustration that highlights the potential pathways and legal requirements.

5.4.1 Benefits and challenges of early withdrawal and pledging of pension money for homeownership: insights from the literature

The interplay between retirement savings and real estate purchases in Switzerland is significantly shaped by the country's pension system, which allows for early withdrawal and pledging of pension funds for the purchase of owner-occupied dwellings. Introduced to promote homeownership, this flexibility has prompted extensive research into its implications for both pension adequacy and housing affordability.

The existing literature offers diverse perspectives on these mechanisms. Researchers analyse early withdrawal and pledging through the lenses of financial incentives, retirement behaviour, wealth distribution, and risk management. The review below categorises the benefits and drawbacks of these approaches, offering insights into their broader applicability, including a brief exploration of their usefulness for the Netherlands.

5.4.1.1 Benefits of early withdrawal

Tax optimisation and financial security

Early withdrawal can reduce tax liabilities by lowering the pension capital subject to taxation at retirement. Bütler & Ramsden (2022) highlight how individuals strategically optimize their taxes by withdrawing pension funds early, leveraging the progressive nature of lump-sum taxes and minimizing ongoing taxes on annuities.[953] Additionally, Bütler & Stadelmann (2020) note that withdrawal amounts are taxed separately, potentially lowering overall tax burdens.[954]

Access to homeownership

A key consideration highlighted by Bütler & Ramsden (2022) is that homeownership offers financial security through tangible assets that can be leveraged or sold in retirement, while reducing rental expenses.[955] Kuhn et al. (2021) emphasize that using pension funds for home purchases acts as an incentive for homeownership, fostering stability and lower housing costs compared to renting.[956] Early withdrawals help overcome wealth constraints, particularly in

[953] M Bütler and D Ramsden, 'How Taxes Impact the Choice between an Annuity and the Lump Sum at Retirement' (2022) *Journal of Pension Economics and Finance* 1–29, 7, 9.
[954] M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 100261, 3.
[955] M Bütler and D Ramsden, 'How Taxes Impact the Choice between an Annuity and the Lump Sum at Retirement' (2022) *Journal of Pension Economics and Finance* 1–29, 7.
[956] M Kuhn, J Geyer, P Haan and D Ramsden, 'Early Retirement as a Privilege for the Rich? A Comparative Analysis of Germany and Switzerland' (2021) 47 *Advances in Life Course Research* 100392, 3, 5–6.

Switzerland's high-priced housing market. Schneider & Wagner (2016) and Bourassa & Hoesli (2010) emphasize that this approach facilitates down payments and closing costs, increasing access to homeownership in a country with traditionally low ownership rates.[957]

Liquidity for younger households

Early withdrawal alleviates liquidity constraints, particularly for younger households with limited non-pension savings who often lack sufficient non-pension savings to meet the required 20% down payment for property purchases. Bütler & Stadelmann (2020) highlight that this mechanism helps meet the required 20% down payment, particularly for those struggling to accumulate savings in a high-priced market.[958] Additionally, Bourassa & Hoesli (2010) and Kuhn et al. (2021) note that early withdrawals provide immediate liquidity and reduce reliance on debt, fostering financial flexibility for (younger) families.[959]

5.4.1.2 Drawbacks of early withdrawal

Erosion of pension wealth and retirement insecurity

A primary concern is the reduction in pension wealth, which limits funds available for annuitization and heightens the risk of outliving assets. Bütler & Ramsden (2022) caution that this reduces retirement savings to be converted into an annuity. This can result in lower guaranteed income for life, increasing the risk of running out of assets in old age.[960] Similarly, Kuhn et al. (2021) emphasize the potential for financial insecurity, particularly when individuals face unforeseen expenses later in life.[961] Bütler & Stadelmann (2020) further underscore that early withdrawals diminish retirement savings, resulting in lower pension payouts and increasing vulnerability in retirement. The risk of financial inadequacy is heightened during economic crises or personal life events such as medical emergencies or divorce, which can rapidly deplete remaining resources.[962] Schneider & Wagner (2016) add that compulsory mortgage amortization rules require homeowners to pay down their mortgage to two-thirds of the property's lending value within 15 years, thereby increasing their financial burden. This requirement reduces financial flexibility, as homeowners must allocate more resources toward repaying their mortgage

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[957] M Schneider and K Wagner, *Housing Markets in Austria, Germany and Switzerland* (NBP Working Paper No 243, 2016) 151; SC Bourassa and M Hoesli, 'Why Do the Swiss Rent?' (2010) 40 Journal of Real Estate Finance and Economics 286, 293–294 <https://doi.org/10.1007/s11146-008-9140-4>.

[958] M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 100261, 3.

[959] M Kuhn, J Geyer, P Haan and D Ramsden, 'Early Retirement as a Privilege for the Rich? A Comparative Analysis of Germany and Switzerland' (2021) 47 *Advances in Life Course Research* 100392, 4; SC Bourassa and M Hoesli, 'Why Do the Swiss Rent?' (2010) 40 Journal of Real Estate Finance and Economics 286, 293–294 <https://doi.org/10.1007/s11146-008-9140-4>.

[960] M Bütler and D Ramsden, 'How Taxes Impact the Choice between an Annuity and the Lump Sum at Retirement' (2022) *Journal of Pension Economics and Finance* 1–29, 7.

[961] M Kuhn, J Geyer, P Haan and D Ramsden, 'Early Retirement as a Privilege for the Rich? A Comparative Analysis of Germany and Switzerland' (2021) 47 *Advances in Life Course Research* 100392, 7–9.

[962] M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 100261, 1, 4, 14.

loan. For those who have also utilized pension assets for the purchase of the dwelling, the combined effect of reduced pension savings and limited ability to set aside additional funds, exacerbates their financial constraints, leaving them with less reserves for future needs.[963]

Wealth inequality

Early withdrawal of pension assets tends to exacerbate existing socio-economic disparities, as it disproportionately benefits individuals with larger pension savings and higher incomes. This inequality arises from differences in the ability to access and leverage pension funds for homeownership across various income groups. Kuhn et al. (2021) argue that the system inherently favors those with substantial pension reserves, as individuals with higher incomes are more likely to accumulate excess savings in their occupational (second pillar) or private (third pillar) pension schemes. These groups can afford to withdraw funds early without compromising retirement security significantly, while lower-income households may either lack sufficient pension assets to withdraw or face greater risks in doing so.[964] Bourassa & Hoesli (2010) observe that intermediate-income households predominantly rely on second-pillar funds, whereas higher-income groups gain additional advantages from third-pillar assets, which are often voluntary and enjoy preferential tax treatment. This disparity in access to and utilization of pension funds creates a disproportionate system of benefits, where wealthier individuals not only secure better housing opportunities but also enjoy greater financial flexibility and tax advantages.[965] This disparity also perpetuates inequality in homeownership rates. As Schneider & Wagner (2016) point out, accessing pension funds for down payments disproportionately helps wealthier individuals overcome liquidity constraints in expensive housing markets, leaving lower-income groups reliant on less favorable rental options. Over time, this dynamic contributes to a widening wealth gap, as homeowners benefit from property appreciation while renters do not.[966]

Financial and locational inflexibility

Using pension funds for real estate purchases ties financial resources to immovable assets, reducing the flexibility to relocate or optimize taxes. Bütler & Ramsden (2022) highlight that individuals who own homes may face higher barriers to relocating compared to those who do not own property. Early withdrawal ties financial resources to immovable property, reducing flexibility for retirees. Homeowners may face higher barriers to relocating to optimize taxes or take advantage of economic opportunities compared to individuals who do not own property.

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963 M Schneider and K Wagner, *Housing Markets in Austria, Germany and Switzerland* (NBP Working Paper No 243, 2016) 151-159.

964 M Kuhn, J Geyer, P Haan and D Ramsden, 'Early Retirement as a Privilege for the Rich? A Comparative Analysis of Germany and Switzerland' (2021) 47 *Advances in Life Course Research* 100392, 7–9.

965 SC Bourassa and M Hoesli, 'Why Do the Swiss Rent?' (2010) 40 Journal of Real Estate Finance and Economics 286, 293–294 <https://doi.org/10.1007/s11146-008-9140-4>.

966 M Schneider and K Wagner, *Housing Markets in Austria, Germany and Switzerland* (NBP Working Paper No 243, 2016) 151-159.

These constraints arise due to transaction costs and tax implications.[967] Schneider & Wagner (2016) further underscore the inflexibility caused by mortgage repayment obligations, which restrict individuals' financial and locational options.[968]

Tax and planning risks

Without careful planning, early withdrawal can result in unintended tax consequences, such as higher marginal tax rates. Bütler & Ramsden (2022) emphasize that careful financial planning is essential to mitigate these risks and maximize the advantages of this policy.[969]

5.4.1.3 Usefulness of early withdrawal for the Netherlands

In assessing the applicability of early withdrawal to the Dutch context and its alignment with the review framework, the mechanism's ability to unlock pension assets for real estate purchases emerges as an important feature. By allowing individuals to access their retirement funds for down payments or property purchases, early withdrawal directly addresses liquidity constraints, particularly for younger households. This functionality supports the overarching goal of integrating real estate purchases and pension savings, potentially shortening household balance sheets and reducing reliance on external debt.

Early withdrawal's emphasis on improving access to homeownership could also hold considerable relevance for the Netherlands, where stringent mortgage requirements and high property prices pose significant challenges for first-time buyers. Insights from the Swiss model indicate that enabling the use of pension funds for down payments can facilitate entry into the owner-occupier market by lowering barriers to homeownership. This approach may help Dutch households tackle housing affordability challenges by enabling them to draw on their existing pension savings to meet down payment requirements or purchase a home. By leveraging funds already accumulated within the pension system, this mechanism utilizes established financial structures, reducing the need for additional savings instruments or greater reliance on debt.

However, a notable drawback of early withdrawal is its potential to undermine the adequacy and sustainability of the pension system. Evidence from Switzerland underscores the long-term risks associated with permanently reducing retirement savings, which can leave individuals financially vulnerable in old age. The Swiss experience highlights an elevated risk of financial insecurity during retirement, particularly for those encountering unforeseen circumstances such as economic crises or personal life events. Safeguarding pension adequacy to ensure individuals maintain their standard of living after retirement remains a critical consideration.

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[967] M Bütler and D Ramsden, 'How Taxes Impact the Choice between an Annuity and the Lump Sum at Retirement' (2022) *Journal of Pension Economics and Finance* 1–29, 7, 9, 12, 17.
[968] M Schneider and K Wagner, *Housing Markets in Austria, Germany and Switzerland* (NBP Working Paper No 243, 2016) 151-159.
[969] M Bütler and D Ramsden, 'How Taxes Impact the Choice between an Annuity and the Lump Sum at Retirement' (2022) *Journal of Pension Economics and Finance* 1–29, 7.

Furthermore, implementing early withdrawal in the Netherlands would require careful evaluation of its impact on housing market dynamics. While facilitating access to homeownership, early withdrawal could inadvertently increase demand in an already constrained housing market. This risk of inflating property prices is especially concerning in the Dutch context, where housing supply shortages have exacerbated affordability challenges. Lessons from Switzerland suggest that any adoption of early withdrawal must consider potential pressures on housing supply to avoid exacerbating market imbalances.

Overall, early withdrawal offers valuable insights into the integration of pension savings and real estate purchases. While its potential to enhance access to homeownership and to address liquidity constraints is significant, the associated risks to pension adequacy and housing market dynamics necessitate a thorough examination of its suitability for the Dutch context.

5.4.1.4 Benefits of pledging pension funds

Access to homeownership

Pledging pension funds enables access to homeownership. Additionally, Bütler & Ramsden (2022) point out that home ownership provides financial security such as providing a tangible asset that can be leveraged or sold in retirement if needed. It can also reduce the need for rental expenses, which can be a significant portion of expenses in retirement.[970]

Preservation of pension wealth

Unlike outright withdrawals, pledging ensures that pension assets remain preserved for retirement, mitigating risks associated with diminished savings. Bütler and Stadelmann (2020) highlight that this strategy enables borrowers to access improved mortgage terms—such as reduced interest rates and amortization costs—while retaining their pension wealth. The continued accumulation of retirement assets serves as a critical safety net, if mortgage obligations are met. [971]

Improved financing terms

Leveraging pension funds as collateral enhances the financial feasibility of homeownership by offering favorable borrowing conditions. Bourassa and Hoesli (2010) emphasize that this arrangement enables middle-income households to secure better financing terms, including reduced interest rates and lower amortization requirements. By alleviating financial burdens, this

[970] M Bütler and D Ramsden, 'How Taxes Impact the Choice between an Annuity and the Lump Sum at Retirement' (2022) *Journal of Pension Economics and Finance* 1–29, 7.
[971] M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 100261, 3.

mechanism makes property acquisition more accessible and sustainable for a broader demographic.[972]

5.4.1.5 Drawbacks of pledging pension funds

Risk of default

Bütler and Stadelmann (2020) highlight that a significant drawback of pledging pension funds is the elevated risk of mortgage default. While pledging provides the benefit of preserving pension wealth as collateral, it simultaneously increases borrowers' exposure to financial vulnerabilities. This approach often results in a higher debt burden and exacerbates the potential loss of both the property and the pledged pension assets in the event of default. Specifically, failure to meet mortgage obligations can trigger asset liquidation, undermining both homeownership and retirement savings. These risks are particularly pronounced under high loan-to-value conditions, where borrowers face higher repayment pressures, heightening the likelihood of financial distress.[973]

Wealth inequality

Bourassa & Hoesli (2010) observe that while middle-income households predominantly utilize second pillar funds, higher-income households are more likely to benefit from third pillar assets. This may exacerbate disparities in access to homeownership across different income groups, as wealthier individuals can more effectively utilize pledging to secure favorable mortgage conditions and acquire property.[974]

5.4.1.6 Usefulness of pledging pension funds for the Netherlands

When evaluating the applicability of pledging pension funds in the Dutch context through the lens of the review framework, key insights emerge. By allowing pension funds to serve as collateral without requiring their liquidation, the Swiss model offers an innovative way to integrate retirement savings and real estate purchases. This approach enables households to access the housing market without directly depleting their retirement savings, thus preserving the adequacy and safety of pensions. For the Netherlands, this mechanism could alleviate financial barriers to homeownership while maintaining the integrity of the pension system.

However, a critical limitation of pledging is its impact on household balance sheets. While it facilitates homeownership by providing better borrowing conditions and preserving pension wealth, it also enables households to take on higher mortgage loans. This, in turn, results in

[972] SC Bourassa and M Hoesli, 'Why Do the Swiss Rent?' (2010) 40 Journal of Real Estate Finance and Economics 286, 293–294 <https://doi.org/10.1007/s11146-008-9140-4>.
[973] M Bütler and S Stadelmann, 'Building on a pension: Second pillar wealth as a way to finance real estate?' (2020) 17 *The Journal of the Economics of Ageing* 100261, 3, 12–13.
[974] SC Bourassa and M Hoesli, 'Why Do the Swiss Rent?' (2010) 40 Journal of Real Estate Finance and Economics 286, 293–294 <https://doi.org/10.1007/s11146-008-9140-4>.

lengthened household balance sheets rather than the intended goal of shortening them. The increased indebtedness that accompanies larger mortgages exacerbates the financial vulnerability of households, making pledging counterproductive in addressing the core objective of this research: achieving shorter household balance sheets through the integration of retirement savings and real estate purchases.

Therefore, while pledging offers some appealing features, its potential to extend household balance sheets fundamentally undermines its suitability as a solution within the Dutch context and the scope of this research.

5.4.2 Quantitative illustration

The following paragraph provides a quantitative illustration drawing from the descriptions outlined above to elucidate its mechanics. While both early withdrawal of pension assets and pledging are possible options to combine retirement savings and real-estate purchases, this illustration focuses specifically on the scenario of early withdrawal of pension assets. Pledging, though a potential possibility, is omitted from this quantitative illustration in alignment with the criteria set forth in the review framework. Specifically, pledging does not comply with the first criterion: *the solution shortens Dutch households' balance sheets by combining retirement savings and real estate purchases*. Due to the very nature of a pledge, it is more likely to establish the opposite effect. A pledge leaves pension money within the pension pot while simultaneously enabling individuals to take out a higher mortgage loan. Consequently, this will result in, at least, an increase in the credit side of a household's balance sheet. This incompatibility emphasizes the rationale behind its exclusion from the quantitative illustration.

For the quantitative illustration we make use of a reference person who experiences several (life) events regarding the purchase and sale of the owner-occupied dwelling, retirement, and death. In this quantitative analysis, the canton of Wallis is used as the reference canton. It is the third largest canton by area[975] and the median canton with respect to the gross domestic product per canton.[976] The median listing price for residential property (houses) in the canton of Wallis is CHF 895,000 with approximately 80% of these properties falling within the price range of CHF 399,000 to CHF 1,980,000. The average cost per square meter is equal to CHF 6,345. Apartments within the Canton of Wallis have a median listing price of CHF 593,000, with 80%

[975] Bundesamt für Statistik (BFS), 'Arealstatistik Land Cover – Kantone und Grossregionen nach 6 Hauptbereichen' (2021) <https://www.bfs.admin.ch/bfs/de/home/statistiken/raum-umwelt/bodennutzung-bedeckung.assetdetail.19805731.html>.
[976] Bundesamt für Statistik (BFS), 'Bruttoinlandsprodukt (BIP) nach Grossregion und Kanton' (2023) <https://www.bfs.admin.ch/bfs/de/home/statistiken/volkswirtschaft/volkswirtschaftliche-gesamtrechnung/bruttoinlandprodukt-kanton.assetdetail.28405424.html>.

of available units falling within the price range of CHF 294,549 to CHF 1,320,000. The average cost per square meter is equal to CHF 6,280.[977]

Below the different events are described, as well as relevant additional information about the reference person is given.

Event 1: Pension accrual

The reference person starts working at a full-time job and pension accrual starts. As paragraph 5.2.3 has shown, paying into an occupational pension scheme starts from the age of 25. More specifically, employees who are insured under the first pillar and who receive an annual salary of more than CHF 22,050 from an employer[978], are subject to compulsory insurance for the risk of death and disability from January 1 after reaching the age of 17, and for old age from January 1 after reaching the age of 24.[979]

Additional information regarding this event:

- Reference person aged 24
- Yearly income from employment is equal to CHF 65,000
- Pension assets (2nd and 3rd pillar) of CHF 0
- Financial wealth (other than home- and/or pension equity) of CHF 0

Event 2: Purchase of the (first) owner-occupied dwelling

The reference person purchases his/her first house.

Additional information regarding this event:

- Reference person aged 34
- Yearly income from employment is equal to CHF 100,000
- Pension assets (2nd and 3rd pillar) of CHF 60,000 [980]
- Financial wealth (other than home- and/or pension equity) of CHF 50,000 with 1% interest (CHF 500 interest per annum)
- Purchase price of the dwelling CHF 415,000, located in Sion, the capital of the canton of Wallis

The reference person wants to buy his/her first dwelling with a value of CHF 415,000. Up to 80% of the value of the dwelling can be financed by means of a mortgage loan, hence CHF

[977] See also realadvisor.ch.
[978] The entry threshold must be earned with one employer for the insurance to be mandatory.
[979] art 7(1) BVG.
[980] Rounded numbers from simplified calculations based on 7% savings contributions and interest rate of 1% per year. Please also refer to Appendix D1 for the complete table.

332,000. Swiss budget advice centres recommend that total living expenses should not exceed 25 to 30 percent of (net) income.[981] Mortgage lenders assess the adequacy of a borrower's income to cover mortgage payments and other living expenses. As a rule of thumb, they use a long-term average rate of 5% to calculate the theoretical mortgage interest. In addition, when determining affordability, other living expenses must be considered as well. These expenses are generally estimated at 1% of the market value of the property.[982] Hence, the following information can be added to the analysis:

- Other living expenses amount to CHF 4,150 (1% of the market value of the property)
- Resulting in a total of CHF 24,900 of living expenses, which is equal to 24.9% of the individual's yearly income from employment, which is below the 25-30% of income threshold as advised by Swiss budget centres.

Swiss households are obliged to provide at least 10% of the property's value as equity other than hard equity (i.e., equity other than equity obtained by early withdrawal from the second pension pillar) from a minimal total amount of 20% equity necessary to purchase residential property. The reference person must thus provide at least CHF 41,500 in equity – other than pension equity.

Furthermore, the individual has CH 60,000 in pension assets. To take an advance withdrawal, a minimum of CHF 20,000 must be withdrawn. Upon request, the individual can receive an application form from the pension provider for an advance withdrawal of pension assets for the purchase of the own dwelling. The applicant must provide supporting documents that the home is indeed intended for personal use (qualifies as a main residence). Furthermore, the applicant never "sees" the withdrawal because the pension provider transfers the money from the individual's pension account directly to either the seller or developer of the property or the loan provider. With and advance withdrawal, the pension fund is obliged to inform the tax authorities. Upon pay-out, the advance withdrawal is subject to a one-off capital tax[983] like the lump sum tax at retirement. The tax burden is dependent upon the size of the withdrawal and the canton. The taxes due, however, cannot be paid with the funds from the advance withdrawal.[984]

Let us assume the individual wants to take out the maximum amount of mortgage possible, i.e., 80% of the value of the dwelling: CHF 332,000. Furthermore, the individual finances 10% of

[981] Hausinfo, 'Wohnkosten: Wie viel Geld bleibt für das Wohnen übrig?' (15 January 2021) <https://hausinfo.ch/de/finanzieren-kaufen/immobilienverwaltung-wohnkosten/wohnkosten-nebenkosten/wohnkosten.html>.
[982] Credit Suisse, *Residential Property in Switzerland: What Newcomers to Switzerland Need to Keep in Mind* (Credit Suisse 2017) 1.
[983] art 38 DBG.
[984] Bundesamt für Sozialversicherungen (BSV), Mitteilungen über die berufliche Vorsorge: Zusammenstellung der Hinweise, Stellungnahmen des BSV und der Rechtsprechung zur Wohneigentumsförderung (WEF) (stand 11 May 2023) 88.

the dwelling by using his/her savings: CHF 41,5000. The remaining 10% is financed by taking out an early withdrawal of pension assets.

Hence, the following information can be added to the analysis:

- Equity (financial wealth) used for the purchase of the owner-occupied home: CHF 41,500
- Amount of the advance withdrawal is equal to CHF 41,500
    - The one-off capital tax in relation with the advance withdrawal amounts to CHF 1,786 [985]

A property transfer tax (*Handänderungssteuer*) is levied on every transfer of ownership of real estate. Unless otherwise agreed, the taxpayer is the purchaser of the property (natural or legal person). It is mostly levied by the canton, but in the canton of Wallis, municipalities can also levy.[986] The following table shows the property transfer tax rates in the canton of Wallis[987]:

Table 5.3: Property transfer tax rates in the canton of Wallis

Value of the dwelling	**Tax rate**
CHF 1,001 – CHF 50,000	CHF 20
CHF 50,001 – CHF 500,000	1%
CHF 500,001 – CHF 1,000,000	1.3%
CHF 1,000,001 – ∞	1.5%

Furthermore, the city of Sion taxes an additional levy of 50% of the cantonal transfer tax.[988] Hence, the following information can be added to the analysis:

- Property transfer taxes:
    - Canton of Wallis: CHF 4,150
    - City of Sion: CHF 2,075

Based on the above-mentioned information, the following synopsis can be made:

[985] Based on calculations using: Eidgenössische Steuerverwaltung (ESTV), 'Swiss Tax Calculator' <swisstaxcalculator.estv.admin.ch> accessed 3 November 2023.
[986] art 1–2 Gesetz über die Handänderungssteuer (HG) (SGS 643.1).
[987] art 15 HG.
[988] Kanton Wallis, 'Zusätzliche Handänderungssteuer der Gemeinden (art 15 HG)' <vs.ch> accessed 17 November 2023.

Advance withdrawal	CHF	41,500	
Financial wealth	CHF	50,000	
One-off capital tax advance withdrawal	CHF	1,786	-/-
Property transfer tax (canton of Wallis)	CHF	4,150	-/-
Property transfer tax (city of Sion)	CHF	2,075	-/-
Financial wealth after taxes	**CHF**	**41,989**	
Value of the dwelling	CHF	415,000	
Down payment			
- Financial wealth	CHF	41,989	-/-
- Advance withdrawal	CHF	41,500	-/-
Remaining (financing needed)	**CHF**	**331,511**	

The individual takes out a mortgage for the remaining amount of CHF 331,511. It is a linear mortgage, which is being repaid in 30 years. The following information can then be added to the analysis:

- Linear mortgage
  - Amount: CHF 331,511
  - Duration: 30 years
  - Interest rate: 2.6%
  - Monthly repayment: CHF 920.86 [989]

Event 3a: Sale of the owner-occupied dwelling and purchase of another owner-occupied dwelling

After 10 years, the owner-occupied dwelling is sold, and the reference person purchases his/her second owner-occupied dwelling ("levelling-up").

Additional information regarding this event:

- Reference person aged 44
- Yearly income from employment is equal to CHF 125,000
- Pension assets (2nd and 3rd pillar) of CHF 143,000 [990]

[989] On the assumption that the entire mortgage is being repaid in 30 years. Also refer to appendix D2 for the full calculations.
[990] This concerns the accrued pension capital minus the previously early withdrawal of CHF 41,500. Also refer to appendix D1 for the full table.

- Financial wealth (other than home- and/or pension equity) of CHF 60,000, interest 1% (CHF 600 interest per annum)
- Value of the dwelling to be sold CHF 550,000, located in Sion
- Value of the dwelling to be bought CHF 650,000, located in Sion

Step 1: sale of the owner-occupied dwelling

The dwelling is sold for CHF 550,000. Hence, the capital gain is equal to CHF 135,000.[991] At the federal level, capital gains from the sale of private property are tax-free.[992] All cantons, however, do tax real estate capital gains (*Grundstückgewinnsteuer*).[993] The canton of Wallis uses the following percentages:

Table 5.4: Real estate gains tax rates in the canton of Wallis[994]

	Taxable profit		
Duration of ownership (in years)	**Up to CHF 50,000**	**CHF 50,001 – CHF 100,000**	**CHF 100,000 – ∞**
1	19.20	28.80	38.40
2	18.00	27.00	36.00
3	15.60	23.40	31.20
4	14.40	21.60	28.80
5	13.20	19.80	26.40
6	12.00	18.00	24.00
7	11.52	17.28	23.04
8	11.04	16.56	22.08
9	10.56	15.84	21.12
10	10.08	15.12	20.16
11	9.60	14.40	19.20
12	9.12	13.68	18.24
13	8.64	12.96	17.28
14	8.16	12.24	16.32
15	7.68	11.52	15.36
16	7.20	10.80	14.40
17	6.72	10.08	13.44

[991] CHF 550,000 – CHF 415,000 = CHF 135,000
[992] art 16(3) DBG.
[993] art 2(1)(d) StHG.
[994] Kanton Wallis, 'Offizielle Website des Kantons Wallis' <vs.ch> accessed 10 November 2023.

	Taxable profit		
Duration of ownership (in years)	**Up to CHF 50,000**	**CHF 50,001 – CHF 100,000**	**CHF 100,000 – ∞**
18	6.24	9.36	12.48
19	5.76	8.64	11.52
20	5.28	7.92	10.56
21	4.80	7.20	9.60
22	4.32	6.48	8.64
23	3.84	5.76	7.68
24	3.36	5.04	6.72
25	2.88	4.32	5.76
After 25 years	1.00	2.00	3.00

The individual sells the dwelling after 10 years, with a capital gain equal to CHF 135,000. The real estate gains tax rate is thus equal to 20.16%. Hence, the following information can be added to the analysis:

- Capital gain equal to CHF 135,000
- Capital gains tax equal to CHF 27,216 (20.16% of CHF 135,000)

Based on the above-mentioned information, the following synopsis can be made:

Value dwelling to be sold	CHF	550,000	
Capital gain	CHF	135,000	
Real estate capital gains tax (20.16%)	CHF	27,216	-/-
Capital gain after taxes	**CHF**	**107,784**	

Furthermore, after 10 years, the remaining mortgage amount is equal to CHF 221,007.[995]

Step 2: purchase of another owner-occupied dwelling

The reference person purchases his/her second house in the city of Sion with a value equal to CHF 650,000. To finance the purchase of this dwelling, the individual uses the remainder of the sale of his/her previous dwelling, his/her savings ("financial wealth") minus taxes, an advance

[995] Also refer to appendix D2, month 121.

withdrawal equal to 10% of the value of the dwelling, and a mortgage loan for the remaining amount. Based on the above-mentioned information, the following synopsis can be made:

Value of the dwelling	CHF	650,000		
Max mortgage (80%)	CHF	520,000		
Theoretical mortgage interest (5%)	CHF	26,000		per annum
Other living expenses (1%)	CHF	6,500	+	
Total living expenses	**CHF**	**32,500**	26%	of income
Pension assets	CHF	143,000		
Early withdrawal (10%)	CHF	65,000	-/-	
Pension assets (after withdrawal)	**CHF**	**78,000**		
Proceeds of the sale dwelling #1	CHF	550,000		
Real estate gains tax	CHF	27,216		
Repayment of remaining mortgage dwelling #1	CHF	221,007		
Remainder sale dwelling #1	**CHF**	**301,777**		
Early withdrawal	CHF	65,000		
Financial wealth	CHF	60,000		
One-off capital tax	CHF	2,901	-/-	
Property transfer tax (canton of Wallis)	CHF	8,450	-/-	
Property transfer tax (city of Sion)	CHF	4,225	-/-	
Financial wealth after taxes	**CHF**	**44,424**		
Value of the dwelling	CHF	650,000		
Down payment				
- Remainder sale dwelling #1	CHF	301,777	-/-	
- Early withdrawal	CHF	65,000	-/-	
- Financial wealth after taxes	CHF	44,424	-/-	
Remaining (financing needed)	**CHF**	**238,799**		

The individual takes out a linear mortgage for the remaining amount of CHF 238,799. The following information can then be added to the analysis:

- Linear mortgage
  - Amount: CHF 238,799
  - Duration: 30 years
  - Interest rate: 2.6%
  - Monthly repayment: CHF 663.33 [996]

Event 3b: Sale of the owner-occupied dwelling without purchasing another dwelling

An alternative option is to sell the owner-occupied dwelling, without purchasing a new one, and instead transfer to e.g., rented housing. The analysis would then become the following.

After 10 years, the owner-occupied dwelling is sold. Additional information regarding this event:

- Reference person aged 44
- Value of the dwelling to be sold CHF 550,000, located in Sion
- No additional dwelling is bought within 2 years after the sale.

The remaining mortgage is fully paid off with the proceeds from the sale of the property. Furthermore, because no additional dwelling is being bought within 2 years after the sale, the early withdrawal used to buy the dwelling, needs to be paid back to the pension provider. Next to that, the individual can request a refund of the taxes originally paid due to the early withdrawal. To obtain the refund, the individual must submit a written request to the relevant tax authority. The one-off capital tax originally paid with the early withdrawal, will be refunded without any interest.

Based on the above-mentioned information, the following synopsis can be made:

Proceeds of the sale dwelling #1	CHF 550,000
Real estate gains tax (20.16% of CHF 135.000)	CHF 27,216
Repayment of remaining mortgage dwelling #1	CHF 221,007
Repayment of advance withdrawal	CHF 41,500
Remainder sale dwelling #1	**CHF 260,277**

The remaining amount of CHF 260,277 is then added to the individual's financial wealth.

[996] On the assumption that the entire mortgage is being repaid in 30 years. Also refer to appendix D3 for the full table.

Event 4: Retirement

At age 65, the reference person retires. Depending on the continuation of his/her path following either event 3a or event 3b, the following information can be added to the analysis.

	Following event 3a	**Following event 3b**
Pension assets (2nd and 3rd pillar):	CHF 760,000	CHF 890,000

The following two events follow the event 3a line of events.

Event 5a: Sale of the owner-occupied dwelling and purchase of a smaller owner-occupied dwelling

After retirement, the reference person sells the owner-occupied dwelling and decides to purchase a smaller dwelling.

Additional information regarding this event:

- Reference person aged 68
- Retired
- Financial wealth (other than home- and/or pension equity) of CHF 100,000, interest 1% (CHF 1,000 interest per annum)
- Value of the dwelling to be sold CHF 725,000, located in Sion
- Value of the dwelling to be bought CHF 600,000, located in Sion

Step 1: sale of the owner-occupied dwelling

Based on the above-mentioned information, the following synopsis can be made:

Value dwelling to be sold	CHF	725,000
Capital gain	CHF	75,000
Real estate capital gains tax (6.72%)	CHF	5,040
Capital gain after taxes	**CHF**	**69,960**
Remaining mortgage	CHF	48,427

As stated before, it concerns a linear mortgage being paid back in 30 years. At the moment of the sale of the dwelling, the amount of the mortgage remaining is equal to CHF 48,427. Because the individual is already retired, the earlier advance withdrawals do not have to be paid back to the pension provider. Hence the remaining mortgage can be fully repaid by means of the capital gain (after taxes) from the sale of the dwelling.

Step 2: purchase of another (smaller) owner-occupied dwelling

The reference person purchases a smaller dwelling with a value equal to CHF 600,000. The following synopsis can then be made:

Value of the dwelling	CHF	600,000	
Max mortgage (80%)	CHF	480,000	
Theoretical mortgage interest (5%)	CHF	24,000	
Other living expenses (1%)	CHF	6,000	+
Total living expenses	**CHF**	**30,000**	
Remainder sale dwelling #2	CHF	671,533 [997]	
Property transfer tax (canton of Wallis)	CHF	7,800	-/-
Property transfer tax (city of Sion)	CHF	3,900	-/-
Total (own) equity	**CHF**	**659,833**	

This means the reference person is able to buy the dwelling with his/her own means completely.

Event 5b: Sale of the owner-occupied dwelling without purchasing another dwelling

An alternative option is to sell the owner-occupied dwelling, without purchasing a new one, and instead transfer to e.g., rented housing. The analysis would then become the following.

Value dwelling to be sold	CHF	725,000	
Capital gain	CHF	75,000	
Real estate capital gains tax (6.72%)	CHF	5,040	-/-
Capital gain after taxes	**CHF**	**69,960**	
Remaining mortgage	CHF	48,427	
Remainder	CHF	671,533	

[997] Resulting from the sale of dwelling #2 minus the real estate capital gains tax and repayment of the remaining mortgage, i.e., CHF 725,00 – CHF 5,040 – CHF 48,427 = CHF 671,533.

Because the individual is already retired, the earlier advance withdrawals do not have to be paid back to the pension provider.

The remaining amount of CHF 671,533 is then added to the individual's financial wealth.

Event 6: Death

At the age of 87 years, the individual dies. The framework for inheritance law in Switzerland is laid out in the Swiss Civil Code.[998] The estate goes to his/her legal heirs.[999] While the dwelling is included herein, second pillar pension money is not. The individual was already retired; hence the insured event has occurred, and pension benefits have been paid to the individual. A (dependant) survivor may be entitled to a survivor's pension.[1000]

There is no inheritance tax at the federal level. However, most cantons do levy an inheritance tax.[1001] The amount of the tax, i.e., how it is calculated, and who is liable for inheritance tax varies from canton to canton.

The table below show some of the inheritance tax results based on the following information regarding this event:

- Dwelling located in the city of Sion (canton of Wallis)
- Value of the dwelling equal to CHF 700,000
- Tax year: 2023

Table 5.5: Inheritance tax results[1002]

Relationship	Taxes CHF	Taxes in %	Exemption limit CHF
Spouse	0	0%	0
Partner	150,000	25%	10,000
Children	0	0%	0
Parents	0	0%	0
Siblings	60,000	10%	10,000

[998] art 457–640 Schweizerisches Zivilgesetzbuch (ZGB).
[999] art 457–642 ZGB.
[1000] ch.ch, 'The 2nd Pillar and Death' <https://www.ch.ch/en/retirement/old-age-pension/the-2nd-pillar/#2nd-pillar-and-death> accessed 17 November 2023; European Commission, 'Survivors' Pensions' <https://ec.europa.eu/social/main.jsp?catId=1131&langId=en&intPageId=4828> accessed 17 November 2023.
[1001] Only the cantons Obwalden and Schwyz do not levy an inheritance tax.
[1002] Based on calculations using: Eidgenössische Steuerverwaltung (ESTV), 'Swiss Tax Calculator' <swisstaxcalculator.estv.admin.ch> accessed 19 January 2024.

Alternative: the individual dies before retirement

In the event the individual dies before retirement, the only possible deviation from the above is in the case there is no pension benefit due upon the death of the insured person. In this case, the amount withdrawn must be paid back to the pension fund by his or her heirs.[1003] However, regarding our reference person, there is an entitlement to a pension benefit, hence the amount of the advance withdrawal does not have to be paid back to the pension fund.

5.5 Addressing sub-questions: towards a comprehensive understanding

This chapter has provided insights into the design and background of both the pension system and the owner-occupier housing market in Switzerland. It focused on four questions. Each of them is answered below.

Question 1: Which elements are characteristic of the pension system in Switzerland?

The Swiss pension system, like its Dutch counterpart, follows a three-pillar model. Several general observations and conclusions can be drawn:

- The first-pillar public pension is provided by the state. It is designed to prevent old-age poverty and cover basic living expenses, and is financed through a pay-as-you-go (PAYG) system. It includes old-age and survivors' insurance (AHV), disability insurance (IV), and supplementary benefits where necessary. Unlike in the Netherlands, the pension amount depends on an individual's average lifetime earnings. Coverage under AHV and IV is compulsory for all persons living or working in Switzerland above the age of 17.
- The second pillar comprises occupational pensions funded through capital accumulation. It operates through "defined credits" in individual pension accounts and is divided into a mandatory component (Berufliche Vorsorge) and a voluntary component (Überobligatorium). The retirement age in the second pillar is fixed at 65.
- The third pillar consists of voluntary, privately financed savings and serves as a supplementary "piggy bank" for old age. It is divided into pillar 3a (a regulated, tax-advantaged scheme) and pillar 3b (an unregulated scheme without preferential tax treatment).
- The statutory retirement age is currently 65 for men and 64 for women. Following the 2022 referendum, this will gradually increase to 65 for women as well. In the second pillar, the retirement age is already 65 for both genders, and is not linked to life expectancy.

[1003] art 30d(1)(a) BVG.

- Pension income is taxed regularly, though no social security contributions are levied on it. The second and third pillars are taxed under an EET regime. Early withdrawals from pillar 3a are taxed separately and at a significantly lower rate.
- There is considerable freedom of choice at retirement. Second-pillar participants may opt for a full lump sum, full annuity, or a combination.
- Early or delayed retirement is possible. In the first pillar, early retirement can be taken from age 63 (men) or 62 (women). In the second pillar, early retirement is possible from age 58, although it results in reduced benefits.

Question 2: Which elements are characteristic of the owner-occupier housing market in Switzerland?

Switzerland has the lowest homeownership rate in Europe at 42.5%. Renting is widespread due to high house prices and a well-functioning rental market. Still, a number of features define the owner-occupier sector:

- There is no formal legal definition of "main residence," though distinctions between first and second homes are embedded in policy (e.g., Article 75b BV).
- Homeownership is taxed through an imputed rental value (*Eigenmietwert*), which is included as income but allows for deductions of real estate expenses.
- Interest on mortgage loans is fully deductible from taxable income. Maintenance costs and, in some cantons, property taxes are also deductible.
- Homeowners face a range of taxes: wealth tax, property tax (*Liegenschaftssteuer*), capital gains tax (*Grundstückgewinnsteuer*), and property transfer tax (*Handänderungssteuer*), the rates and application of which vary widely between cantons.
- Since 1972, the promotion of homeownership has been enshrined in the Swiss Constitution. Unlike in other European countries, where this is often done via mortgage interest relief, Switzerland promotes homeownership indirectly by allowing individuals to use pension assets from the second and third pillars to finance the purchase of a main residence. This can be achieved either through an advance withdrawal of assets (used as equity) or by pledging the assets (used as collateral).
- Mortgage finance is common: around 90% of owner-occupied dwellings are (partially) mortgaged. While no statutory LTV cap exists, lenders generally apply an 80% limit, with amortisation to two-thirds required within 15 years.
- Since 2012, households must provide at least 10% of the property's value as "hard" equity (not derived from pension assets).
- Down payment restrictions and amortisation rules have been tightened, making access to homeownership more difficult, particularly for older and financially vulnerable households.

Question 3: How are retirement savings and real-estate purchases being combined in Switzerland?
Switzerland offers a unique mechanism allowing individuals to use pension savings to finance homeownership. Two main routes are possible:

- Early withdrawal of pension assets increases equity, enabling homeownership with less (other) capital. Pension assets drawn in this way can replace other forms of equity required for down payments. However, it also reduces retirement savings and therefore shortens the household balance sheet.
- Pledging, which allows pension assets to serve as collateral for mortgages. This preserves pension wealth but enables higher borrowing and thereby lengthens balance sheets.

Studies highlight both approaches as beneficial for improving access to homeownership, especially for younger households. However, they also emphasise long-term risks, including increased financial vulnerability, growing wealth inequality, and diminished pension adequacy – particularly when housing values decline or unexpected life events occur.

In summary, early withdrawals reduce the balance sheet (by converting pension assets into housing equity), while pledging extends it (by increasing liabilities without immediately drawing down pension assets). This distinction is illustrated in the examples provided in the chapter.

Question 4: What role do taxes play herein?
The interplay between legal regulations, particularly taxation, and their impact on the relationship between retirement savings and real estate transactions is evident throughout this chapter. Several conclusions follow:

- The constitutional objective to promote homeownership provides a robust foundation for integrating retirement savings with real estate purchases.
- Early withdrawals of pension assets trigger a one-off capital withdrawal tax, calculated at a reduced rate and separate from regular income taxation. This potentially enhances the attractiveness of utilizing such funds due to the more favourable tax percentage.
- Pledging pension assets does not incur tax unless the pledge is realised.
- Mortgage interest payments are fully tax-deductible, reducing the effective cost of borrowing.
- The *Eigenmietwert* introduces a tax on imputed rental income, but is counterbalanced by deductions for related costs.
- While the federal government does not tax capital gains from private property sales, all cantons do, with rates often influenced by ownership duration.

These fiscal instruments both enable and shape how pension savings can be mobilised for homeownership, reinforcing the integration of the two domains.

Concluding reflection

This chapter has delved into the intricate interplay between Switzerland's pension system and its owner-occupier housing market, addressing the four key questions mentioned above. It outlines the characteristic features of each system, highlighting the three-pillar structure of the pension system and the unique aspects of the owner-occupied housing market such as taxation, promotion policies, and financing mechanisms. Furthermore, it has explored how retirement savings may be mobilised for homeownership, either through early withdrawal or pledging, while also emphasizing the role of taxes in shaping these interactions.

Ultimately, Switzerland's system represents a distinctive policy choice: one that facilitates early access to pension savings to promote homeownership, but with important trade-offs. While this enhances financial flexibility and asset formation during working life, it also increases leverage and creates potential gaps in retirement security. The Swiss case therefore underscores both the opportunities and the risks of linking retirement and housing policy – offering valuable insights for both comparative analysis and the forthcoming proposal for the Netherlands.

6. Proposal for an integrated real estate and pensions model for the Netherlands

6.1 Introduction

This chapter formulates a policy proposal for the Dutch context and thereby brings the analysis to a conclusion. It builds on the comparative analysis presented in the previous chapters to answer the main research question posed in Chapter 1: whether Dutch household balance sheets – characterised by high levels of mortgage debt and illiquid pension savings – can be structurally shortened through a more integrated approach to retirement savings and homeownership.

As established in chapters 1 and 2, Dutch households are characterised by long balance sheets: high levels of both mortgage debt and pension savings, combined with relatively low levels of liquid financial assets. This stems primarily from two structural features of the Dutch system: the quasi-mandatory nature of second-pillar pension savings and significant mortgage liabilities with tax-favoured treatment of annuity- and linear-based mortgage repayment. These features concentrate wealth in illiquid assets – particularly home equity and pension entitlements – while limiting access to liquid resources. At the macroeconomic level, this reliance on illiquid assets increases vulnerability to income shocks and price fluctuations, thereby affecting broader financial and economic stability.

In light of these challenges, this research examines the feasibility of a model that integrates retirement savings and real estate purchases in the Netherlands. Such a model should address the issue of long household balance sheets by reducing reliance on mortgage debt while safeguarding the adequacy and sustainability of the Dutch pension system. Moreover, it is essential that the model complies with both national and European tax laws and aligns with broader financial and housing policy objectives. Accordingly, this chapter addresses the following question:

Is it possible to shorten the long balance sheets of Dutch households by combining retirement savings and real estate purchases, while safeguarding pension adequacy and maintaining housing affordability? If so, what could such a system look like?

To that end, this chapter proposes a Dutch early withdrawal model that enables a partial, purpose-bound release of pension capital for owner-occupied housing investment. The proposal is grounded in the comparative insights developed in chapters 3 to 5, which examined how Germany, the United Kingdom, and Switzerland regulate the intersection of pension accumulation and home ownership. These countries represent diverse approaches to integrating

retirement savings with housing investments, offering models that differ in design, implementation, and outcomes. Through this comparative framework, this chapter examines the specific elements of pensions, home ownership, and tax regulations across these countries to assess their potential applicability within the Dutch context.

Any solution for the Netherlands must also meet the specific evaluation criteria as stated within the review framework introduced in chapter 1 of this dissertation. It should effectively shorten household balance sheets by reducing reliance on high mortgage debt while enabling affordable homeownership. Furthermore, it must ensure that the pension system remains adequate, safe, and sustainable, allowing individuals to maintain their standard of living after retirement. Tax policies must be fair and efficient, minimizing distortions while providing targeted incentives to support housing affordability and retirement savings. The model should be feasible to implement within the existing Dutch regulatory framework, avoiding excessive complexity or the need for major systemic changes. Finally, it must enhance or at least preserve the stability of the Dutch owner-occupier housing market and comply fully with both national and EU law.

By integrating these criteria into the analysis, this chapter aims to derive a balanced and pragmatic solution for the Netherlands. Drawing from lessons of Germany, the UK, and Switzerland, this chapter assesses the adaptability of international models while tailoring them to the unique characteristics of Dutch households, financial systems, and regulatory frameworks. Ultimately, the goal is to propose a model that aligns with the broader objectives of economic resilience, social equity, and financial sustainability, providing a solution to the issue of long balance sheets among Dutch households.

6.2 Comparative insights and their relevance to the Dutch context

6.2.1 Comparison

The integration of retirement savings and real estate financing presents a potential solution to shorten the long balance sheets of Dutch households. As established in chapters 1 and 2, much of Dutch household wealth is tied up in pension entitlements and home equity, limiting liquidity and increasing vulnerability to financial shocks. International comparative legal research can serve as a valuable source of insight to address this challenge, offering tested design options and institutional frameworks.

Since every country has its own unique history and institutional development, examining foreign legal systems can be helpful when seeking solutions to domestic tax policy challenges. These systems may offer tested approaches or contain legal doctrines that respond more flexibly to social and economic changes. In this sense, comparative legal research serves as a source of

inspiration for better understanding and potentially improving Dutch tax law – particularly in areas related to the main residence and pensions, and in exploring the integration of retirement savings and homeownership.

This section provides a comparative analysis of three international models for integrating retirement savings and real estate purchases: Germany's *Bausparen*, the UK's Lifetime ISA, and Switzerland's early withdrawal and pledging mechanisms. Each model is analysed in terms of its structure, eligibility criteria, tax incentives, and implications for both retirement and the housing market. These insights offer valuable inspiration for developing policy options within the Dutch context.

The following table provides a schematic overview of the key features of the models in Germany, the United Kingdom, and Switzerland. The Netherlands is not included in this specific comparison because it does not (yet) possess a formal institutionalised model for combining retirement savings and real estate purchases.

Table 6.1: Schematic overview of combining retirement savings and real estate purchases in Germany, the United Kingdom, and Switzerland

Criteria	**Germany**	**United Kingdom**	**Switzerland**	
	Bausparen	***Lifetime ISA***	***Early withdrawal***	***Pledging***
Basic structure and mechanism	Contractual savings plan with a savings phase followed by a loan phase at preferential interest rates	Savings account designed for first-time home buyers or retirement	Direct withdrawal of second/third-pillar pension funds to finance a primary residence	Pledging pension funds as collateral for a mortgage without reducing retirement savings unless activated in case of default
Eligibility and conditions	Open to all age groups; income limits for government subsidies (e.g., *Riester*), but no first-time buyer restriction	Available to UK residents aged 18–40; penalty-free withdrawals only for first-time buyers; property cap of £450,000	Restricted to primary residence purchases; early withdrawal is not permitted after age 50 in most cases	Restricted to primary residence purchases; no age-based restrictions for pledging, but it is dependent on lender conditions

Criteria	**Germany**	**United Kingdom**	**Switzerland**	
	Bausparen	***Lifetime ISA***	***Early withdrawal***	***Pledging***
Integration with pension system	Low integration with pension system: housing assets are generally separate from retirement provisions, though *Riester* subsidies indirectly support retirement security	Provides flexibility between home purchase and retirement savings; withdrawals do not affect other pension savings directly but may reduce available retirement funds	Directly impacts retirement funds as the withdrawn amount reduces retirement capital	Maintains pension security since pledged funds remain intact; risk arises only if the pledge is activated due to loan default
Integration with housing market	Loan phase provides direct financing at fixed rates, offering stability in housing costs and securing loans when savings targets are met – though often combined with other financing	Primarily assists first-time buyers by offering deposit assistance; the government bonus reduces initial housing costs but remains limited by property price caps in high-demand areas	Early withdrawal provides liquidity to meet down-payment requirements; hence, it boosts housing affordability	Improves affordability through better borrowing conditions and higher mortgage eligibility
Tax and government incentives	*Riester* subsidy; tax-exempt savings for certain income levels	25% government bonus up to £1,000 annually; tax-free investment returns; penalties for non-eligible withdrawals	Early withdrawal is subject to a capital withdrawal tax (varies by canton)	No taxation on pledging

Criteria	**Germany**	**United Kingdom**	**Switzerland**	
	Bausparen	***Lifetime ISA***	***Early withdrawal***	***Pledging***
Impact on retirement savings	Retirement funds are minimally impacted as *Bausparen* loans are distinct from pension funds, though reduced liquidity may affect future asset flexibility for retirees	Potential reduction in retirement savings if accessed for housing	Early withdrawal reduces pension capital, impacting retirement income adequacy	Pledging does not reduce pension capital unless the pledge is activated due to loan default
Impact on housing market	Promotes stable housing finance through predictable loan rates, though wait times can deter potential buyers, leading to demand fluctuation	Demand-side inflation possible in high-demand areas, increasing market tightness; restricted benefit in high-cost regions, which may exacerbate affordability challenges in these areas	Enhances affordability by increasing liquidity for down payments; potential to increase housing demand, which may strain affordability	Like early withdrawal in improving affordability but avoids diminishing retirement funds; could lead to overleveraging in volatile housing markets
Risks and limitations	Fixed rates and loan wait times may delay access or limit appeal in low-interest rate environments; closed fund structure restricts flexibility, impacting responsiveness to life changes	Withdrawal penalties limit flexibility; capped benefits in high-cost areas reduce impact; may fuel demand-side inflation	Reduced pension wealth at retirement; market volatility may pose risks to resale value and financial security in later life	Pledged funds remain secure unless default occurs; increased exposure to housing market risks could result in financial strain if housing values decline significantly

6.2.1.1 Germany: Bausparen

Germany's *Bausparen* model is a contractual savings scheme consisting of two sequential phases: first, a savings phase in which participants accumulate capital toward a predetermined target;

once this target is reached, it is followed by a loan phase during which participants receive a mortgage at a preferential fixed interest rate for housing purposes. The arrangement is time-bound and concludes upon full repayment of the loan, making it a closed-cycle financial product rather than an open-ended savings facility. This structure provides a predictable financing solution, although it requires long-term commitment and lacks flexibility, as loans are accessible only after the savings target is met. *Bausparen* is accessible to all ages, with income limits for *Riester* subsidies aimed at lower-income households, and it does not restrict eligibility to first-time buyers, making it inclusive for a range of individuals. The model operates independently from the pension system, though *Riester* subsidies indirectly enhance retirement security. Integration with the housing market is robust, with the loan phase providing stable, fixed-rate financing that aligns with the German housing market's demand for predictable cost structures, though the potential wait times may disrupt some buyers' market entry. Government incentives include tax benefits, the *Riester* subsidy, and consumer protections under the *Bausparkassengesetz* ensures fund stability. The model has minimal impact on retirement funds, as housing loans are distinct from pension assets, preserving financial security during retirement. The inflexible loan structure may limit liquidity for older adults though. Overall, *Bausparen*'s predictable structure contributes to housing market stability by reducing volatility from interest rate fluctuations. The primary limitations of *Bausparen* are its fixed loan rates, which may be less attractive during low-interest periods, and the closed fund structure, which can delay loan access.

6.2.1.2 The United Kingdom: Lifetime ISA

The United Kingdom's Lifetime ISA (LISA) is a flexible dual-purpose savings vehicle that can be used for either home purchases or retirement, supported by a 25% government bonus on contributions up to £4,000 per year. LISA holders can choose either cash or investment accounts, catering to different risk preferences and financial goals. While the bonus is attractive to first-time buyers, the £4,000 cap limits its adequacy as a comprehensive retirement solution. Eligibility is restricted to UK residents aged 18 to 40, with penalty-free use available only to first-time house buyers and a property price cap of £450,000. These restrictions mean that while the LISA is accessible to younger savers, it is less effective in high-cost housing areas, where property values often exceed the price cap. LISA integrates with the UK pension system by allowing savings to be diverted toward retirement if not used for housing, though it is generally supplementary to other pension products. Integration with the housing market is focused on assisting first-time buyers with deposits, reducing initial housing costs and easing entry into the owner-occupier housing market, though the regional property cap reduces its impact in high-demand areas such as London.

The Lifetime ISA provides a fiscal incentive through a 25% government bonus on contributions – structured as a direct public subsidy rather than a tax deduction – alongside tax exemptions on investment returns for qualifying uses. However, withdrawals for non-eligible purposes incur a 25% charge, which effectively recovers the government bonus and may limit flexibility.

Long-term, LISA's capped contributions mean that heavy reliance on it for housing could reduce retirement savings if not offset by additional retirement accounts, with the penalty further limiting adaptability for unforeseen financial changes. In terms of housing market impact, the LISA may increase demand, potentially driving up prices, but the price cap restricts broader market applicability, potentially creating affordability disparities across regions.

The 25% withdrawal charge serves a dual function: it reinforces the policy objective by discouraging non-targeted uses, but it may also reduce liquidity and limit adaptability for savers facing unexpected financial needs. Furthermore, the price cap restricts its use for buyers in regions with high housing prices.

6.2.1.3 Switzerland: early withdrawal and pledging

Switzerland's system permits early withdrawal or pledging of second- and third-pillar pension funds specifically for the purchase of the primary residence, giving homeowners access to pension equity without necessarily depleting retirement savings.

Early withdrawal

Switzerland's early withdrawal option allows households to access funds from their second- and third-pillar pension accounts to finance the purchase of a primary residence. This mechanism provides direct liquidity by reducing pension fund balances, enabling households to meet down-payment requirements and enter the housing market, particularly in high-cost areas where upfront costs can pose significant barriers. The option is subject to specific conditions, such as being restricted to primary residences, with full withdrawals permitted up to age 50 and partial withdrawals allowed afterward to preserve retirement assets for older individuals. While this approach enhances accessibility to homeownership, it comes with a trade-off: the reduction in pension assets potentially compromises long-term retirement adequacy. Furthermore, a one-time capital withdrawal tax – levied at the cantonal level – reduces the net amount available for housing and introduces regional variation in cost.

Pledging

Pledging pension assets provides an alternative to early withdrawal in Switzerland, enabling individuals to use their second- or third-pillar savings as collateral for securing a mortgage while preserving their pension capital. This approach improves mortgage eligibility and enhances borrowing conditions without depleting retirement savings, thus maintaining the long-term growth potential of pension investments. As with early withdrawal, eligibility for pledging is restricted to primary residence purchases. By retaining the pension balance, pledging ensures a stable retirement fund for the future while facilitating homeownership.

6.2.2 From international insights to the Dutch context

Building on the comparative analysis, this section evaluates the applicability of three international models – Germany's *Bausparen*, the UK's Lifetime ISA, and Switzerland's early withdrawal and pledging – to the Dutch context. As outlined earlier, the Netherlands faces unique financial challenges: high levels of mandatory pension contributions combined with substantial mortgage debt, resulting in long household balance sheets. To address these structural imbalances, a suitable policy solution must integrate retirement savings and real estate financing in a way that ensures accessibility to homeownership, safeguards financial stability, and maintains pension adequacy. By assessing the relative strengths and limitations of the German, UK, and Swiss models, this section aims to identify which design elements, if any, could be effectively adapted to the Dutch legal and socio-economic environment.

6.2.2.1 Germany: Bausparen

Germany's *Bausparen* system offers a stable and predictable financing solution through a contractual savings plan with distinct savings and loan phases. This approach promotes financial discipline and provides fixed-rate loans, reducing exposure to market volatility. However, its rigid structure and long wait times for loan access make it less flexible. For example, during the savings phase, participants enter into an agreement with a *Bausparkasse* to regularly deposit funds until a contractually agreed savings amount is reached. Only after reaching this amount do savers become eligible for the loan phase, during which they typically receive a preferential fixed-interest interest rate on the mortgage, which is determined at the outset of the contract. This rate stability is often viewed as a key benefit, shielding borrowers from interest rate volatility.

While the technical design of *Bauspar*-style products is feasible – as financial institutions can readily utilize forward contracts to predetermine interest rates over a 30-year horizon – the systemic integration of such a model into the Dutch second pillar faces a significant philosophical misalignment. The Wtp explicitly moves away from guaranteed entitlements and fixed discount rates toward 'realistic pension expectations' that directly reflect capital markets and investment returns. As confirmed in the 2025 Monitoring Report, supervisory authorities such as the AFM expect pension funds to communicate realistic expectations and transparently reflect capital market risk in future outcomes.[1004] By contrast, the core utility of *Bausparen* lies in its closed structure, which deliberately insulates participants from interest rate fluctuations by using the savings of the community to fund fixed-rate loans. While this insulation provides individual stability, integrating a product that suppresses market signals into a pension framework designed to reflect those same signals creates a design tension. Most significantly, *Bausparen* functions as a structurally separate savings bucket and does not provide a mechanism to access the €1,500 billion already accrued in Dutch pension entitlements. Consequently, while

[1004] Ministerie van Sociale Zaken en Werkgelegenheid, 'Voortgangsrapportage Monitoring Wet toekomst pensioenen' (2 July 2025) Kamerstukken II 2011/12–, 32 813, nr 138 <https://www.eerstekamer.nl/brief_in/20250702/voortgangsrapportage_monitoring/f=/vmoqhjtzitza.pdf> accessed 15 July 2025.

technically possible to implement as a banking product, *Bausparen* does not solve the structural illiquidity of existing pension capital, which is one of the primary drivers of the long balance sheets of Dutch households. This philosophical mismatch further reduces the suitability of *Bausparen* for integration into the Dutch framework.

Furthermore, the long waiting period between entering the savings contract and obtaining the loan may conflict with the needs of Dutch homebuyers, who typically seek immediate access to mortgage credit. Given the scarcity of housing and the competitive nature of the Dutch market, a delayed financing mechanism would likely impede rather than facilitate homeownership. Moreover, the closed character of the *Bausparen* system, in which funds are recycled internally between savers and borrowers, limits its responsiveness to housing demand and broader macroeconomic developments.
Another important feature of the German model is the system of state support through the *Wohnriester* subsidy. These fiscal benefits are conditional, complex, and closely tied to property ownership and use. As discussed in chapter 3, the subsidy system is difficult to navigate and may result in repayment obligations if certain conditions are not met, such as when a home is sold or rented.

In its traditional application, *Bausparen* is structurally separate from the pension system. While it is theoretically possible to allow pension wealth to flow into a *Bauspar*-style mechanism as the required savings deposit, the model remains fundamentally designed to facilitate a subsequent loan phase. Because this contractual savings and loan system focuses on creating new, fixed-rate debt instruments rather than directly substituting existing mortgage debt with accumulated pension capital,, it does not contribute to the primary objective of this research: structurally shortening the long balance sheets of Dutch households, which are characterised by the co-existence of large mortgage liabilities and significant pension savings. As such, *Bausparen* does not offer a viable pathway toward the specific form of deleveraging required for structural integration between these two domains.

Nonetheless, *Bausparen* has inspired international interest as a disciplined, stable vehicle for promoting homeownership. Its behavioural incentives and countercyclical potential offer valuable lessons, particularly for designing mechanisms that encourage long-term saving and borrowing discipline.

In summary, while the *Bausparen* system offers stability and predictability in housing finance, these advantages are outweighed by its limitations when viewed in the Dutch context. Its rigidity, long lead times, and institutional separation from the pension system render it misaligned with the objectives pursued in this dissertation. Although certain behavioural features – such as promoting financial discipline – are attractive in theory, they are insufficient to overcome the fundamental misalignment between the *Bausparen* model and the Dutch financial and legal

landscape. For these reasons, *Bausparen* does not offer a feasible path for shortening Dutch household balance sheets through integration of pension and housing systems.

6.2.2.2 The United Kingdom: Lifetime ISA

The UK's Lifetime ISA (LISA) is a dual-purpose savings account designed to support either home purchases or retirement. Its central appeal lies in a 25% government bonus on annual contributions of up to £4,000, with accrued funds accessible for the purchase of a first owner-occupied home or retirement after the age of 60. Participants may invest in cash or stocks and shares, or a combination of both, enabling customisation according to individual risk preferences.[1005] This flexibility has proven especially attractive to younger savers[1006], and the government bonus accelerates deposit accumulation.[1007]

Despite its flexibility, the LISA model faces structural hurdles that limit its suitability for the Dutch context. While implementation "details" – such as the annual contribution cap and age limits – could be adjusted in a potential Dutch version, the instrument remains a supplementary savings vehicle that operates outside the main occupational pension system. Consequently, these demographic and price-based constraints, even if modified, reflect the instrument's nature as a third-pillar tool rather than a comprehensive housing policy solution.

Moreover, while such a dual-purpose tool could theoretically increase flexibility by replacing a single-purpose pension obligation with a choice, the practical net effect in the Netherlands is likely negated by the "crowding out" effect. Because mandatory pension contributions and mortgage repayment obligations already exhaust the savings capacity of many households, an instrument that relies on generating new, additional capital does not alleviate the underlying financial rigidity.

Withdrawals for purposes outside those defined by the scheme incur a 25% penalty, which not only reclaims the government bonus but also erodes part of the individual's savings. Although this mechanism discourages misuse of funds for other purposes than housing or retirement, it restricts liquidity and adaptability – features that are particularly important in the Dutch setting, where financial rigidity is already heightened by mandatory pension contributions and mortgage repayment obligations.

Furthermore, the LISA operates outside the UK's main occupational pension system. As it functions as a supplementary vehicle without structural integration into broader retirement provisions, it does not provide a mechanism to access the money already accrued in Dutch

[1005] Individual Savings Account Regulations 1998, reg 8ZA.
[1006] B Pannell and D Jenkins, 'Building on the Bank of Mum and Dad' (Building Societies Association 2018) 17–18.
[1007] J Cribb and P Simpson, 'Barriers to Homeownership for Young Adults' in C Emmerson, P Johnson and R Joyce (eds), *The IFS Green Budget: February 2018* (Institute for Fiscal Studies 2018) 23–25.

pension entitlements. In the Dutch context – where the challenge lies in creating synergy between pension savings and real estate financing – this lack of integration limits the LISA model's relevance. It does not contribute to reducing the long balance sheets characteristic of Dutch households, which result from the coexistence of large mortgage debt and significant illiquid pension entitlements.

The UK's experience with the LISA also reveals concerns regarding housing market dynamics and equity. Studies indicate that the scheme disproportionately benefits higher-income households, who are more likely to maximise their annual contributions and often receive parental support. This results in a degree of "deadweight loss" – public resources subsidising households that would likely achieve homeownership without intervention.[1008] At the same time, demand-side incentives like the LISA risk fuelling price inflation in supply-constrained regions, thereby undermining the very affordability they aim to support.[1009]

In sum, while the LISA offers valuable behavioural incentives and dual-purpose flexibility, its lack of integration with the existing pension pot prevents it from being a feasible solution for the Netherlands.

6.2.2.3 Switzerland: early withdrawal and pledging

Early withdrawal

Switzerland's early withdrawal option enables households to access their second- and third-pillar pension savings for the purchase of an owner-occupied dwelling. This mechanism facilitates the transition into homeownership by reducing liquidity constraints, particularly among younger households with limited non-pension savings. As described earlier in section 6.2.1.3 and in greater detail in chapter 5, the early withdrawal mechanism is governed by a clear set of regulatory safeguards: it is only permitted for primary residences, restricted by age-based thresholds, subject to a minimum withdrawal amount, and triggers a one-time capital withdrawal tax. Furthermore, the requirement to repay upon selling the property ensures that pension savings are restored, supporting long-term retirement security.

In the context of this research, early withdrawal directly addresses the central challenge of long household balance sheets by enabling pension capital to substitute for mortgage debt. By lowering required borrowing amounts, it can reduce households' financial vulnerability while

[1008] G Salutin, 'Home Economics: Financial Policies to Increase Homeownership' (Social Market Foundation 2024) 15–16; J Cribb and P Simpson, 'Barriers to Homeownership for Young Adults' in C Emmerson, C Farquharson and P Johnson (eds), *The IFS Green Budget: February 2018* (Institute for Fiscal Studies 2018) 23–25; B Pannell and D Jenkins, 'Building on the Bank of Mum and Dad' (Building Societies Association 2018) 17–18.

[1009] G Salutin, 'Home Economics: Financial Policies to Increase Homeownership' (Social Market Foundation 2024) 15–16; J Cribb and P Simpson, 'Barriers to Homeownership for Young Adults' in C Emmerson, C Farquharson and P Johnson (eds), *The IFS Green Budget: February 2018* (Institute for Fiscal Studies 2018) 23–25; B Pannell and D Jenkins, 'Building on the Bank of Mum and Dad' (Building Societies Association 2018) 17–18; L Mayhew, 'The Last-Time Buyer: Housing and Finance for an Ageing Society' (CSFI 2019) 26–27.

leveraging existing retirement savings to support access to homeownership. Although the mechanism involves a trade-off – namely, the potential reduction in long-term pension adequacy – this can be mitigated through targeted design choices. As chapter 5 has shown, policy instruments such as partial withdrawal ceilings, minimum repayment thresholds, and fiscal incentives for voluntary pension top-ups may preserve the sustainability of the pension system.

Moreover, early withdrawal aligns with broader goals of integrating housing and retirement policy without introducing parallel savings schemes. Unlike models such as the Lifetime ISA, which rely on additional voluntary contributions, the Swiss early withdrawal model leverages existing structures within the occupational pension system. The institutional congruence between the Swiss and Dutch pension frameworks – most notably their reliance on mandatory occupational pensions – enhances the feasibility of adapting Switzerland's early withdrawal mechanism to the Dutch setting. While care must be taken to avoid inflationary pressures in the housing market, this model offers the most direct and adaptable route to achieving shorter household balance sheets while safeguarding long-term financial resilience.

Pledging

Pledging offers an alternative to early withdrawal by allowing households to use second- or third-pillar pension assets as collateral for a mortgage loan without removing funds from the pension scheme. As explained in section 6.2.1.3, and in greater detail in chapter 5, this approach can improve mortgage eligibility and yield more favourable borrowing terms, such as lower interest rates or amortisation schedules. Importantly, because the assets remain within the pension system unless the pledge is activated, the long-term retirement benefit is initially preserved.

Nevertheless, from the perspective of the Dutch policy context and the review framework of this research, pledging raises several concerns. While any regulation that leverages pension wealth for housing could theoretically increase a household's total purchasing power, the pledging mechanism is structurally distinct because it enables higher borrowing capacity without substituting the underlying liability with capital. Rather than shortening household balance sheets, pledging facilitates the accumulation of additional mortgage debt by using pension assets as collateral rather than as a down payment. Consequently, this may lengthen balance sheets by increasing total indebtedness. This is especially problematic in the Dutch context, where households already face high levels of mortgage exposure and where the housing market is characterised by significant price volatility, increasing households' financial vulnerability.

In addition, the potential activation of the pledge in the event of mortgage default creates additional financial risks. If borrowers become unable to meet their payment obligations, not only is the home at risk, but also the retirement assets pledged as collateral. This undermines the principle of pension security and creates compounding financial vulnerabilities for households. Moreover, as discussed in chapter 5, pledging does little to address issues of wealth inequality:

access to favourable lending conditions via pension pledges is more easily obtained by higher-income groups, who tend to hold more substantial pension assets.[1010]

In summary, while pledging maintains pension adequacy in the short term and may offer advantages in terms of mortgage eligibility, it fails to contribute meaningfully to balance sheet reduction and may in fact heighten systemic financial risks. Within the evaluative framework of this research, it thus cannot be considered a suitable option for the Netherlands.

6.2.3 Conclusion

The comparative analysis of Germany's *Bausparen*, the UK's LISA, and Switzerland's early withdrawal and pledging mechanisms has shown that these models offer valuable insights for combining retirement savings and real estate purchases. While *Bausparen* promotes financial discipline and offers predictability, its closed structure, the requirement to complete an extended savings phase before accessing financing, and its full institutional separation from the pension system offer limited potential to structurally address the Dutch problem of long household balance sheets. Similarly, the LISA provides behavioural incentives and flexibility, but its supplementary nature, demographic restrictions, and reliance on additional voluntary savings limit its effectiveness in meeting the structural challenge faced by Dutch households.

In contrast, Switzerland's early withdrawal mechanism emerges as the most promising model for adaptation. It allows for direct integration of retirement savings and real estate financing by enabling pension capital to substitute for mortgage debt. This approach aligns closely with the Dutch objective of reducing household leverage while maintaining retirement security. The Swiss model includes critical safeguards – such as age thresholds and repayment rules – that help mitigate risks to pension adequacy. Its compatibility with the Dutch occupational pension system further strengthens its feasibility.

By comparison, the Swiss pledging mechanism preserves pension wealth in the short term but increases overall indebtedness, thereby exacerbating rather than alleviating the structural challenge facing Dutch households. As such, pledging does not meet the evaluative criteria established in this dissertation.

Taken together, the evidence points to early withdrawal of pension assets as the internationally tested mechanism that offers both conceptual alignment and practical applicability for the Dutch context. It addresses the dual objectives of enhancing access to homeownership and reducing reliance on mortgage debt, while offering a structured path to maintain pension adequacy and

[1010] SC Bourassa and M Hoesli, 'Why Do the Swiss Rent?' (2010) 40 Journal of Real Estate Finance and Economics 286, 293–294 <https://doi.org/10.1007/s11146-008-9140-4>.

financial stability. The next section builds on these insights to develop a policy proposal tailored to the Dutch institutional and legal context.

6.3 Proposal for a Dutch early withdrawal model

The preceding analysis has demonstrated that, among the international mechanisms examined, Switzerland's early withdrawal model offers the most promising foundation for adaptation to the Dutch context. It provides a transparent and regulated means of enabling households to draw upon their pension capital for the purchase of an owner-occupied dwelling, thereby addressing the enduring issue of long household balance sheets. Building on this insight, the remainder of this chapter further develops and critically examines an early withdrawal model tailored to the Dutch context.

The section begins by outlining the key components of the proposed model, including its eligibility conditions, integration with the pension system and owner-occupied housing market, safeguards for pension adequacy, and tax design. Next, a quantitative illustration tests how the model might operate in practice. Thereafter, the proposal is assessed against the review framework formulated in chapter 1. Finally, considerations related to the model's implementation are discussed, including its administrative feasibility and alignment with current legal and regulatory infrastructure.

6.3.1 Elements of the model

6.3.1.1 Basic structure and mechanism

The Dutch early withdrawal model proposes that individuals be permitted to access a limited portion of their second- and third-pillar pension savings to finance the purchase or improvement of an owner-occupied dwelling. This mechanism would take the form of a direct capital withdrawal, providing immediate liquidity that can be used to meet down payment requirements, reduce the size of the mortgage loan, or support substantial home renovations – including those aimed at improving energy efficiency and sustainability.

In addition to this "transaction-based" application, one could also envisage a mechanism whereby pension savings are used at a later stage to reduce an existing mortgage debt on a dwelling that was initially financed in with a mortgage. Such an ex-post variant would likewise contribute to shortening household balance sheets, albeit in a different manner. Whereas the transaction-based variant prevents high loan-to-value ratios at the point of entry, the later repayment option reduces indebtedness only afterwards. Nevertheless, this latter mechanism may be particularly attractive in the initial implementation phase, as it would allow many households that already own a home to benefit from the scheme. It could also provide an important opportunity for households that, at the time of purchase, had insufficient accumulated

pension savings to make use of the mechanism but would be able to do so at a later stage. For these reasons, the present proposal primarily elaborates the transaction-based application, while acknowledging that the later repayment variant may represent a valuable complementary policy option.

To ensure policy coherence and mitigate the risk of excessive house price inflation, the early withdrawal should be treated as a functional equivalent of debt within the mortgage system's LTV framework in the Netherlands. This means that the withdrawn pension capital is not counted as borrower equity, but rather as part of the total loan amount when calculating the LTV ratio. By classifying early withdrawal in this way, the model preserves the integrity of existing prudential lending limits and avoids inflating households' effective purchasing power beyond responsible boundaries. This treatment is intended to prevent the mechanism from driving further demand-side pressure in an already supply-constrained housing market.

The model is designed to reduce households' reliance on high mortgage debt and thus contributes to shortening household balance sheets. By giving households more equity at the time of purchase, it can reduce long-term debt servicing burdens and enhance financial resilience.

Access to pension capital is conditional on a set of eligibility criteria, including an upper age limit – proposed at 55 years – to safeguard retirement readiness. This threshold ensures that early withdrawal does not significantly compromise short-term pension adequacy, as individuals beyond this age have a limited timeframe to replenish withdrawn capital before retirement. While no lower age limit is imposed, the model assumes that practical constraints – such as minimal pension accrual at early career stages – will naturally limit withdrawals among younger participants. This approach maintains inclusivity while prioritising long-term financial security.

A key design principle is that early withdrawal is temporary and purpose bound. The withdrawn funds must be repaid in full to the pension scheme when the property is sold, unless they are immediately reinvested in a new primary residence. This ensures that pension assets return to their original long-term function when they are no longer required for housing purposes. No interest or notional return is charged on the repaid amount. This simplifies administration, reduces the burden on participants, and avoids complex tax or actuarial recalculations.

To ensure that pension adequacy is preserved, the model sets clear caps on withdrawals based on the participant's age and time remaining to retirement. These caps provide predictable boundaries for early access while aligning with the Dutch pension system's adequacy standards. The following subsection outlines these eligibility rules and withdrawal limits in more detail.

6.3.1.2 Eligibility and conditions

Eligibility for participation in the Dutch early withdrawal model is limited to Dutch residents with accumulated savings in the second- and/or third pension pillars. Crucially, only pension assets that have already been accrued may be withdrawn — participants may not borrow against future entitlements. This rule ensures that the mechanism does not introduce implicit liabilities into the pension system or generate future repayment burdens that could compromise its long-term sustainability. While this safeguard complements the age-based caps discussed below, it serves an independent function by preserving the "pay-in-before-pay-out" principle and avoiding structural pension erosion.

It is important to note that this model primarily applies to workers accruing pension rights in collective second-pillar schemes or private third-pillar arrangements. As such, it offers limited applicability to self-employed individuals, who often do not participate in either pillar. Although third-pillar options are technically available to self-employed, uptake remains limited in practice.[1011] As such, the proposed mechanism is likely to benefit primarily those in traditional employment relationships. Although addressing the broader structural challenges faced by the self-employed falls outside the scope of this proposal, the limited reach of the mechanism among the self-employed is a notable limitation that merits recognition.

To align the model with key life stages in both housing and pension planning, access is granted to individuals up to the age of 55. This upper limit reflects the proximity to retirement and aims to ensure sufficient time remains to restore any withdrawn pension capital. Below this age, no hard lower limit is imposed at this stage; however, practical eligibility is implicitly tied to the existence of meaningful pension accrual, which typically begins to accumulate during the early to mid-career stage.

Withdrawals must be used exclusively for mortgages to finance acquisition, substantial renovation, or sustainability-oriented improvement of the main residence. This ensures that the funds serve a clear and targeted function in improving housing quality and ownership accessibility, rather than financing secondary properties, consumption, or investment real estate.

To prevent excessive depletion of pension savings, the model proposes – for illustrative purposes – a provisional withdrawal cap that is sensitive to age and remaining time to retirement. As an initial design, individuals aged under 40 may access up to 50% of their accrued pension capital, those aged 40 to 49 up to 35%, and individuals between 50 and 55 up to 20%. This illustrative sliding scale reflects the diminishing time horizon to replenish pension savings as

[1011] See e.g., C Biesenbeek et al, Werkenden met tekortschietend pensioen – Oplossingsroutes voor de witte en grijze vlek en de pensioenopbouw van zelfstandigen (Netspar Occasional Paper 05/2022); C van Ewijk, E Lutjens, E Ponds and B Starink, Pensioen voor alle werkenden (Netspar Design Paper 249, September 2023).

individuals approach retirement, thereby protecting long-term adequacy while maintaining access flexibility for younger participants.

To safeguard the integrity of the pension system and avoid permanent erosion of retirement income, the withdrawn amount must be repaid in full to the pension provider upon the sale of the property. This repayment is for the nominal amount originally withdrawn; no interest or notional return is charged on the repaid sum, which simplifies administration, reduces the financial burden on the participant, and avoids complex tax or actuarial recalculations. This repayment obligation ensures that funds not permanently used for housing return to their original purpose – maintaining the individual's pension adequacy. However, if the proceeds are reinvested in another owner-occupied dwelling, repayment may be deferred until that subsequent property is sold, thereby maintaining the housing-related use of the capital. Depending on the eventual legal and institutional design, other repayment triggers could include events such as death or emigration.

The repayment amount may be structured in several ways. It could take the form of a fixed nominal amount, be adjusted for inflation, or include a notional interest factor. Each of these options carries distinct trade-offs in terms of simplicity, fairness, and administrative feasibility. For illustrative purposes, the quantitative scenarios in section 6.3.2 assume nominal repayment – not to prescribe this approach normatively, but to isolate and demonstrate the model's core effect on balance sheets. A consistent and legally enforceable repayment mechanism will be essential to maintain both pension adequacy and tax neutrality. A more detailed discussion of these legal conditions is provided in section 6.3.4.2.

This mechanism may entail administrative complexity, especially for individuals who have accrued pension entitlements across multiple funds or providers. Coordination among pension administrators will be necessary to ensure proper documentation, oversight, and reintegration of withdrawn assets. These challenges require careful design and institutional coordination. Further discussion of administrative implementation follows in section 6.3.4.

The introduction of this early withdrawal model also raises coordination questions with other pension flexibility options, particularly the one-time lump sum withdrawal (*bedrag ineens*) and the high/low pension construction (*hoog/laagconstructie*). While each mechanism serves a distinct purpose, they all involve early or irregular disbursement of pension capital and may interact in ways that affect long-term income adequacy or tax treatment. Although simultaneous use is not necessarily excluded in principle, further policy guidance is likely needed to determine whether and how these options can be combined. Eligibility conditions for early withdrawal may therefore need to consider the use – or intended use – of other pension flexibility measures.

6.3.1.3 Integration with the pension system

The early withdrawal model directly interacts with the second and third pillars of the Dutch pension system, as the withdrawn amount reduces the individual's accumulated pension savings. Unlike pension-backed loans or pledging mechanisms, which maintain the principal within the pension fund, this model involves an actual disbursement of funds – thereby immediately lowering the future pension benefit unless the withdrawn amount is later replenished. As such, the model represents a significant shift in how pension assets are treated, acknowledging their dual function as both long-term retirement savings and, under strict conditions, a source of liquidity to support homeownership.

Although this integration introduces a direct impact on pension adequacy, the model incorporates measures to mitigate long-term risks and to facilitate the replenishment of withdrawn capital. The repayment obligation upon the sale of the property serves as a safeguard for pension adequacy. However, if the proceeds are reinvested in a new owner-occupied dwelling, repayment is not required, as the withdrawn funds continue to serve the purpose of securing stable housing. In both scenarios, the model promotes financial stability: either by reducing long-term housing costs – thereby lowering the income required to maintain one's standard of living in retirement – or by replenishing pension capital when housing is no longer retained. In addition, the use of a capped, age-sensitive withdrawal framework limits the extent of short-term depletion.

By embedding the early withdrawal mechanism within the existing legal and administrative structure of the second and third pension pillars, the model ensures continuity with current pension governance practices. This integration enables clear oversight, enforceability, and traceability of withdrawals, allowing the system to maintain transparency and coherence within the broader pension architecture. Pension providers are likely to be involved in the administrative implementation of the model, particularly in recording withdrawals, monitoring compliance with eligibility criteria, and tracking potential repayments. Their role may also extend to informing participants about the financial consequences of early withdrawal and the options for voluntary replenishment. Embedding the mechanism within the existing pension infrastructure supports operational feasibility and ensures regulatory compliance.

6.3.1.4 Integration with the owner-occupier housing market

The proposed early withdrawal model engages directly with the owner-occupier housing market by enhancing the liquidity available to households seeking to enter homeownership. In the Netherlands, mortgage lending typically allows for high loan-to-value (LTV) ratios – often up to 100%. Nevertheless, many households face financial barriers in the form of ancillary costs, such as transfer taxes, notarial fees, renovation expenses, and the growing pressure to provide a down payment in exchange for more favourable mortgage terms.

In this context, early access to pension savings may reduce reliance on supplementary savings or financial assistance from family, which often takes the form of intergenerational wealth transfers. By offering an alternative capital source, the model can help level the playing field for households without such external support. It may also reduce dependence on high mortgage debt, thereby lowering long-term repayment obligations and interest burdens. This can contribute to improved financial stability at the household level, especially by enhancing resilience to income shocks and interest rate volatility.

Overall, the mechanism helps reduce liquidity constraints and supports more equitable access to homeownership – without altering existing housing policies or mortgage regulations.

6.3.1.5 Tax and government incentives

To ensure legal clarity and administrative feasibility, the early withdrawal model aligns with existing Dutch tax rules for pension benefits under Box 1. Withdrawals made for eligible housing purposes are treated as tax-neutral at the point of disbursement, provided they remain within the functional scope of the pension system. In other words, no immediate income tax is levied if the individual uses the funds for the purchase or improvement of a primary residence and complies with the model's repayment conditions.

If the property is sold before retirement and the proceeds are not reinvested in a new primary residence, the withdrawn amount must be repaid in full to the pension fund. In such cases, no income tax is due, as the pension capital returns to its original purpose. However, if the property is sold after retirement and the withdrawn capital is not returned to the pension system, the standard box 1 income tax treatment would apply – consistent with how deferred pension income is normally taxed. This ensures that early access to pension funds does not permanently escape taxation, while maintaining administrative simplicity.

If the individual continues to reside in the property beyond retirement, no immediate tax liability arises. The withdrawn funds remain effectively "locked" in the primary residence, and no liquid benefit has been realized. As a result, the withdrawal is not treated as taxable income, preserving alignment with the principle that pension assets are taxed only when converted into spendable income. This treatment ensures that the model remains both administratively feasible and fair across different personal circumstances, avoiding penalties for individuals who continue to use their home as a retirement asset.

If the individual passes away after retirement while still residing in the property, and the withdrawn pension funds remain embedded in the property at the time of death, the outstanding amount is treated as realised pension income and taxed accordingly. The heirs are then required to settle the corresponding income tax liability on behalf of the deceased, consistent with the broader principle that all pension withdrawals must eventually be taxed. This approach avoids

the creation of a tax-free inheritance loophole while maintaining fairness between those who withdraw early and those who receive pension benefits through traditional annuities.

Voluntary repayments of withdrawn capital – such as additional deposits made to replenish pension savings – are permitted under the model. In line with existing Dutch tax rules, these contributions may qualify as additional pension contributions within the annual (tax-deferred) pension contribution allowance (*pensioenruimte*). This ensures that restoring pension capital can benefit from the same fiscal treatment as regular voluntary pension contributions. Policymakers may consider simplifying the administrative process or clarifying eligibility rules to further encourage this behaviour. This design supports long-term adequacy without requiring major changes to the tax framework.
This tax structure strikes a balance between fairness, feasibility, and policy coherence. It avoids the complexity of reduced or separate tax rates while reinforcing the long-standing principle that pension assets serve as deferred income, taxed either upon disbursement or withdrawal from the pension system.

6.3.1.6 Potential impact on retirement savings

The most direct consequence of the early withdrawal model is a temporary reduction in an individual's pension assets, which may result in lower retirement income if the withdrawn funds are not replenished. By allowing access to pension capital before retirement, the model introduces a trade-off between short-term housing affordability and long-term financial security.[1012] While this reallocation of pension assets offers clear advantages – such as reducing household indebtedness and improving access to homeownership – it also raises legitimate concerns regarding the adequacy of retirement provisions over time.

In particular, the opportunity cost of withdrawing pension capital early lies not only in the lost principal but also in the forgone investment returns that would have accumulated through compounding. Even if the withdrawn amount is later repaid, the delay in capital growth may not be fully offset – especially for individuals closer to retirement. These risks are partly mitigated by the model's repayment mechanism, which restores withdrawn funds to the pension system when the property is sold, provided the proceeds are not reinvested in a new primary residence. In addition, individuals may make voluntary repayments during the accumulation phase. While these are not tax-deductible by default, they may qualify for favourable treatment if made within the bounds of the individual's annual pension contribution allowance (*pensioenruimte*).

[1012] From a theoretical perspective, this trade-off aligns with Merton's lifecycle hypothesis on consumption smoothing (RC Merton, 'Lifetime Portfolio Selection under Uncertainty: The Continuous-Time Case' (1969) 51 Review of Economics and Statistics 247). Furthermore, by utilising pension capital to reduce housing costs, the model attempts to mitigate the risk of a 'Musgrave Disequilibrium' – a scenario where pensioners might achieve a higher net disposable income than the working population due to the accumulation of both housing and pension wealth, violating the principles of intergenerational equity described by Musgrave (see Richard A Musgrave and Peggy B Musgrave, *Public Finance in Theory and Practice* (5th edn, McGraw-Hill 1989) 82, 202–203).

Although the model applies uniformly in principle, differences in underlying pension wealth and income trajectories may still lead to variation in long-term outcomes. Higher-income individuals may be better positioned to replenish their pension savings over time, whereas lower-income participants may face greater constraints in doing so, even if they benefit from reduced housing costs. These potential disparities do not stem from the model's design per se but highlight the need for continued monitoring to ensure that pension adequacy is preserved across all socio-economic groups.

6.3.1.7 Potential impact on the owner-occupier housing market

The early withdrawal model has the potential to improve access to homeownership by providing households with additional liquidity during the acquisition process. By enabling individuals to draw from their pension savings to meet down-payment requirements or cover initial purchase-related costs[1013], the model helps reduce one of the primary financial barriers to entering the owner-occupier housing market. This may contribute to a modest increase in homeownership rates, particularly among younger first-time buyers and middle-aged households without access to intergenerational financial support.

These effects are especially relevant in the Dutch context, where high housing prices and tighter mortgage lending standards have made it increasingly difficult for many households to access the market. By substituting pension capital for part of the mortgage loan, the model may reduce principal debt, lower monthly repayments, and generate interest savings over time. The resulting affordability gains are examined further in section 6.3.2.

However, by increasing the purchasing capacity of prospective homeowners, the model may also introduce upward pressure on housing demand – particularly in urban areas with persistent supply shortages. Although the withdrawal rules apply uniformly, some groups – such as younger individuals with limited pension accrual, recent labour market entrants, or those in flexible employment – may be unable to benefit from the model to the same extent. In such cases, increased demand among eligible households may exacerbate competition in already overheated market segments, potentially worsening affordability challenges for those who cannot (yet) access pension capital for housing purposes. Broader price dynamics and systemic housing market risks are addressed in section 6.3.3.5.

6.3.1.8 Risks and limitations

While the proposed early withdrawal model offers opportunities to reduce household debt and improve access to homeownership, it is not without its limitations and potential risks. Chief among these is the risk to the long-term adequacy of retirement income. If participants fail to

[1013] These costs may include notary fees, transfer taxes, appraisal costs, and other out-of-pocket expenses that are not covered by the mortgage loan but are nonetheless essential to complete the transaction.

replenish the withdrawn portion of their pension savings, they may face reduced financial security in old age. Although the model includes safeguards – such as withdrawal limits, repayment upon property sale, and the possibility of voluntary replenishment – the actual behaviour of individuals may diverge from policy intent. This creates a potential vulnerability for certain subgroups, particularly those with lower lifetime earnings or irregular employment patterns, who may find it more difficult to rebuild their retirement savings over time.

The model also has the potential to affect housing market dynamics in unintended ways. By increasing the purchasing power of eligible households, it may generate additional demand. By increasing demand – particularly in already supply-constrained regions – the model could contribute to further price increases. If this increase in demand is not matched by corresponding increases in housing supply, the result could be upward pressure on property prices, exacerbating affordability challenges for groups unable to access early pension withdrawals. While this risk is not intrinsic to the mechanism itself, it highlights the importance of careful design and coordinated implementation alongside broader housing policy measures.

Finally, the administrative implementation of the model introduces a layer of complexity that should not be underestimated. Effective coordination between pension providers, mortgage lenders, and tax authorities will be essential to ensure proper oversight and enforcement. Systems must be in place to monitor withdrawals, track compliance with eligibility and repayment conditions, and process associated tax obligations, as well as any tax relief linked to voluntary replenishment of pension savings. Clear protocols, well-defined institutional responsibilities, and robust data exchange will be critical to minimising compliance and operational risks, while safeguarding the financial sustainability and integrity of both the pension system and housing (finance) sector.

6.3.2 Quantitative illustration

To demonstrate the practical functioning of the proposed Dutch early withdrawal model, this section presents a stylised reference case based on a purely illustrative and fully hypothetical individual navigating key life stages. In line with the methodological approach established in chapters 3, 4, and 5, the reference person is followed across several significant life events – ranging from career onset and pension accrual to the purchase and sale of owner-occupied dwellings, retirement, and eventual death. These milestones reflect common household decisions in both the housing and pension domains.

Each event describes relevant financial and institutional circumstances, including pension accrual, mortgage financing, equity positions, and the regulatory treatment of e.g., early

withdrawals.[1014] The illustration is a calculation-based example using explicit simplifying assumptions, such as constant regular savings regardless of changing housing costs, and – to ensure comparability – identical housing trajectories in the scenarios with and without early withdrawal. It aims to test the model's effects on individual financing conditions, pension adequacy, and household balance sheet composition over time. While simplified for clarity, the scenario is based on real-world Dutch conditions and tax parameters where possible.

The reference person is assumed to live in the city of Utrecht. This location is centrally situated and consistently ranks among the Dutch provinces with relatively high scores on multiple dimensions of broad prosperity, such as income, access to services, and housing quality.[1015] Utrecht's housing market also reflects median price levels that fall between the more expensive metropolitan areas (like Amsterdam) and less pressured regions, making it an analytically suitable midpoint for modelling affordability and housing behaviour.[1016]

The remainder of this section walks through the following stages:

- Event 1: Start of career and pension accrual
- Event 2: Purchase of the first owner-occupied dwelling
- Event 3: Sale of the home and purchase of another dwelling
- Event 4: Retirement
- Event 5a: Sale and purchase of a smaller dwelling post-retirement
- Event 5b: Sale without reinvestment post-retirement
- Event 6: Death

Each scenario includes assumptions about housing prices, pension accrual, mortgage structures, and taxation, drawing from available Dutch policy parameters and market data. The aim is not to predict individual financial outcomes nor to represent diverse socioeconomic groups, but to illustrate the mechanics, trade-offs, and safeguards of the early withdrawal model under a typical, stylised set of conditions. [1017] The following events illustrate how the model operates over the life course of this hypothetical individual.

[1014] While the illustration focuses on the transaction-based approach, the ex-post variant would similarly reduce mortgage balances for existing homeowners, though the timing and magnitude of effects may differ.
[1015] Centraal Bureau voor de Statistiek (CBS), *Regionale Monitor Brede Welvaart – Samenvatting* (2024) <https://www.cbs.nl/nl-nl/visualisaties/regionale-monitor-brede-welvaart/samenvatting> accessed 26 May 2025.
[1016] Centraal Bureau voor de Statistiek (CBS), *House prices up by over 10 percent in April* (2025) <https://www.cbs.nl/en-gb/news/2025/21/house-prices-up-by-over-10-percent-in-april> accessed 26 May 2025; Centraal Bureau voor de Statistiek (CBS), *Regional gross domestic product; national accounts* (2024) <https://www.cbs.nl/en-gb/figures/detail/84570ENG> accessed 26 May 2025.
[1017] This example is purely illustrative and based on a single hypothetical individual. Different income levels, household situations, or assumptions would lead to different outcomes. For policy purposes, a more extensive analysis is needed.

Event 1: Start of career and pension accrual

The reference person starts working at a full-time job and begins accruing a pension under the second pillar.

Additional information and assumptions regarding this event:

- Age: 24
- Gross annual income: € 45,000
- Pension system: Second pillar, mandatory participation
- Pension plan: Defined contribution
    - AOW offset: € 18,475
    - Capping limit: € 137,800
    - Contribution: 25% of pensionable salary (gross income minus offset)
    - Assumed investment return: 4% annually
- Pension assets: € 0
- Financial wealth: € 0

This event marks the start of the accumulation of retirement savings. The individual rents a home and gradually builds both financial and pension capital over the next decade.

Event 2: Purchase of the first owner-occupied dwelling

At age 34, the reference person purchases a dwelling in Utrecht for € 415,000.

Updated financial situation:

- Gross annual income: € 80,000
- Pension assets: € 145,000 [1018]
- Financial wealth (i.e., regular savings): € 70,000 [1019]

In the Netherlands, the maximum mortgage is subject to both Loan-to-Value (LTV) and Loan-to-Income (LTI) criteria. The LTV can be up to 100% - i.e., up to 100% of the value of the dwelling can be financed by means of a mortgage loan. As a rule of thumb, LTI caps often fall between 4.0 and 5.5 times gross annual income.[1020] Assuming a LTI cap of 5.0 for the individual, the maximum borrowing capacity is € 400,000.

[1018] Rounded numbers based on the assumptions as stated under event 1. Please also refer to appendix E1 for the complete table.
[1019] Rounded numbers from simplified calculations based on monthly savings contributions equal to 10% of the reference person's monthly salary and interest rate of 1% per year. Please also refer to appendix E2 for the complete table.
[1020] Also refer to chapter 2 for more about the LTI cap in the Netherlands.

Interest is deductible if – and only if – the mortgage loan is being repaid on at least an annuity basis and within 30 years.[1021]

Hence, the following information can be added to the analysis:

- Purchase price: € 415,000
- Mortgage interest rate: 4% (annuity mortgage)[1022]
- Mortgage term: 30 years (360 months)
- No other debts
- Transfer tax for first-time buyers: 0%
- Notarial & other fees: ignored for simplicity
- Full use of eligible mortgage deduction

Scenario A: Without early withdrawal

The individual uses personal savings to cover the down payment and borrows the maximum LTI-allowed mortgage (€ 400,000) – mortgage interest is (still) deductible, so it is attractive to get the highest possible mortgage loan. The remaining € 15,000 must come from the individual's (regular) savings.

Hence, the following information can be added to the analysis:

- Mortgage loan: € 400,000
- Pension capital used (early withdrawal): € 0
- Own savings used: € 15,000
    - Remaining savings after purchase: € 55,000

The individual takes out a mortgage of € 400,000 in the form of an annuity mortgage, which is being repaid in 30 years. The following information can then be added to the analysis:

- Annuity mortgage:
    - Amount: € 400,000
    - Duration: 30 years
    - Interest rate: 4.00%
    - Gross monthly payment: € 1,909.66
        - Interest: € 1,333.33 [1023]

[1021] art 3.119a(1)(b) in conjunction with art 3.119c Wet IB 2001.

[1022] For the purpose of this quantitative illustration, both the assumed investment return on retirement savings and the mortgage interest rate have been set at 4%. This alignment serves to isolate the effects of the early withdrawal mechanism and ensure a neutral comparison across scenarios.

[1023] Month 1, on the assumption that the entire mortgage is being repaid in 30 years. Also refer to appendix E3 for the complete table.

- Monthly repayment: € 576.33 [1024]

Scenario B: With early withdrawal
According to the model as described in paragraph 6.3.1, individuals aged under 40 may access up to 50% of their accrued pension capital. The buyer can thus access € 72,500 [1025] from their pension capital and reduce the mortgage loan accordingly.

Hence, the following information can be added to the analysis:

- Mortgage loan: € 327,500
- Pension capital used (early withdrawal): € 72,500
- Own savings used: € 15,000
    - Remaining savings after purchase: € 55,000

The individual takes out a mortgage of € 327,500. It is an annuity mortgage, which is being repaid in 30 years. The following information can then be added to the analysis:

- Annuity mortgage:
    - Amount: € 327,500
    - Duration: 30 years
    - Interest rate: 4.00%
    - Gross monthly payment: € 1,563.54
        - Interest: € 1,091.67 [1026]
        - Monthly repayment: € 471.87 [1027]

This reduction translates to a monthly savings of approximately € 350, or over € 4,000 annually, improving disposable income and reducing interest costs.

Balance sheet comparison
The tables below summarise the household balance sheet positions in both scenarios – without and with early withdrawal – immediately after the home purchase. The difference reflects the model's core effect: enabling the individual to draw upon pension savings to reduce mortgage debt and thereby shorten the household balance sheet.

[1024] Month 1, on the assumption that the entire mortgage is being repaid in 30 years. Also refer to appendix E3 for the complete table.
[1025] 50% of €145,000.
[1026] Month 1, on the assumption that the entire mortgage is being repaid in 30 years. Also refer to appendix E4 for the complete table.
[1027] Month 1, on the assumption that the entire mortgage is being repaid in 30 years. Also refer to appendix E4 for the complete table.

Table 6.2: Household balance sheet without early withdrawal (event 2, scenario A)

assets					*liabilities*
House	€	415,000	Mortgage	€	400,000
Pension assets	€	145,000			
Regular savings	€	55,000			
	€	615,000		€	400,000

Table 6.3: Household balance sheet with early withdrawal (event 2, scenario B)

assets					*liabilities*
House	€	415,000	Mortgage	€	327,500
Pension assets	€	72,500			
Regular savings	€	55,000			
	€	542,500		€	327,500

The comparison shows that by using the early withdrawal option, the individual reduces mortgage debt by € 72,500 – the amount of pension capital accessed. This reduction in liabilities directly translates into a leaner household balance sheet: both assets and liabilities are proportionally smaller, while net equity (assets minus liabilities) remains protected.

Event 3: Sale of the home and purchase of another dwelling

After ten years, the reference person sells the initial owner-occupied dwelling and purchases a second property, marking a typical "levelling-up" step on the housing ladder.

Additional information and assumptions regarding this event:

- Age: 44
- Gross annual income: € 125,000
- Financial wealth (i.e., regular savings): € 175,000 [1028]
- Value of the dwelling to be sold is € 550,000, located in Utrecht
- Value of the dwelling to be bought € 650,000, located in Utrecht

[1028] Rounded numbers from simplified calculations based on monthly savings contributions equal to 10% of the reference person's monthly salary and interest rate of 1% per year. Please also refer to appendix E2 for the complete table.

Step 1: sale of the owner-occupied dwelling

The dwelling is sold for € 550,000. Hence, the capital gain is equal to € 135,000.[1029] In the Netherlands, no capital gains tax is levied on the sale of an owner-occupied dwelling. This is a key principle of the owner-occupied home scheme (*eigenwoningregeling*). The following is true regarding both scenarios:

	Scenario A: **Without early withdrawal**	**Scenario B:** **With early withdrawal**
Value of the dwelling to be sold	€ 550,000	€ 550,000
Capital gain	€ 135,000	€ 135,000
Remaining mortgage	€ 314,277	€ 257,314

In the early withdrawal scenario, the mortgage balance is significantly lower due to the initial use of € 72,500 in pension assets to reduce the loan principal. This earlier intervention results in € 56,963 less outstanding debt at the time of resale, thereby strengthening the net equity position for the subsequent home purchase.

Step 2: purchase of another owner-occupied dwelling

The reference person purchases his/her second house in Utrecht with a value equal to € 650,000. The following limits apply:

- Maximum mortgage under 100% LTV: € 650,000
- LTI cap (5 x gross income): € 625,000

Based on the above-mentioned information, the following synopsis can be made:

[1029] € 550,000 – € 415,000 = € 135,000.

Scenario A: Without early withdrawal				**Scenario B: With early withdrawal**			
Proceeds of the sale dwelling #1	€	550,000		Proceeds of the sale dwelling #1	€	550,000	
Repayment of remaining mortgage dwelling #1	€	314,277	-/-	Repayment of remaining mortgage dwelling #1	€	257,314	-/--
Remainder sale dwelling #1	**€**	**235,723**		**Remainder sale dwelling #1**	**€**	**292,686**	
Financial wealth (regular savings)	€	175,000		Financial wealth (regular savings)	€	175,000	
Transfer tax (2%)	€	13,000	-/-	Transfer tax (2%)	€	13,000	-/-
Financial wealth after taxes	**€**	**162,000**		**Financial wealth after taxes**	**€**	**162,000**	
Pension assets	€	485,000		Pension assets	€	375,000	
Early withdrawal		n/a		Early withdrawal (35%)	€	131,250	-/-
Pension assets (after withdrawal)		**n/a**		**Pension assets (after withdrawal)**	**€**	**243,750**	
Value of the dwelling	€	650,000		Value of the dwelling	€	650,000	
Down payment:				Down payment:			
- Remainder sale dwelling #1	€	235,723	-/-	- Remainder sale dwelling #1	€	292,686	-/-
- Early withdrawal		n/a		- Early withdrawal	€	131,250	-/-
- Regular savings (50%)	€	81,000	-/-	- Regular savings (50%)	€	81,000	-/-
Remaining (financing needed)	**€**	**333,277**		**Remaining (financing needed)**	**€**	**145,064**	

Remaining financing in both scenarios is by means of an annuity mortgage, which is being repaid in 20 years with 4% interest. The following information can then be added to the analysis:

	Scenario A: Without early withdrawal	Scenario B: With early withdrawal
Gross monthly payment	€ 2,019.59	€ 879.06
• Interest	€ 1,110.92 [1030]	€ 483.55 [1031]
• Monthly repayment	€ 908.67 [1032]	€ 395.51 [1033]

This reduction translates to a monthly savings of approximately € 1,150, or over € 13,500 annually, improving disposable income and reducing interest costs.

Balance sheet comparison

The tables below show the household balance sheet positions for this event – comparing the situation without and with early withdrawal of pension savings. Again, the figures illustrate how the proposed model lowers mortgage debt while maintaining overall net wealth.

Table 6.4: Household balance sheet without early withdrawal (Scenario A)

assets					*liabilities*
House	€	650,000	Mortgage	€	333,277
Pension assets	€	485,000			
Regular savings	€	81,000			
	€	1,216,000		€	333,277

Table 6.5: Household balance sheet with early withdrawal (Scenario B)

assets					*liabilities*
House	€	650,000	Mortgage	€	145,064
Pension assets	€	243,750			
Regular savings	€	81,000			
	€	974,750		€	145,064

In this event, early withdrawal reduces both total assets and liabilities while preserving net worth. The household's total amount of assets is reduced by € 241,250 – reflecting the pension capital

[1030] Month 1, on the assumption that the entire mortgage is being repaid in 20 years. Also refer to appendix E5 for the complete table.
[1031] Month 1, on the assumption that the entire mortgage is being repaid in 20 years. Also refer to appendix E6 for the complete table.
[1032] Month 1, on the assumption that the entire mortgage is being repaid in 20 years. Also refer to appendix E5 for the complete table.
[1033] Month 1, on the assumption that the entire mortgage is being repaid in 20 years. Also refer to appendix E6 for the complete table.

redirected to reduce mortgage debt and the associated loss of investment returns (approximately € 37,500).

Event 4: Retirement

At age 67, the reference person retires. The household's financial position now reflects the accumulated effects of previous choices – either having used the early withdrawal mechanism (scenario B) or not (scenario A). The following information can be added to the analysis.

		Scenario A: Without early withdrawal		**Scenario B: With early withdrawal**
Value of the dwelling	€	725,000	€	725,000
Pension savings	€	2,290,000	€	1,700,000
Regular savings	€	495,000	€	495,000
Remaining mortgage	€	-	€	-

In both scenarios, the mortgage has been fully repaid by the time of retirement. The pension balance in Scenario B is lower (€ 1,700,000 vs. € 2,290,000), reflecting the earlier reallocation of part of the pension capital toward mortgage reduction[1034] and foregone compound interest on the withdrawn amounts[1035].

Balance sheet comparison

The tables below show the household balance sheet positions for this event – comparing the situation without and with early withdrawal of pension savings.

Table 6.6: Household balance sheet without early withdrawal (Scenario A)

assets					*liabilities*
House	€	725,000	Mortgage	€	-
Pension assets	€	2,290,000			
Regular savings	€	495,000			
	€	3,510,000		€	-

[1034] Two early withdrawals: € 72,500 + € 131,250 = € 203,750.
[1035] Equal to € 386,250.

Table 6.7: Household balance sheet with early withdrawal (Scenario B)

assets					*liabilities*
House	€	725,000	Mortgage	€	-
Pension assets	€	1,700,000			
Regular savings	€	495,000			
	€	2,920,000		€	-

The household's net wealth at retirement is lower in Scenario B due to the early pension withdrawal, which reduces pension reserves. However, the household enters retirement debt-free with a fully owned home, and the composition of wealth remains robust – albeit shifted from financial to housing assets. Notably, the early withdrawal leads to substantially lower monthly mortgage payments and reduced interest costs throughout the loan term. Under the assumptions of this model, these lower housing costs are not further allocated to additional saving, or any other behavioural responses; they simply reduce the household's mortgage-related expenditures. This indicates that, beyond the balance sheet comparison, the early withdrawal mechanism creates additional financial room during working life, although this model does not assess how households might use this additional space.

Event 5a: Sale and purchase of a smaller dwelling post-retirement

After retirement, the reference person chooses to sell the current owner-occupied dwelling and purchase a smaller home. The household's financial position at this point reflects the accumulated impact of the previous choices (either having used early withdrawal – scenario B – or not – scenario A). This event models a typical post-retirement housing transition aimed at downsizing and unlocking part of the housing equity.

Additional information and assumptions regarding this event:

- Reference person aged 68
- Retired
- Value of the dwelling to be sold € 725,000, located in Utrecht
- Value of the dwelling to be bought € 600,000, located in Utrecht

Step 1: sale of the owner-occupied dwelling

In both scenarios (A and B), the dwelling is sold for € 725,000.

- Capital gain: € 75,000
- Remaining mortgage: € 0 (fully repaid at retirement)

Proceeds of the sale dwelling #2	€	725,000	
Repayment of remaining mortgage dwelling #2	€	-	-/-
Remainder sale dwelling #2	**€**	**725,000**	

Step 2: purchase of a smaller owner-occupied dwelling

The reference person purchases a smaller dwelling valued at € 600,000.
Transaction overview (for both scenario A and B):

Value of the dwelling	€	600,000	
Transfer tax	€	12,000	
Needed for the purchase of dwelling #3	**€**	**612,000**	

Proceeds of the sale dwelling #2	€	725,000	
Needed for the purchase of dwelling #3	€	612,000	-/-
Remainder sale dwelling #2	**€**	**113,000**	

This means the reference person can purchase the smaller dwelling using the proceeds from the sale of the previous home. After accounting for transfer tax, sufficient equity remains to supplement financial reserves or cover future consumption needs.

Balance sheet comparison

The tables below show the household balance sheet positions for this event – comparing the situation without and with early withdrawal of pension savings.

Table 6.8: Household balance sheet without early withdrawal (Scenario A)

assets					*liabilities*
House	€	600,000	Mortgage	€	-
Regular savings	€	517,914			
Remainder sale dwelling #2	€	113,000			
	€	1,230,914		€	-

Table 6.9: Household balance sheet with early withdrawal (Scenario B)

assets					*liabilities*
House	€	600,000	Mortgage	€	-
Regular savings	€	517,914			
Remainder sale dwelling #2	€	113,000			
	€	1,230,914		€	-

In both scenarios, the reference person is able to downsize without incurring new debt. The sale of the second home for € 725,000 and purchase of a smaller dwelling for € 600,000 (plus € 12,000 transfer tax) yields € 113,000 in freed equity, which becomes available as additional financial wealth. Because pension assets are typically converted into an income stream upon retirement, they are not represented in the post-retirement balance sheet. However, both scenarios continue to benefit from pension income throughout retirement.

Notably, in Scenario B, the earlier withdrawal of pension capital resulted in significantly lower monthly mortgage payments during the working years, as well as reduced cumulative interest costs. Although these life-cycle savings are not explicitly modelled, they likely translate into greater disposable income or enhanced saving capacity during the working years. This highlights that, beyond the static balance sheet comparison, the early withdrawal mechanism supports both short-term liquidity and long-term financial resilience – reinforcing the model's potential to improve household balance sheets across the life course. The balance sheet gains from deleveraging thus persist into retirement, while prior liquidity benefits strengthen financial well-being throughout the accumulation phase.

Event 5b: Sale without reinvestment post-retirement

An alternative scenario is that the reference person sells the owner-occupied dwelling after retirement without purchasing another home – for example, by transitioning to rental housing.

Proceeds of the sale dwelling #2	€	725,000	
Repayment of remaining mortgage dwelling #2	€	-	-/-
Remainder sale dwelling #2	**€**	**725,000**	

Since the mortgage was fully repaid before retirement, the entire sale proceeds of € 725,000 are realised as free capital. In scenario A – no early withdrawals – this amount is then added to the individual's financial wealth.

In Scenario B, which includes early withdrawals, the individual is already retired, so any earlier withdrawals do not need to be repaid to the pension provider. Instead, these amounts (€ 72,500

+ € 131,250 = € 203,750) are treated as deferred pension income and taxed accordingly in the year of sale. Assuming the full amount falls within the highest income tax bracket (49.50%), the tax liability is calculated as follows:

€ 203,750 × 49.50% = € 100,856

After payment of income tax in scenario B, the remaining proceeds from the sale are added to the individual's financial wealth.

Proceeds of the sale dwelling #2	€	725,000
Income taxes	€	100,856
Remainder sale dwelling #2	**€**	**624,144**

This scenario illustrates the model's deferred taxation mechanism: pension capital withdrawn for housing purposes remains tax deferred so long as it is structurally tied to owner-occupation. Taxation is triggered only when this link is severed – in this case, by the sale of the home without reinvestment in owner-occupied housing.

Balance sheet comparison

The tables below show the household balance sheet positions for this event – comparing the situation without and with early withdrawal of pension savings.

Table 6.10: Household balance sheet without early withdrawal (Scenario A)

assets					*liabilities*
House	€	-	Mortgage	€	-
Regular savings	€	517,914			
Proceeds of the sale dwelling #2	€	725,000			
	€	1,242,914		€	-

Table 6.11: Household balance sheet with early withdrawal (Scenario B)

assets					*liabilities*
House	€	-	Mortgage	€	-
Regular savings	€	517,914			
Proceeds of the sale dwelling #2	€	624,144			
	€	1,142,058		€	-

The balance sheets in scenario A and scenario B differ at this point, reflecting the deferred tax settlement required in scenario B upon severing the housing link. This confirms the model's fiscal neutrality: early access to pension capital does not result in long-term tax arbitrage or disproportionate gains. Instead, the tax treatment is conditional on continued owner-occupation. Once the link is broken, tax is levied in line with regular pension income. This mechanism preserves the integrity of the pension system while still allowing temporary flexibility for housing transitions. It also prevents strategic exploitation by ensuring that pension withdrawals are ultimately taxed if not used in line with policy objectives.

Event 6: Death

This event follows from event 5a, where the reference person remained in owner-occupied housing post-retirement without selling the property.

Additional information and assumptions regarding this event (for both scenario A and B):

- Reference person aged 87
- Retired
- Value of the dwelling € 700,000, located in Utrecht

Upon death at age 87 in scenario B (with early withdrawal), the individual still owns the home and has not repaid the earlier pension withdrawals (€ 72,500 + € 131,250 = € 203,750). In accordance with the model's deferred taxation mechanism, the full withdrawn amount is treated as taxable income in the year of death.

Income tax liability (based on 2025 Box 1 rates):

- First € 38,441 is taxed at 17.92%, resulting in € 6,889
- Next € 38,376 is taxed at 37.48%, resulting in € 14,383
- Remaining € 126,933 is taxed at 49.50%, resulting in € 62,832

This results in a total income tax liability of € 84,104. This amount must be paid by the heirs as part of the estate settlement. It reflects the deferred taxation condition: pension capital that was withdrawn but never taxed or repaid becomes taxable upon the dissolution of the owner-occupation link – in this case, death.

Balance sheet comparison

The tables below show the final household balance sheet at the time of death, comparing both scenarios A (without early withdrawal) and B (with early withdrawal).

Table 6.12: Household balance sheet without early withdrawal (Scenario A)

assets					*liabilities*
House	€	700,000	Mortgage	€	-
Regular savings	€	663,975	Deferred income tax	€	-
	€	1,363,975		€	-

Table 6.13: Household balance sheet with early withdrawal (Scenario B)

assets					*liabilities*
House	€	700,000	Mortgage	€	-
Regular savings	€	663,975	Deferred income tax	€	84,104
	€	1,363,975		€	84,104

In scenario B, the deferred tax is triggered because the individual died without having sold the home or repaid the pension withdrawal. The mechanism preserves tax neutrality: the withdrawn pension capital is taxed either upon sale (event 5b) or at death (event 6). While the balance sheet remains strong, the estate value passed to heirs is reduced by the deferred tax liability.

This final event confirms that the proposed model ensures ex-ante flexibility without ex-post tax avoidance: the early use of pension capital for housing is fiscally neutral over the life course, with tax obligations arising either upon disinvestment or death.

Conclusion: insights from the quantitative illustration

This quantitative illustration shows that the proposed early withdrawal model can help structurally shorten Dutch household balance sheets by reducing mortgage debt at key life stages, without compromising long-term financial resilience. By allowing capped, purpose-bound access to pension savings for owner-occupied housing, the model reallocates wealth across the balance sheet – lowering liabilities while preserving overall net worth.

Importantly, the stylised scenarios illustrate that households can maintain a relatively strong financial position at retirement, with no outstanding debt and adequate pension income. The example is intended to highlight the mechanics and trade-offs of the model rather than to predict precise individual outcomes. Scenario B, with early withdrawals, provides additional financial room during working life:lower monthly mortgage payments and reduced interest obligations could, in practice, allow for higher discretionary savings or greater consumption smoothing over time, even though these effect are not explicitly modelled, since the quantitative illustration does not incorporate behavioural responses, and the results remain illustrative.

The model's deferred taxation mechanism ensures that withdrawals remain tied to socially valuable uses. Tax obligations arise only if this link is broken – for instance, when the home is sold without reinvestment or upon death. This preserves the model's fiscal neutrality while offering flexibility to respond to household housing needs over the life course.

By balancing flexibility with safeguards, the model offers a practical and credible instrument to connect retirement savings with homeownership in a way that strengthens household resilience over the life course. The quantitative illustration shows that the early withdrawal option succeeds in shortening household balance sheets. A full assessment of its effects would require a more extensive analysis.

In the following section, the model is evaluated against the review framework introduced in chapter 1 to assess its normative soundness and institutional feasibility.

6.3.3 Test against the review framework

6.3.3.1 Shortening household balance sheets

A central objective of the proposed early withdrawal model is to address the persistent issue of long household balance sheets in the Netherlands by enabling a more integrated use of pension capital for housing purposes. Dutch households typically hold much of their wealth in illiquid assets – particularly second-pillar pension entitlements and home equity – while also carrying high levels of mortgage debt. This structure contributes to financial rigidity and vulnerability, particularly among younger and middle-aged households, who face liquidity constraints due to the simultaneous burden of mortgage repayments and mandatory pension contributions.

The proposed model directly addresses this first review criterion – shortening household balance sheets – by allowing individuals to withdraw a capped share of their second- or third-pillar pension capital to reduce mortgage debt at the time of purchase or to fund a significant renovation or sustainability-related upgrade of their main residence. By converting part of their pension savings into home equity, individuals can lower their liabilities while preserving – and potentially enhancing – net household wealth through reduced debt exposure and improved liquidity.

The quantitative illustration in section 6.3.2 confirms this effect. In event 2, scenario B, the use of a € 62,500 early withdrawal leads to a directly proportional reduction in mortgage debt and interest payments. Gross monthly mortgage costs fall by over € 300 – roughly € 3,500 annually – generating long-term financial gains while improving day-to-day affordability.

In addition to applying the mechanism at the point of purchase or renovation, households could also use the early withdrawal model at a later stage to reduce existing mortgage debt on homes

already owned. This ex-post variant similarly contributes to shortening household balance sheets by lowering outstanding liabilities, albeit without immediately impacting initial borrowing. While the quantitative illustration focusses on the transaction-based approach, the later repayment option represents a complementary pathway that could benefit many households, particularly those with insufficient pension savings at the time of home acquisition.

Unlike savings-based subsidies or pension-backed loans, the model impacts both sides of the balance sheet: mortgage liabilities decline, and pension capital is reallocated into housing equity, maintaining its wealth-building function. This shift reduces debt ratios, lowers long-term interest burdens, and contributes to household-level financial resilience – particularly during periods of economic uncertainty or rising interest rates.

Importantly, the model is designed to facilitate prudent and needs-based housing transitions. It applies only to primary residences and is excluded from use for second homes or investment properties. By anchoring eligibility within a defined life-cycle window (ages 30–55), it helps individuals meet essential housing needs at appropriate life stages without fuelling speculative behaviour or demand-side inflation.

In addition, the model includes safeguards to preserve the long-term function of pension capital. Withdrawn amounts must be repaid upon the sale of the property – unless reinvested in a new main residence – ensuring the continued link between the capital and either housing or retirement. Combined with age-based caps, this structure provides flexibility for mobility within the housing market while protecting future retirement income.

As shown in event 3a of the quantitative illustration, a first-time buyer who withdrew € 62,500 had € 49,106 less outstanding mortgage after ten years and was able to invest more equity into a second home. This reinforces not only balance sheet reduction but also mobility and progression along the housing ladder.

The early withdrawal model thus offers a structured mechanism to reduce mortgage dependence, rebalance wealth distribution across life stages, and align savings and investment choices with evolving household needs. By tackling the underlying imbalance between high pension savings and high housing debt, the model effectively meets review criterion 1: it materially shortens household balance sheets while safeguarding long-term retirement savings.

At a macroeconomic level, widespread use of the mechanism may also enhance financial system stability. By substituting pension capital for mortgage borrowing, the model reduces the aggregate housing-related debt burden in the economy. Lower household debt ratios can improve economic resilience, dampen exposure to interest rate shocks, and reduce the cyclical volatility associated with housing market fluctuations. In this way, the early withdrawal model

not only strengthens individual balance sheets but also contributes to a more robust and less risk-prone financial system. Both the transaction-based and the ex-post repayment variants help reduce household leverage and improve financial resilience.

6.3.3.2 Fair and efficient taxation

The proposed early withdrawal model must also be evaluated against the core principles of tax fairness and efficiency. These principles are interpreted here in terms of ability to pay, legal equality, legal certainty, and practicability. Viewed from both the perspective of the state and the individual taxpayer, these benchmarks ensure that the tax design supports not only the legitimacy of the tax system but also behavioural effectiveness and administrative feasibility.

From an efficiency perspective, the model functions within the structure of the existing Dutch income tax system – particularly the EET treatment of second- and third-pillar pension savings – without the need for new tax-deferred products or structurally distinct savings vehicles. Under the proposed design, early withdrawals are treated as tax-neutral at the point of disbursement, provided the funds remain tied to housing purposes and are subject to a repayment obligation. This allows the withdrawal to remain within the pension sphere and avoids triggering box 1 income tax at the time of use. Taxation is deferred until the withdrawn capital is either not repaid or is no longer used to support owner-occupied housing – such as upon the sale of the property without reinvestment after retirement or following the death of the participant. At that point, the withdrawn amount is treated as realised income and taxed under box 1, consistent with the standard treatment of second-pillar pension entitlements. In this way, the model avoids discouraging participation through over-taxation while maintaining the principle that pension assets are ultimately subject to tax. It further ensures that taxation occurs only when pension capital becomes available for consumption. In doing so, the model preserves coherence in the tax treatment of pension assets.

In terms of fairness, the model is rooted in the ability-to-pay principle. By taxing pension capital only when it transitions into liquid or disposable income, it reflects individuals' actual financial capacity. Since the withdrawal cap is set as a percentage of available pension savings, the mechanism is proportionally accessible across income groups. This maintains horizontal equity while acknowledging the broader tax system's vertical structure. In addition, the model permits voluntary replenishment of withdrawn capital, with repayments potentially qualifying as deductible under the existing framework of annual tax-deferred pension contributions (*pensioenruimte*). This ensures that individuals who voluntarily restore withdrawn pension capital are treated consistently with others who contribute voluntarily to their pensions under existing rules, supporting equitable treatment across saver types. These features support long-term fairness and create incentives for prudent financial behaviour over time.

Legal certainty is essential for both compliance and administrative efficiency. The model supports legal certainty by relying on clearly defined tax rules and embedding them within the existing Dutch pension and tax frameworks. Eligibility conditions, tax liability triggers, and repayment obligations are tied to verifiable life events – such as the sale of the home, reaching retirement, or death – which enhances predictability and administrative integrity. Because the model does not introduce new tax categories or savings regimes, it avoids interpretive ambiguity and administrative duplication. This simplicity benefits both taxpayers and administrators by reducing the risk of legal uncertainty and facilitating compliance, in line with the principle that individuals should be able to understand their rights and obligations without undue complexity.

Finally, the model adheres to the principles of practicability and enforceability. Because it leverages existing pension administration systems and tax collection processes, implementation costs remain contained. Coordination between pension providers and the Dutch Tax Authority ensures traceability of withdrawals and repayments. In particular, the model relies on standardised reporting by pension providers and predefined legal events – such as the sale of the property or the death of the participant – to determine tax liability. This eliminates the need for complex, individualised assessments and supports consistent enforcement. From the taxpayer's perspective, the process is transparent, predictable, and embedded within the broader framework of the Dutch tax system. This supports the principle of the least burden and increases the likelihood of compliance.

Taken together, these elements indicate that the proposed tax treatment of early withdrawals is both fair and efficient. It respects core principles of equity and proportionality, while using tax incentives to reinforce the central aim of this research: enabling Dutch households to shorten their balance sheets by converting part of their pension wealth into owner-occupied housing equity. By aligning tax design with long-term policy goals and behavioural incentives, the model contributes to a coherent and sustainable integration of housing and retirement finance. Provided that such legislative clarification is implemented, the model adheres to the principles of tax fairness and neutrality – without promising perfect harmonisation across all tax-benefit interactions.

6.3.3.3 Adequate, safe, and sustainable pension system

The proposed early withdrawal model can only be considered viable within the Dutch institutional context if it preserves the adequacy, safety, and sustainability of the pension system over the long term. As described in chapter 1, adequacy is defined here in accordance with the OECD framework as the ability of the pension system to ensure a standard of living in retirement comparable to that during working life, typically measured through replacement rates. In the Netherlands, this standard is underpinned by the quasi-mandatory coverage of the second pillar, which plays a crucial role in achieving adequate retirement outcomes. Any reform allowing

early access to pension savings must therefore be assessed in terms of its impact on these long-term objectives.

Importantly, the proposed model aligns well with the shift towards a defined contribution (DC) framework introduced by the *Wet toekomst pensioenen* (Wtp). Under the Wtp, all second-pillar schemes are transitioning from conditional defined benefit (DB) to DC arrangements, which allocate individual pension pots with transparent accrual and investment rules. This structural change enhances the feasibility of the early withdrawal mechanism, since pension entitlements are now explicitly capital-based and individually owned. Unlike under the former DB system – where future rights were expressed as income streams and collectively funded – the DC format allows for partial withdrawals without fundamentally disrupting actuarial fairness or intergenerational balance.

The early withdrawal model introduces a controlled, conditional reallocation of retirement savings for a life-cycle purpose – namely, improving access to owner-occupied housing – while preserving the long-term function of pension assets. By capping withdrawals as a percentage of accrued savings and applying a sliding scale by age, the model ensures that balances are not unduly depleted. Additionally, using pension funds to reduce mortgage debt or improve housing sustainability may lower future living costs and enhance financial resilience in retirement.

The requirement to repay withdrawn amounts upon the sale of the property – unless reinvested in another primary residence – further reinforces the long-term objective of pension preservation. This safeguard ensures that diverted capital remains linked to the wealth-building function of housing and is not lost to general consumption or speculative use. In this way, pension adequacy is protected through both age-sensitive withdrawal limits and a design that ties access to key life events, such as home purchase and retirement. Withdrawals therefore occur in a structured and traceable way across the life course, rather than unpredictably eroding long-term pension savings.

In addition, the model stimulates replenishment of withdrawn funds – for instance, after the sale of the home or through additional voluntary contributions. These repayments can be made through existing mechanisms within the Wtp and the broader Dutch tax framework, such as the use of tax-deferred (voluntary) pension contributions (*pensioenruimte*). In this way, the model promotes behavioural alignment with the overarching goal of long-term pension adequacy. These incentives reward individuals who take active steps to restore their retirement savings, helping to reduce future disparities in outcomes across income groups.

In terms of institutional stability and operational risk, the model does not appear to pose systemic threats to the functioning of pension funds. Early access remains limited in scope, traceable, and administratively manageable when embedded into existing pension operations. While it may reduce total assets under management in the short term and requires coordination

to track withdrawals and repayments, it does not necessitate a fundamental restructuring of pension fund governance, investment strategies, or liquidity management. Funds continue to operate with a long-term investment horizon, and the core functions of contribution collection and collective asset management remain intact.

Finally, by easing financial pressures during the homeownership phase, the model helps align housing costs with disposable income over the life course. This may improve overall financial resilience and reduce the risk of over-indebtedness during working life. Crucially, the mechanism complements – rather than disrupts – the core principles of the reformed pension system under the Wtp: transparency, individual fairness, and long-term sustainability. In doing so, it contributes to a pension system that remains adequate, safe, and sustainable – for both individuals and the broader economy.

While the model introduces structured safeguards and incentives for replenishment, it cannot fully eliminate individual-level pension risks. Situations such as unexpected job loss, divorce, or negative housing equity may hinder repayment or replenishment capacity, especially for vulnerable groups. These risks do not compromise the systemic stability of the pension system, but they underline the importance of adequate participant information and targeted oversight mechanisms to prevent unintended long-term consequences.

The existence of multiple pension disbursement channels – including the proposed early housing withdrawal and the currently being implemented lump sum at retirement (*bedrag ineens)* – increases the need for integrated safeguards. If not carefully coordinated, these mechanisms may collectively erode long-term pension adequacy, particularly for participants with low or fragmented accrual. Preserving the sustainability of retirement income provision will require an integrated approach to capital access limits, repayment conditions, and tax treatment.

6.3.3.4 Feasibility of implementation

The feasibility of implementing the proposed early withdrawal model hinges on its ability to operate within the existing Dutch legal, fiscal, and institutional structures, without requiring a fundamental overhaul of the pension, tax, or housing systems. Feasibility in this context refers to both legal-institutional compatibility and administrative practicality. The model is designed to integrate with the frameworks governing second- and third-pillar pension schemes, the EET income tax regime, and property transactions related to owner-occupied housing. Instead of creating new financial products or statutory entitlements, the model adapts existing mechanisms for a clearly defined function.

From a legal and policy standpoint, the model preserves the mandatory nature of pension contributions and the basic principles of pension fund governance. It introduces the option of conditional early access to accrued capital for a narrowly defined purpose – namely, the purchase

or improvement of a primary residence. However, it does so without altering the entitlement structure, collective risk-sharing, or funding rules of the Dutch pension system. Similarly, the model does not require systemic adjustments to the Dutch income tax framework. It builds upon established mechanisms, such as box 1 treatment of pension income and tax-deferred (voluntary) pension contributions (*pensioenruimte*) and introduces a clearly demarcated rule for the taxation of early withdrawals. These tax adjustments are limited in scope, based on clear criteria, and designed to fit within the familiar pension, housing and tax procedures.

However, one legal constraint must be acknowledged. Under current tax law, early disbursements from second-pillar pensions may still qualify as redemption (*afkoop*) under article 19b of the Dutch Wage Tax Act. This would trigger immediate taxation and undermine the model's logic of deferred tax treatment for purpose-bound withdrawals. A narrowly tailored exemption is therefore required to maintain legal coherence. This legal implementation is discussed in further detail in section 6.3.4.2.

On the administrative front, the model relies on the cooperation of existing institutional actors, each of which has clearly established responsibilities:

- Pension providers are responsible not only for verifying eligibility (e.g., age and purpose), authorising withdrawals, monitoring repayment obligations, and reporting relevant transactions to the Dutch Tax Authority, but also for providing timely information and personalised guidance to participants. Before processing requests, pension administrators must ensure that individuals understand the long-term financial implications of early withdrawal – including the impact on future pension entitlements and potential tax liabilities. In addition, providers must assess whether an early withdrawal interacts with other pension options – in particular, the lump sum ("*bedrag ineens*") – to ensure that concurrent use does not trigger adverse tax or income effects in individual cases. At the policy level, further guidance may be needed to ensure coherent interaction between disbursement options across the reformed pension landscape, particularly in relation to fiscal limits and sequencing rules. This coordination helps prevent inadvertent overshooting of fiscal thresholds or violations of statutory limits and reinforces the model's aim of maintaining pension adequacy while supporting housing investment.
- The Dutch Tax Authority ensures the correct tax treatment of early withdrawals, applies deferred taxation where applicable (e.g., after retirement or upon death), and administers any voluntary replenishment incentives.
- Notaries and land registries document qualifying housing transactions and provide verification of homeownership, property sales, and reinvestment.

This distribution of responsibilities reflects and reinforces the institutional capacities already in place. Although additional coordination is required – particularly in the exchange of data and the enforcement of repayment conditions – these needs are incremental rather than transformational. The core infrastructure for tax collection, pension administration, and property registration is already robust, and only needs to be adapted – not rebuilt – to accommodate the proposed model.

Clarity and simplicity are further design goals of the model. Key eligibility criteria (e.g., age, purpose limitation to primary residence), tax consequences, and repayment obligations are tied to easily verifiable life events such as reaching retirement, selling the home, or death. This enhances predictability and facilitates communication with participants. The model does not require means testing or discretionary evaluations, and legal obligations are codified through pre-existing instruments (e.g., pension regulations, tax law, and land registry procedures). This legal clarity limits ambiguity and increases compliance.

From an information systems perspective, both pension providers and tax authorities already have digital infrastructure to manage contributions, benefits, and special withdrawals. From a governance perspective, roles and responsibilities are clearly defined, and institutions have established procedures to ensure accountability and compliance. By building on this infrastructure, rather than requiring entirely new reporting systems, the model limits implementation costs and administrative burden. A standardised reporting template could be developed to ensure uniformity across pension providers, while existing tax software can be adapted to flag and process early withdrawal cases and track any delayed taxation obligations.

Finally, the model's feasibility is closely tied to the implementation of the *Wet toekomst pensioenen* (Wtp). The shift toward personalised pension pots under the Wtp provides the administrative and legal foundation for participant-level disbursement, monitoring, and repayment. Without this structural reform, early withdrawal would be significantly harder to operationalise. By aligning with the Wtp's logic of individual accrual and digital communication, the model reinforces both its practical viability and institutional fit within the reformed pension landscape.

In summary, the early withdrawal model is feasible to implement under current Dutch law and administrative practice. It does not alter the foundational architecture of the pension, tax, or housing systems. By relying on existing roles, institutions, and data infrastructure – and by designing with legal clarity and administrative simplicity in mind – it presents a realistic and operationally sound mechanism to improve the interaction between housing and retirement finance. This transparency also reduces the risk of misinterpretation and supports compliance by making it easier for participants to understand their rights and obligations. As a result, key stakeholders – i.e., pension providers, tax authorities, notaries, and homeowners – can expect legal clarity and administrative consistency during implementation.

6.3.3.5 Impact on the owner-occupier housing market

While the proposed early withdrawal model improves access to owner-occupied housing, it is not a housing market reform proposal. Its primary objective is to reduce financial barriers to homeownership by allowing individuals to draw from their pension savings to meet down-payment requirements and related acquisition costs. In doing so, the model lowers the financial threshold for market entry – particularly for younger and middle-aged households without access to intergenerational wealth transfers.

Importantly, the model does not override existing prudential lending standards. Pension withdrawals are treated as loan-equivalent capital and remain subject to standard loan-to-value (LTV) and loan-to-income (LTI) ratios under Dutch mortgage regulation. This ensures that affordability limits and macroprudential safeguards are preserved. Early withdrawals are further constrained through design features such as withdrawal ceilings, eligibility targeting, and purpose-bound use. These constraints reduce the risk of inflationary effects in the housing market by preventing an unconstrained increase in purchasing power.

While any liquidity injection has the potential to increase demand, the model's impact is expected to be modest and manageable. Because the funds are tied to a primary residence and released in controlled amounts, they do not contribute to a broad-based rise in disposable income or speculative purchasing. This design choice helps contain the risk of overheating in tight regional markets.

Moreover, the model supports housing mobility by facilitating transitions such as downsizing among older homeowners or moving from rental to owner-occupancy. These dynamics can enhance throughput in the housing market, supporting – rather than obstructing – market fluidity.

Overall, while implementation may introduce limited frictions, the model's housing market effects likely remain within a manageable bandwidth. It is designed to complement, but not rely on, broader housing supply policy. By enhancing purchasing capacity in a controlled, conditional, and demographically targeted way, the model supports affordability without undermining financial stability or inflating systemic risk.

6.3.3.6 Compliance with EU law

The proposed early withdrawal model must operate within the legal framework established by the European Union (EU), particularly in relation to the four freedoms of the internal market, the principles of subsidiarity and proportionality, and the Charter of Fundamental Rights of the European Union (EUCFR). While pension and housing policies fall predominantly under national competence, the EU legal order imposes constraints on Member State actions, especially where these may affect capital flows or individual rights under EU law.

A key legal consideration arises under Articles 63–65 of the Treaty on the Functioning of the European Union (TFEU), which safeguard the free movement of capital. As the model restricts early withdrawal benefits to pension savings accrued within Dutch second- and third-pillar schemes, and limits use to the acquisition or improvement of the primary residence located in the Netherlands, its territorial scope could be construed as a restriction on capital movement. However, the restriction does not prevent outward capital flows per se, but rather conditions favourable tax treatment on the domestic use of tax-deferred savings. The Court of Justice of the European Union (CJEU) has consistently held that such restrictions may be justified by overriding reasons in the public interest – particularly where they preserve the coherence of national tax systems or safeguard the adequacy of pension provision.[1036]

In *Bachmann*, the CJEU upheld Belgium's refusal to allow tax deductibility for foreign pension premiums on the grounds of maintaining fiscal coherence between tax deferral and subsequent taxation.[1037] In *Danner*, the Court reaffirmed this principle while clarifying that any such restriction must be proportionate to the policy objective pursued.[1038] In the proposal for the Netherlands, the early withdrawal model conditions tax deferral on domestic housing use to promote affordability, support household deleveraging, and preserve tax neutrality within the pension system. The coherence between tax deferral and subsequent taxation under box 1 is thus central to its justification and compatibility with Articles 63–65 TFEU.

The model also respects EU citizens' freedom of movement by not impeding the portability of pension entitlements. Individuals who access early withdrawals but later relocate remain liable under Dutch law for any tax consequences or outstanding repayment obligations. This ensures fiscal compliance while preserving mobility rights. Although eligibility is limited to Dutch tax residents, such restrictions may be justified under the principle of proportionality when they serve legitimate public interests – such as improving access to housing and protecting the long-term integrity of the pension system. The model does not prohibit cross-border pension transfers or foreign investment; rather, it conditions preferential tax treatment on alignment with domestic social objectives.[1039]

The subsidiarity principle, enshrined in Article 5 of the Treaty on European Union (TEU), holds that the EU may act only where objectives cannot be sufficiently achieved by the Member States. Pension and housing policies remain primarily within national competence, with the EU's role being complementary or supportive.[1040] The early withdrawal model operates fully within Dutch

[1036] art. 63–65 TFEU; Case C-204/90 Bachmann v Belgium [1992] ECR I-249.
[1037] Case C-204/90 Bachmann v Belgium [1992] ECR I-249.
[1038] Case C-136/00 Danner v Finnish Tax Administration [2002] ECR I-8147.
[1039] See Case C-250/95 Futura Participations and Singer [1997] ECR I-2471, and Case C-318/10 SIAT [2012] ECLI:EU:C:2012:415.
[1040] arts 6 and 153 TFEU.

law and requires no EU-level harmonisation or coordination. It therefore complies with the principle of subsidiarity and the proper attribution of competences.

Article 34(3) of the EU Charter of Fundamental Rights recognises the right to housing assistance as part of broader social protection. While it does not guarantee homeownership, the Charter supports Member State initiatives that enhance access to adequate housing. By improving access to owner-occupied housing through voluntary, conditional withdrawals, the model supports this social goal in a manner that complements – rather than replaces – social security. At the same time, safeguards such as withdrawal caps, repayment obligations, and the mandatory nature of second-pillar participation ensure that pension adequacy is not compromised.

The model adheres to the principle of legal certainty by relying on clearly defined eligibility criteria, withdrawal limits, and tax consequences, all anchored in verifiable life events such as home purchase, sale, or death. While eligibility is limited to Dutch tax residents, this requirement is consistent with CJEU case law, which recognises that such residency conditions may be justified by the need to preserve effective administrative oversight and the cohesion of the national tax base.[1041] All Dutch tax residents are treated equally under the model, ensuring non-discrimination and equal access.

Taken together, the proposed early withdrawal mechanism respects the legal and constitutional boundaries set by EU law, addresses potential restrictions through proportionate and legitimate justifications, and aligns with the EU's broader fiscal, legal, and social policy goals.

6.3.3.7 Conclusion: alignment with the review framework

This section has evaluated the proposed early withdrawal model against the six normative and institutional review criteria established in chapter 1. It finds that, while no policy instrument is without trade-offs, the model achieves a strong and credible alignment with the principles of sound pension design, tax fairness, administrative feasibility, and legal compatibility.

First, the model enables households to reallocate part of their pension capital toward the acquisition or improvement of owner-occupied housing, thereby reducing initial borrowing needs and directly shortening household balance sheets. While the transaction-based mechanism is the primary focus, the later repayment (ex-post) variant can provide additional flexibility for households with existing mortgage debt, further contributing to balance sheet reduction. The model achieves this without undermining long-term retirement goals, due to safeguards such as age-based caps, repayment obligations, and voluntary replenishment incentives.

[1041] See e.g., Case C-204/90 Bachmann v Belgium [1992] ECR I-249; Case C-250/95 Futura Participations and Singer [1997] ECR I-2471; Case C-388/01 Commission v Republic of Italy [2003] ECR I-721.

Second, tax treatment is consistent with the existing EET framework and is grounded in the ability-to-pay principle. Taxation is deferred until the capital becomes available for non-housing consumption, preserving coherence and predictability in tax treatment. Legal clarity, administrative simplicity, and proportional accessibility help ensure that the mechanism remains fair, efficient, and fiscally responsible over time.

Third, the model is designed to preserve the adequacy and sustainability of the pension system. It aligns with the shift to defined contribution schemes under the Wtp, where capital-based entitlements enable controlled early access without disrupting solidarity or intergenerational fairness. While individual-level risks – such as job loss or financial shocks – cannot be fully eliminated, the system-wide structure remains robust. Voluntary replenishment incentives and coordination with other disbursement options (e.g., the lump sum at retirement) further support long-term adequacy.

Fourth, the mechanism is operationally feasible. It can be implemented within the contours of existing pension, tax, and property registration systems, leveraging the digital and legal infrastructure already in place. Pension providers, tax authorities, and notaries each retain well-defined roles, with only incremental adjustments needed to coordinate eligibility checks, reporting, and enforcement. No structural overhaul is required.

Fifth, the housing market effects of the model are expected to be moderate and manageable. It does not alter supply constraints or override affordability rules, nor does it relax LTV or LTI lending standards. Its purpose-bound design, demographic targeting, and proportional limits mitigate inflationary risks while enhancing access for constrained households and supporting mobility across the housing ladder.

Sixth, the model respects EU legal principles, including the free movement of capital, subsidiarity, and legal proportionality. While some territorial restrictions exist, these are justified by the legitimate aim of promoting domestic housing affordability and preserving fiscal coherence. The model preserves pension portability and treats all Dutch tax residents equally, thereby upholding legal certainty, transparency, and non-discrimination under EU law.

In sum, the early withdrawal mechanism offers a balanced and targeted approach to integrating housing and pension policy in the Netherlands. It does not seek to perfectly optimise every trade-off but offers a credible, operational, and normatively grounded step toward a more integrated life-cycle approach to financial planning. While some risks and uncertainties remain – particularly at the individual level, in the interaction with other pension disbursement options, and in the need for legal amendments (as further discussed in section 6.3.4) – the model balances flexibility and security. In doing so, it helps Dutch households navigate the interlinked challenges of high housing costs, mandatory pension savings, and persistent mortgage debt – ultimately

strengthening individual financial resilience while maintaining the coherence and stability of the broader pension and housing systems. The later repayment (ex-post) variant is acknowledged as a complementary pathway that can benefit households with existing mortgages, ensuring that the model supports a broad range of housing situations.

6.3.4 Implementation of the proposed Dutch early withdrawal model in the Netherlands

The successful implementation of the proposed early withdrawal model depends on its integration into the existing Dutch pension and tax systems in a way that is transparent, equitable, and administratively feasible. While the model introduces a novel use of pension capital – namely, the early withdrawal of second- and third-pillar pension assets for owner-occupied housing – it qualifies as a parametric adjustment, not a structural reform. This distinction is important. Parametric adjustments involve changes to the parameters of an existing system – such as altering the retirement age, adjusting contribution rates, or redefining access conditions. In contrast, structural reforms involve fundamental redesign, such as creating a new pension pillar, replacing the pay-as-you-go architecture, or fully integrating housing into the formal pension system. The early withdrawal model changes how and when individuals can access their pension entitlements but leaves the underlying structure of the pension and tax system intact. It does not create a new financial instrument, institutional actor, or taxation regime – nor does it disrupt the multi-pillar logic of the Dutch pension system.

Earlier debates about pension-linked withdrawal mechanisms often highlighted objections from pension funds and insurers, who argued that such flexibility would undermine the quality and stability of pension arrangements. Under the Wtp, however, this concern is less compelling. The shift to a capital-based, individualised system already accommodates a degree of flexibility, while maintaining safeguards for adequacy and solidarity. Although implementation will involve some administrative adjustments for pension providers, these can be transparently incorporated into existing fee structures, keeping the burden proportionate and manageable. Combined with caps, repayment obligations, deferred taxation, and replenishment incentives, the model protects the integrity of the pension system while remaining administratively feasible.

At the same time, the model's cross-system implications – particularly in relation to pension fund liquidity, tax administration, and interactions across institutions – require careful regulatory coordination and digital integration. As such, the proposal aligns with the guiding principles for good tax policy and system reform as set out in the Government's policy paper *Belastingen in maatschappelijk perspectief: Bouwstenen voor een beter en eenvoudiger belastingstelsel*, which calls for changes

that preserve continuity and avoid overburdening the existing administrative infrastructure.[1042] In this way, the model aims to contribute to a more responsive and balanced fiscal framework while safeguarding the coherence of the broader institutional architecture.

6.3.4.1 National rollout and legal certainty

In the interest of fairness, consistency, and simplicity, the model should be introduced nationally and simultaneously for all eligible participants from a single start date. A phased or region-specific implementation could lead to perceptions of unequal treatment, legal inconsistencies, and avoidable administrative complexity. By contrast, a unified rollout enhances transparency and ensures that all Dutch tax residents with qualifying second- or third-pillar pension entitlements are treated equally from the outset. As Brüggen, Van Hekken and Werker[1043] emphasise in the context of the WtP transition, transparency is not only a matter of legal clarity but also of procedural fairness. For the proposed early withdrawal model, this means that clear communication and transparency are essential so that potential participants understand the product, its mechanisms, and can have confidence that it operates fairly and predictably.

To implement this model successfully, targeted legislative adjustments are required. These are discussed in the next subsection.

6.3.4.2 Legal implementation and required tax law adjustments

The legal implementation of the proposed early withdrawal model requires careful statutory calibration across three key domains: wage tax (*Wet op de loonbelasting 1964*), income tax (*Wet inkomstenbelasting 2001*), and general tax administration (*Algemene wet inzake rijksbelastingen*, AWR). The objective is to preserve the model's deferred taxation logic while ensuring legal certainty, administrative feasibility, and proportionality in enforcement.

The model can be implemented through a targeted legislative change to the Dutch Income Tax Act. This measure would define eligibility criteria, withdrawal caps, tax treatment, and repayment obligations associated with early access to pension savings. Early withdrawals would be treated as tax-neutral at the time of disbursement, provided they are used for mortgage financing of the acquisition, substantial renovation, or sustainability-oriented improvement of a primary residence and remain traceable within the housing sector. Taxation would only occur at a later stage – typically upon retirement, death, or non-reinvestment – when the funds are no longer serving their housing purpose.

[1042] Ministerie van Financiën, *Belastingen in een maatschappelijk perspectief: Bouwstenen voor een beter en eenvoudiger belastingstelsel* (2024) <https://www.rijksoverheid.nl/documenten/kamerstukken/2024/02/12/belastingen-in-een-maatschappelijk-perspectief-bouwstenen-voor-een-beter-en-eenvoudiger-belastingstelsel> accessed 21 February 2025.

[1043] L Brüggen, A van Hekken and B Werker, *Communicatie over de toedeling van vermogen: of het antwoord op de vraag: Ga ik erop voor- of achteruit?* (Netspar Design Paper 235, November 2023).

However, one important legal obstacle must be addressed to ensure alignment with current tax law. Under Article 19b of the *Wet op de loonbelasting 1964* (LB 1964), any early disbursement from a second-pillar pension fund may currently be interpreted as a redemption (*afkoop*). Such a classification would result in immediate Box 1 income taxation, regardless of safeguards, repayment obligations, or housing use. This outcome would fundamentally conflict with the model's design, in which taxation is deferred until the pension funds are no longer used for retirement or housing purposes.

Moreover, this is not merely a matter of timing. Under Article 30i AWR, a 20% revision interest (*revisierente*) is levied on redemptions of pension rights that violate deferred taxation conditions. If early withdrawals for housing purposes were to be classified as redemption under the Wet LB 1964, this additional sanction would apply automatically. Avoiding such classification is therefore essential not only to preserve tax deferral, but also to prevent disproportionate penalties on participants who comply with the model's safeguards.

To enable implementation, the legislator must therefore introduce a narrowly defined statutory exemption from Article 19b. This exemption should clarify that a capped, purpose-bound early withdrawal for owner-occupied housing does not constitute a redemption, provided that:

- the withdrawal is strictly limited to mortgage financing of the acquisition, substantial renovation, or sustainability-oriented improvement of an owner-occupied home[1044];
- the withdrawal is subject to a binding deferred taxation or repayment obligation; and
- the housing transaction is notarially certified and registered in the Dutch land registry (*Kadaster*).

This legal clarification does not require rewriting the broader pension tax framework. Rather, it ensures consistency between legal form and policy intent, protects the integrity of the pension system, and prevents misclassification under the LB and AWR.

To maintain tax coherence, the withdrawn capital would ultimately be taxed under Box 1 of the Wet IB 2001, in line with normal pension income, once the funds are no longer linked to housing and are not repaid. Triggering events may include: reaching retirement, or death of the participant. This deferred taxation mechanism aligns with the EET principle, ensuring that tax liability is neither waived nor unduly accelerated.

A final legal-technical concern involves the treatment of early pension withdrawals under the Dutch General Act on Income-Related Arrangements (*Algemene wet inkomensafhankelijke regelingen*, Awir), which governs income-tested benefits such as health care allowance (*zorgtoeslag*), rent

[1044] This eligibility also covers the later reduction of existing mortgage debt on an owner-occupied home (ex-post application), in addition to withdrawals at the point of purchase or renovation.

allowance (*huurtoeslag*), and child-related budget (*kindgebonden budget*). If the early withdrawal is classified as income under the Awir, this may unintentionally reduce or eliminate households' eligibility for such benefits – even though the disbursed funds are restricted to a housing-related purpose and are not available for discretionary spending. A similar issue has arisen in the context of the proposed lump sum pension withdrawal (*bedrag ineens*), where concerns have been raised about unintended effects on income-tested benefits. While the legislator has acknowledged this risk, no statutory safeguard has yet been enacted.[1045] This underscores the importance of anticipating similar consequences under the early withdrawal model.

To avoid similar distortions in the case of the early withdrawal model, the legislator should introduce an explicit exemption from the Awir income definition. This would prevent temporary, purpose-bound disbursements from affecting benefit calculations and protect the model's distributive neutrality. A narrowly tailored amendment would be sufficient – for example, by excluding qualified early housing withdrawals from the income base used in allowance calculations.

Codifying these tax and legal elements in a single legislative measure promotes clarity, proportionality, and enforceability. It ensures that participants, pension providers, and tax authorities all operate under a shared understanding of obligations, while reinforcing the model's broader objectives: improving housing access without compromising pension adequacy or tax fairness. Anticipating these interactions strengthens the model's social legitimacy, ensures coherence across legal domains, and reinforces the principle that temporary liquidity should not come at the cost of long-term fairness.

The experience with the repeatedly postponed lump sum option (*bedrag ineens*) illustrates the political sensitivity of pension withdrawals. Concerns there have centred on adequacy risks, fiscal coherence, and unintended effects on income-tested benefits. The housing-linked early withdrawal model avoids these pitfalls: it is purpose-bound, fiscally neutral over the life cycle, and embedded in notarial and tax safeguards. Rather than introducing a new, discretionary cash-out option, it channels pension wealth into balance sheet strengthening and housing security. Framed as such, it offers a more coherent and politically feasible alternative, enabling policymakers to advance flexibility in a form that avoids the difficulties that have hindered the lump sum option.

6.3.4.3 Digital integration and administrative execution

The successful implementation of the proposed early withdrawal model depends not only on sound legal design but also on operational viability for participating institutions. The model is intentionally designed to leverage existing digital and administrative infrastructure, thereby

[1045] Kamerstukken II 2020/21, 35 768, nr 3 (MvT).

limiting complexity and avoiding policy stacking.[1046] This minimises overhead and ensures that the implementation burden is proportionate and executable across the institutions involved.

Platforms such as the national pension tracking platform (*MijnPensioenoverzicht.nl*) and the online portal of the Dutch Tax Administration (*Mijn Belastingdienst*) offer familiar interfaces that can be expanded to include functions related to early withdrawal.[1047] These may include eligibility checks, impact simulations, application submission, automated tax assessment, and repayment tracking.

Participants could also benefit from interactive simulations or calculators integrated into the digital platform, allowing them to explore different withdrawal scenarios and understand the impact on both their housing investment and future pension entitlements. This enhances transparency, supports informed decision-making, and fosters trust in the model.

Pension providers will bear primary responsibility for the administration of early withdrawal requests. Their tasks include:

- Verifying participant eligibility (e.g., age, housing purpose);
- Calculating maximum withdrawal amounts;
- Monitoring repayment or deferred taxation obligations;
- Providing personalised financial guidance;
- Reporting relevant data to the Dutch Tax Authority (*Belastingdienst*).

These responsibilities build on providers' existing fiduciary and administrative roles, which are already being modernised under the Wtp. The Wtp's requirements for individualised communication and digital data management can serve as the institutional base for the new mechanism. An expansion of *MijnPensioenoverzicht.nl* could serve as a centralised portal for early withdrawal requests, pension simulations, and deferred taxation flagging – increasing accessibility and consistency across funds.

To reduce administrative duplication, a standardised digital interface could be adopted sector-wide, streamlining how withdrawals are processed and shared with the Dutch Tax Authorities. The system should be designed to track and support both transaction-based and ex-post repayments, ensuring that all eligible applications are consistently monitored and enforced.

[1046] Ministerie van Financiën, *Belastingen in een maatschappelijk perspectief: Bouwstenen voor een beter en eenvoudiger belastingstelsel* (2024) 38, 152, 177 <https://www.rijksoverheid.nl/documenten/kamerstukken/2024/02/12/belastingen-in-een-maatschappelijk-perspectief-bouwstenen-voor-een-beter-en-eenvoudiger-belastingstelsel> accessed 21 February 2025.

[1047] This includes both withdrawals at the point of purchase or renovation, as well as later reductions of existing mortgage debt (ex-post applications).

Likewise, tax software could be adapted to automatically recognise flagged cases, calculate potential deferred liabilities, and support simplified audit procedures.

A further enhancement would involve a pension withdrawal "flag" integrated into existing data systems. This could be implemented in two layers:

1) Pension provider level – A unique transaction tag for housing-linked withdrawals, allowing traceability across time and systems.
2) Property registry level (*Kadaster*) – Notarial certification that part of the purchase price was funded with pension capital. This flag can trigger enforcement of deferred tax when the property is sold or otherwise transferred outside qualifying purposes. This annotation functions as a low-burden but legally binding enforcement tool, avoiding continuous tax authority tracking while enabling automated flagging upon resale.

This system avoids the need for continuous tracking by the Dutch Tax Authorities while maintaining compliance through existing notarisation procedures and transaction records. A comparable mechanism is used in Switzerland, where the early withdrawals must be registered and certified by a notary. This precedent demonstrates that notarial certification combined with land registry annotation can provide a workable compliance mechanism over long time horizons without requiring continuous administrative surveillance. Since pension providers and notaries handle the upstream administration, the additional burden on the Dutch tax Authorities is relatively limited. However, coordination mechanisms – especially for data exchange and audit – will be essential to ensure smooth enforcement.

Finally, care should be taken to accommodate fragmentation of entitlements across multiple pension funds. Two possible mitigation options are:

- Use of the Pensioenregister as a coordination hub for cumulative rights and withdrawals;
- Use of the notarial registration step as the definitive, housing-linked verification mechanism, independent of the origin of pension capital.

Embedding the early withdrawal mechanism within these established systems enhances accessibility, supports compliance, and reduces the administrative burden for both users and institutions. By relying on familiar systems, the model simplifies interaction, ensures transparency, and minimises the information burden, aligning with the recommendations of the *Commissie Draagkracht*, particularly the principle of executability without overburdening administrative capacity (*uitvoerbaarheid zonder overbelasting*). This principle emphasises the importance of a tax system that is clear, efficient, and manageable for all stakeholders, to

strengthen public trust, support clear communication, and ensure the mechanism remains administratively sustainable within the broader pension and tax ecosystem.[1048]

6.3.4.4 Institutional coordination and oversight

Effective implementation also requires formalised coordination between several key institutions: pension funds, the Dutch Tax Authority, the Dutch Central Bank (DNB), mortgage lenders, and notarial bodies. Each actor plays a distinct but interdependent role. Pension providers would be responsible for managing withdrawals, whether at the point of purchase or renovation or as later reductions of existing mortgage debt (ex-post), ensuring compliance with repayment obligations, and reporting data to the tax authorities. The Dutch Tax Authority ensures correct taxation, manages deferred taxation of early withdrawals, and applies tax relief for qualifying cases of voluntary replenishment. DNB, as financial supervisor, monitors macroprudential risks to solvency, liquidity, and system sustainability. Notaries verify property purchases and sales, including transactions involving ex-post withdrawals, ensuring that pension capital is used in line with the model's housing-linked purpose. They certify qualifying housing transactions, register pension-financed purchases, and enable long-term tracking for enforcement purposes.

In line with their fiduciary duties, funds will also need to provide clear, timely communication to participants – ensuring that individuals understand the long-term implications of early withdrawal, including impacts on retirement income and potential tax liability. This may warrant the introduction of an explicit information obligation (*informatieplicht*), ensuring informed consent and participant protection.

To ensure smooth coordination among stakeholders, the roles and responsibilities of all involved institutions should be clearly defined in legal provisions, administrative guidelines, and sector-wide covenants. These frameworks should also establish robust data-sharing protocols, reporting requirements, and conflict resolution mechanisms to support transparency, regulatory compliance, and operational coherence. Where possible, responsibilities should align with existing institutional mandates. The model avoids introducing new authorities or oversight bodies, instead enhancing coordination among established actors. This institutional continuity reflects the model's nature as a parametric reform: it adjusts access conditions within the existing system without requiring a fundamental redesign of governance or institutional architecture. Formalising these arrangements mitigates legal uncertainty, ensures accountability, and reinforces trust between public authorities, pension providers, and taxpayers.

[1048] Commissie Draagkracht, *Rapport van de Commissie Draagkracht* (Ministerie van Financiën 2021) <https://open.overheid.nl/documenten/ronl-ae333b50-ca92-4207-b0fa-2b94bee002fc/pdf> accessed 22 April 2025.

6.3.4.5 Conclusion: reflection

Taken together, these legal, administrative, digital, and institutional arrangements demonstrate that the proposed early withdrawal model can be embedded within the Dutch pension and tax system without undermining its integrity. Earlier concerns from pension providers and insurers about flexibility eroding pension quality are less persuasive under the Wtp's defined contribution-based framework, while the safeguards and cost recovery mechanisms embedded in the model ensure that implementation remains proportionate and feasible. By contrast with the repeatedly delayed lump sum option, this model channels pension capital into a clearly defined and socially valuable purpose, while maintaining deferred taxation and fiscal neutrality. As such, it offers a pragmatic, administratively feasible, and politically more coherent way to expand flexibility in the pension system, strengthening both individual balance sheets and institutional legitimacy.

7. Conclusion

This dissertation set out to explore whether the long balance sheets of Dutch households – characterised by high mortgage liabilities and substantial, illiquid pension assets – could be shortened by better integrating retirement savings with real estate purchases, without undermining long-term pension adequacy or broader housing market stability. It focused on translating comparative insights into a context-specific, legally and fiscally feasible model for conditional early withdrawal of pension capital in the Netherlands.

At the core of this issue lies a structural mismatch: while households in the Netherlands accumulate significant wealth through compulsory occupational pensions and home equity, they often hold limited liquid assets. This lack of liquidity reduces financial resilience, limits flexibility across the life course, and amplifies exposure to economic shocks. It particularly affects younger and middle-aged households, who often face both high mortgage burdens and limited access to liquid assets early in their careers. The interaction between mortgage incentives and pension illiquidity produces the characteristic long household balance sheets that underlie the research question:

Is it possible to shorten the long balance sheets of Dutch households by combining retirement savings and real estate purchases, while safeguarding pension adequacy and maintaining housing affordability? If so, what could such a system look like?

To answer this question, the study employed a comparative legal research methodology, examining the pension and housing systems of Germany, the United Kingdom, and Switzerland – each of which, to varying degrees, facilitates the use of retirement savings for home acquisition. These international approaches were analysed for their functionality, regulatory safeguards, and potential transferability to the Dutch context. Comparative insights, especially from Switzerland, informed the Dutch model's design, demonstrating how lessons from other systems can be adapted to the national legal and fiscal context. The analysis revealed that the most effective integration mechanisms are those embedded within the formal pension system, offering conditional liquidity without compromising long-term retirement security. Building on these insights and grounded in Dutch pension law, taxation, and institutional structures, this dissertation proposes a Dutch early withdrawal model that allows strictly conditional and capped withdrawals from second- and third-pillar pension assets exclusively for mortgage financing of acquisition, substantial renovation, or sustainability-oriented improvement of an owner-occupied home, as well as for the later reduction of existing mortgage debt (ex-post application).

The proposed model introduces a targeted early withdrawal mechanism operating within the existing Dutch pension, housing, and tax systems. It incorporates a set of robust safeguards

designed to protect pension adequacy and institutional stability. Withdrawals are conditional, capped, and strictly purpose-bound, covering all relevant housing purposes, including acquisition, substantial renovation, sustainability-oriented improvements, and the later reduction of existing mortgage debt (ex-post application). Safeguards include age-based limits, repayment obligations, and voluntary replenishment incentives, designed to protect both pension adequacy and institutional stability. In doing so, it offers a structural pathway to reduce mortgage debt, ease liquidity constraints, and enhance household flexibility across the life cycle, demonstrating that conditional early withdrawal can support financial stability without undermining the protective function of pensions at retirement. Quantitative illustrations demonstrate that the model can significantly reduce long-term debt exposure while preserving net wealth and ensuring that pension capital remains tied to either retirement or housing-related purposes.

The Dutch early withdrawal model aligns with the shift to individual pension pots under the Wtp and complements broader trends toward increased flexibility and transparency in retirement planning. Importantly, it remains coherent with the Dutch tax system, respecting the EET framework and the principle of taxation based on actual ability to pay. Taxation is deferred until capital becomes available for general consumption, ensuring fiscal neutrality and behavioural consistency.

Tested against the six dimensions of the review framework introduced in chapter 1, the model demonstrates alignment across all fronts. It shortens household balance sheets by reducing mortgage debt, ensures fair and efficient taxation by aligning liability with liquidity and use, and complements the reformed pension system under the Wtp. Operationally, the mechanism leverages existing digital infrastructure and administrative processes, making implementation feasible within the current Dutch pension and tax systems without requiring wholesale reform. Its impact on the housing market is manageable, maintaining LTV and LTI constraints and expanding access without compromising credit standards. The model also complies with EU law, respecting principles of proportionality, legal certainty, subsidiarity, and non-discrimination.

To my knowledge, this is the first proposal in the Dutch context to offer a legally embedded, tax-compliant, and administratively feasible mechanism for integrating pension capital into home acquisition pathways. Rather than disrupting either the pension or housing systems, the model introduces a modest but impactful form of integration – one that unlocks latent household resources while preserving long-term financial security. It illustrates how legal and fiscal design can reconcile multiple policy objectives – enhancing liquidity, safeguarding pensions, and maintaining housing market stability – within a coherent institutional framework. The model also challenges traditional life-cycle perspectives on pensions, showing that retirement savings can serve broader household needs without undermining their primary purpose. It recognises that the dual role of households – as retirement savers and home investors – should be managed coherently, rather than in institutional silos.

By building on Dutch legal, tax, and administrative systems – and coordinating oversight between pension funds, tax authorities, financial supervisors, and notaries – the model offers a realistic and coherent path forward. It enables earlier access to capital for primary residences while preserving the retirement function of pension savings. The model therefore answers the central research question affirmatively: such a system can indeed be structured – legally, tax-wise, and operationally – in a way that is equitable, institutionally grounded, and aligned with both national and European policy goals. It balances flexibility and security and, in doing so, helps Dutch households navigate the interlinked challenges of high housing costs, mandatory pension savings, and persistent mortgage debt – ultimately strengthening individual financial resilience while maintaining the coherence and stability of the broader pension and housing systems.

That said, the successful implementation of such a model ultimately depends on political choices and policy priorities. Specific decisions – such as the formulation of narrowly tailored legal exemptions (e.g., to Article 19b of the Wage Tax Act 1968) and the sequencing with other disbursement options like the lump sum at retirement – require careful deliberation by lawmakers, administrators, and social partners. Behavioural responses, distributional impacts, and macroeconomic consequences will require further empirical investigation before scaling the model, highlighting the need for ongoing policy evaluation. This dissertation has proposed a coherent and evidence-based framework, but it does not preclude the normative and distributive debates that must accompany any such reform. Further consultation with stakeholders will be essential to ensure that the mechanism is both socially legitimate and practically implementable.

In conclusion, this study shows that pension systems need not be limited to the accumulation and disbursement phases alone. When carefully regulated, conditional liquidity can enhance life-cycle flexibility without sacrificing long-term pension adequacy, supporting household resilience and enabling targeted access to (otherwise) illiquid assets. It demonstrates how such mechanisms can mitigate financial vulnerability, particularly for households at earlier life stages, while maintaining the protective function of pensions. Legal design plays a pivotal role in ensuring that access to pension capital supports resilience, fairness, and sustainability – not only for individuals, but for the broader financial and social systems in which they are embedded. By providing policymakers with a legally and fiscally grounded framework, this study demonstrates that structural household illiquidity can be mitigated without undermining long-term pension adequacy or financial stability.

7.1 Suggestions for further research

While this dissertation provides a legally and institutionally grounded proposal for integrating pension capital and homeownership in the Dutch context, it also opens a series of questions that warrant further investigation. These questions are both empirical and normative in nature and touch on behavioural, economic, and legal dimensions. Further investigation is warranted

to build upon the conceptual, legal, and policy foundations established in this study. This section outlines five key avenues for future research: empirical modelling, behavioural responses, comparative legal analysis, tax design, and EU governance implications.

First, more sophisticated empirical modelling is needed to assess the real-world impact of the proposed Dutch early withdrawal model. While this dissertation included stylised illustrations of balance sheet effects, future microsimulation studies could quantify distributional consequences across different household types. Such modelling could examine how the early withdrawal option would affect income deciles, life-cycle cohorts, and regional housing markets. In addition, macroeconomic simulation techniques could help assess broader implications, such as the effect of pension withdrawals on housing demand, pension fund liquidity, and future tax revenues. These projections would offer valuable insights into the tax and economic sustainability of the model and assist policymakers in balancing short-term household liquidity with long-term systemic stability.

Second, the behavioural dimension of household financial decision-making requires closer examination. While the proposed model is structured to incentivise prudent use of pension capital, it assumes that households respond rationally to tax rules, liquidity constraints, and long-term financial trade-offs. This assumption, however, remains untested. Future research should therefore investigate how households perceive and evaluate the option of early pension withdrawal. Experimental studies, choice modelling, or survey-based behavioural research could provide valuable insights into willingness to use such a mechanism, perceived risks, and expected usage patterns. Particular attention should be paid to behavioural heterogeneity – for example, whether responses differ by age, education, or risk aversion – and to questions of financial literacy and trust in pension institutions.

Third, the comparative legal framework developed in this dissertation could be extended to include other jurisdictions with high pension participation and a strong tradition of homeownership. These may offer further valuable insights. Similarly, longitudinal studies of existing early withdrawal systems – such as those operating in Switzerland – would provide empirical evidence on actual behavioural responses, income effects at retirement, and impacts on wealth inequality.

Fourth, further research should examine the design and fiscal neutrality of tax incentives. The Dutch tax system currently provides generous support for both mortgage borrowing (through interest deductions) and pension saving (via deferred taxation under the EET model). The interaction between these subsidies is rarely evaluated holistically. Future research could examine whether reallocating fiscal incentives – for example, away from interest deductibility and toward conditional pension liquidity – would enhance efficiency or equity. Such research would also help clarify whether the proposed model merely adds a new channel of support or genuinely reforms the structure of subsidies in favour of shorter, more resilient household balance sheets.

Fifth, the proposed model must be understood within the evolving framework of EU law and governance. Although the regulation of pensions and housing finance remains largely national, EU coordination mechanisms – particularly those tied to fiscal oversight, social policy, and financial regulation – are becoming increasingly salient. The European Semester, for example, has repeatedly urged Member States to enhance private pension coverage and reduce mortgage market distortions. In the longer term, shifts in EU competences or case law (e.g., in the area of tax harmonisation or consumer protection) may shape the legal space in which models like the one proposed here can operate. Future legal research should monitor these developments closely and assess how EU-level governance affects national flexibility in integrating pension and housing policy.

In sum, this dissertation lays out the conceptual, legal, and policy groundwork for a novel intervention in Dutch household finance. But it also invites a multidisciplinary research agenda going forward – one that blends legal analysis, behavioural economics, empirical modelling, and comparative institutional study. As household balance sheets become an increasingly important policy frontier in ageing societies, the questions raised here will only grow in relevance. Future work will need to test, refine, and operationalise the ideas set out in this study, helping to ensure that pension systems and housing policy serve not only as long-term safety nets but as tools for financial resilience across the life course.

Finally, while grounded in the Dutch context, the proposed model may hold relevance for other European systems facing similar pension-housing dynamics – particularly those with maturing DC schemes and high homeownership rates.

Summary

This dissertation investigates whether the long balance sheets of Dutch households – characterised by high mortgage liabilities and substantial but illiquid pension assets – can be structurally shortened through a more integrated approach to retirement savings and homeownership. Situated at the intersection of pensions, tax, and housing law, the study asks:

Is it possible to shorten the long balance sheets of Dutch households by combining retirement savings and real estate purchases, while safeguarding pension adequacy and maintaining housing affordability? If so, what could such a system look like?

The point of departure is a persistent institutional mismatch in Dutch household finance. The tax system incentivises homeownership through mechanisms such as mortgage interest deductibility, encouraging households to take on high loan-to-value (LTV) mortgages. At the same time, the pension system mandates participation in capital-funded second-pillar schemes that accumulate considerable wealth over time yet remain largely inaccessible before retirement. The result is a household sector that is asset-rich on paper but liquidity-poor in practice, leaving households with limited financial manoeuvrability across the life course. These "long balance sheets" reduce household resilience, limit consumption smoothing, and amplify macroeconomic volatility.

To address this structural imbalance, this dissertation explores whether a legal and policy framework can be devised that enables partial access to pension savings for housing purposes, without undermining long-term retirement security or distorting the housing market. The study draws on comparative legal analysis, economic reasoning, and institutional feasibility to design and evaluate a policy model that enables regulated early access to pension capital for the acquisition or improvement of owner-occupied housing – while preserving the long-term objectives of the pension and housing systems.

To answer the central research question, the study adopts a comparative legal method, drawing on practices from Germany, the United Kingdom, and Switzerland to assess how other advanced welfare states integrate retirement savings and homeownership. Chapter 1 formulates a six-part review framework to evaluate any proposed integration model. It sets out the normative and institutional criteria that such a model must satisfy:

1. Reduce household balance sheet length
2. Uphold principles of tax fairness and efficiency
3. Maintain pension adequacy and sustainability
4. Be feasible to implement within the Dutch regulatory framework

5. Avoid negative effects on the housing market
6. Comply with EU legal standards

Chapter 2 analyses how the current Dutch tax, pension, and housing systems interact to produce long household balance sheets. On the one hand, the Dutch pension system mandates participation in a capital-funded second pillar, typically tied to employment. On the other hand, the housing system – through policies such as the mortgage interest deduction and favourable tax treatment of owner-occupied housing in Box 1 – strongly incentivises homeownership, often financed through high LTV mortgages. This leads to households that are both asset-rich (due to pension entitlements and home equity) and debt-heavy (due to mortgages), but with limited liquid financial assets. The quasi-mandatory nature of second-pillar pension schemes means that households have limited discretion over when and how to access their retirement savings. Similarly, the Dutch housing tax system favours amortising mortgage debt, making it more difficult to free up liquidity through refinancing or equity withdrawal. The combination of these features creates the characteristic "long balance sheet": substantial illiquid assets on one side, and long-term liabilities on the other, with minimal flexibility in the middle. The consequences of this structure are macroeconomically significant. Liquidity constraints in the household sector reduce the capacity for consumption smoothing and amplify the impact of external shocks. This effect is compounded in particular by the procyclical behaviour of pension fund investment returns, with interactions in mortgage markets further reinforcing economic volatility. In this way, the financial structure of households becomes a transmission mechanism for wider systemic risk.

Chapters 3 to 5 offer comparative insights by analysing Germany, the United Kingdom, and Switzerland – three countries with similar economic profiles but different institutional responses to the pension-housing nexus. Germany employs *Bausparen*, a contractual savings system designed to encourage disciplined, long-term saving for housing. These contracts benefit from tax advantages and state premiums, but they are not linked to occupational pensions and operate outside the main pension system. While it promotes financial discipline, it does not coordinate lifecycle saving across domains or structurally shorten household balance sheets. The United Kingdom offers greater flexibility through tools such as the *Lifetime Individual Savings Account (LISA)*, which allows individuals under 40 to save tax-advantaged funds for either a first-time home purchase or retirement. Although promising in its dual-purpose design, the LISA is voluntary, demographic-specific, and disconnected from pension savings within the pension system. Its reach remains limited, and its use as a bridge between pensions and housing is indirect. Pension freedoms introduced in 2015 created more flexibility at the decumulation stage, but do not offer systematic early access for homeownership. Switzerland provides a highly structured mechanism for direct integration. It allows early withdrawals or pledging of second- and third-pillar pension assets for the purchase of owner-occupied homes, subject to strict safeguards. Withdrawals are capped, traceable, repayment obligations may apply, and future pension benefits are adjusted accordingly. Importantly, the Swiss model operates within the

formal pension system, not as a parallel savings track, making it more relevant to the Dutch context. These cases reveal that the most promising forms of integration are those that offer conditional liquidity from existing pension schemes, rather than rely on parallel or supplementary savings tracks.

Building on these insights, chapter 6 develops a Dutch early withdrawal model that enables conditional access to second- and third-pillar pension assets for the purchase or improvement of a primary residence. Access is governed by clear legal, fiscal, and administrative conditions: the mechanism introduces capped withdrawals, age limits, repayment obligations that are triggered upon sale of the property (unless reinvested), with the option to replenish pension capital voluntarily. Taxation remains deferred under the EET regime and is only activated when funds are no longer used for housing or retirement purposes.

The model is designed to operate within existing legal and administrative frameworks and leverages recent institutional developments – such as the shift to individual pension pots under the *Wet toekomst pensioenen* (Wtp). It relies on coordination among pension funds, tax authorities, notaries, and financial supervisors to ensure legal compliance and administrative feasibility. Importantly, early withdrawals are treated as functionally equivalent to mortgage financing, ensuring that loan-to-value and loan-to-income limits continue to apply, thereby mitigating potential housing market distortions.

When assessed against the six evaluation criteria, the model meets all requirements. It shortens household balance sheets by reducing mortgage debt and enhancing liquidity at key life stages. It preserves long-term pension adequacy through age-based caps, repayment obligations, and replenishment incentives. Tax treatment is consistent with the Dutch system and grounded in principles of fairness and simplicity. Operationally, the model is feasible with incremental adjustments to existing infrastructure. Housing market impacts are contained through LTV compliance and purpose-bound design. EU law requirements are respected through legal proportionality, territorial consistency, and non-discrimination.

While implementation will require legislative amendments – particularly to the Wage Tax Act 1964 (e.g. Article 19b) – and careful coordination with other disbursement options such as the lump sum at retirement, the mechanism itself is institutionally sound. It provides a legal, tax, and operational blueprint that Dutch policymakers can use to navigate the persistent imbalance between pension wealth and housing debt.

This dissertation demonstrates that a well-structured early withdrawal mechanism for housing can offer Dutch households greater financial flexibility without compromising the core objectives of the pension system. By integrating pension and housing policy within a regulated, tax-neutral framework, the proposed model addresses one of the most persistent structural

challenges in Dutch household finance: the coexistence of large, illiquid retirement savings and high mortgage liabilities.

The model enables targeted liquidity when it is most needed – during home acquisition – while preserving the integrity of the pension system. It recognises that the dual role of households – as retirement savers and home investors – should be managed coherently rather than in institutional silos. In doing so, the model challenges the rigid divide between accumulation and decumulation, highlighting the importance of legal design in shaping both the behavioural and distributive outcomes of pension policy.

While some risks and uncertainties remain and successful implementation will depend on further political choices, legal amendments, and coordinated stakeholder engagement, this dissertation offers a grounded and feasible response to its central research question.

To date, no existing Dutch legal framework offers such a legally integrated and tax-compliant early withdrawal model. This dissertation therefore makes a novel contribution by demonstrating how pension capital can be structurally and lawfully connected to housing finance, within the confines of existing legal and institutional architecture.

A more integrated approach to pensions and housing is not only possible but also necessary and desirable for building a more resilient, equitable, and coherent financial future for Dutch households, strengthening life-cycle financial flexibility while preserving long-term retirement security.

Samenvatting

Dit proefschrift onderzoekt of de lange balansen van Nederlandse huishoudens – gekenmerkt door hoge hypotheekschulden en omvangrijke maar illiquide pensioenvermogens – structureel kunnen worden verkort door een meer geïntegreerde benadering van pensioensparen en eigenwoningbezit. Gepositioneerd op het snijvlak van pensioenrecht, belastingrecht en woningrecht, staat in dit onderzoek de volgende vraag centraal:

Is het mogelijk om de lange balansen van Nederlandse huishoudens te verkorten door pensioensparen en eigenwoningbezit te combineren, met behoud van pensioenadequaatheid en betaalbaarheid van wonen? Zo ja, hoe zou een dergelijk stelsel eruit kunnen zien?

Het vertrekpunt van dit onderzoek is een hardnekkige institutionele mismatch in de Nederlandse huishoudfinanciën. Het belastingstelsel stimuleert eigenwoningbezit via instrumenten zoals de hypotheekrenteaftrek, waardoor huishoudens worden aangemoedigd om hypotheken met een hoge loan-to-value-ratio (LTV) aan te gaan. Tegelijkertijd verplicht het pensioenstelsel deelname aan kapitaalgedekte tweede-pijlerregelingen, waarin in de loop der tijd aanzienlijke vermogens worden opgebouwd die vóór pensionering grotendeels ontoegankelijk blijven. Het resultaat zijn huishoudens die op papier vermogend zijn, maar in de praktijk weinig liquide, waardoor huishoudens gedurende de levensloop beperkte financiële manoeuvreerruimte hebben. Deze "lange balansen" verminderen de veerkracht van huishoudens, beperken consumptiespreiding en versterken macro-economische volatiliteit.

Om deze structurele disbalans te adresseren, onderzoekt dit proefschrift of een juridisch en beleidsmatig kader kan worden ontworpen dat gedeeltelijke toegang tot pensioensparen voor woondoeleinden mogelijk maakt, zonder de langetermijnzekerheid van het pensioenstelsel te ondermijnen of de woningmarkt te verstoren. Het onderzoek maakt gebruik van rechtsvergelijkende analyse, economische redenering en institutionele haalbaarheid om een beleidsmodel te ontwerpen en te evalueren dat gereguleerde vervroegde toegang tot pensioenkapitaal mogelijk maakt voor de verwerving of verbetering van een eigen woning, met behoud van de langetermijndoelstellingen van zowel het pensioen- als het woningstelsel.

Ter beantwoording van de centrale onderzoeksvraag hanteert het proefschrift een rechtsvergelijkende methode, waarbij wordt gekeken naar praktijken in Duitsland, het Verenigd Koninkrijk en Zwitserland om te beoordelen hoe andere ontwikkelde welvaartsstaten pensioensparen en eigenwoningbezit integreren. Hoofdstuk 1 ontwikkelt een zesdelig beoordelingskader voor de evaluatie van elk integratiemodel. Dit kader formuleert de normatieve en institutionele criteria waaraan een dergelijk model moet voldoen:

1. Het verkorten van huishoudbalansen
2. Het respecteren van beginselen van fiscale rechtvaardigheid en efficiëntie
3. Het waarborgen van pensioenadequaatheid en -duurzaamheid
4. De uitvoerbaarheid binnen het Nederlandse wet- en regelgevingskader
5. Het vermijden van negatieve effecten op de woningmarkt
6. De verenigbaarheid met het EU-recht

Hoofdstuk 2 analyseert hoe het huidige Nederlandse belasting-, pensioen- en woningstelsel samen bijdragen aan het ontstaan van lange huishoudbalansen. Enerzijds verplicht het Nederlandse pensioenstelsel deelname aan een kapitaalgedekte tweede pijler, doorgaans gekoppeld aan arbeid. Anderzijds stimuleert het woningstelsel – onder meer via de hypotheekrenteaftrek en de gunstige fiscale behandeling van de eigen woning in box 1 van de Wet Inkomstenbelasting 2001 – sterk het eigenwoningbezit, vaak gefinancierd met hypotheken met een hoge LTV. Dit leidt tot huishoudens die zowel vermogend zijn (door pensioenrechten en woningvermogen) als zwaar gefinancierd met schulden (door hypotheken), maar beschikken over beperkte liquide middelen. Het quasi-verplichte karakter van tweede-pijlerpensioenen beperkt de discretionaire ruimte van huishoudens om hun pensioenvermogen flexibel aan te wenden. Evenzo bevordert het Nederlandse fiscale woningstelsel aflossing van hypotheekschulden, waardoor het moeilijker wordt om liquiditeit vrij te maken via herfinanciering of overwaarde-opname. De combinatie van deze kenmerken resulteert in de karakteristieke "lange balans": omvangrijke illiquide activa aan de ene zijde en langlopende verplichtingen aan de andere zijde, met weinig flexibiliteit daartussen. De macro-economische gevolgen hiervan zijn aanzienlijk. Liquiditeitsbeperkingen in de huishoudsector verminderen de mogelijkheden voor consumptiespreiding en versterken de impact van externe schokken. Dit effect wordt met name versterkt door het procyclische karakter van beleggingsrendementen van pensioenfondsen, terwijl interacties met hypotheekmarkten de economische volatiliteit verder kunnen versterken. Op deze wijze fungeert de financiële structuur van huishoudens als transmissiemechanisme voor bredere systeemrisico's.

Hoofdstukken 3 tot en met 5 bieden rechtsvergelijkende inzichten door Duitsland, het Verenigd Koninkrijk en Zwitserland te analyseren – drie landen met vergelijkbare economische profielen, maar uiteenlopende institutionele benaderingen van de pensioen-woningrelatie. Duitsland maakt gebruik van *Bausparen*, een contractueel spaarsysteem dat is gericht op gedisciplineerd, langetermijnsparen voor wonen. Deze contracten profiteren van fiscale voordelen en staatsbijdragen, maar zijn niet gekoppeld aan het beroepspensioenstelsel en functioneren buiten het formele pensioenstelsel. Hoewel *Bausparen* financiële discipline bevordert, coördineert het levensloopsparen niet over domeinen heen en verkort het huishoudbalansen niet structureel. Het Verenigd Koninkrijk biedt meer flexibiliteit via instrumenten zoals de *Lifetime Individual Savings Account* (LISA), waarmee personen onder de 40 jaar fiscaal gefaciliteerd kunnen sparen voor een eerste woning of voor pensioen. Hoewel dit instrument in opzet een dubbel doel dient, is het vrijwillig, demografisch begrensd en losgekoppeld van pensioenvermogen binnen het

pensioenstelsel. Het bereik ervan blijft beperkt en de functie als brug tussen pensioenen en wonen is indirect. De in 2015 ingevoerde *pension freedoms* vergroten de flexibiliteit in de uitkeringsfase, maar bieden geen systematische vervroegde toegang voor woningverwerving. Zwitserland biedt daarentegen een sterk gestructureerd model van directe integratie. Het Zwitserse stelsel staat vervroegde opname of verpanding van tweede- en derde-pijlerpensioenvermogen toe voor de aankoop van een eigen woning, onder strikte waarborgen. Opnames zijn gemaximeerd, traceerbaar, terugbetalingsverplichtingen kunnen gelden en toekomstige pensioenuitkeringen worden dienovereenkomstig aangepast. Belangrijk is dat het Zwitserse model binnen het formele pensioenstelsel opereert en niet als een parallel spaartraject, waardoor het bijzonder relevant is voor de Nederlandse context. Deze rechtsvergelijking laat zien dat de meest kansrijke vormen van integratie bestaan uit voorwaardelijke liquiditeit binnen bestaande pensioenregelingen, in plaats van parallelle of aanvullende spaarproducten.

Voortbouwend op deze inzichten ontwikkelt hoofdstuk 6 een Nederlands model voor vervroegde opname dat voorwaardelijke toegang biedt tot tweede- en derde-pijlerpensioenvermogen voor de aankoop of verbetering van een eigen woning. De toegang is gereguleerd via duidelijke juridische, fiscale en administratieve voorwaarden: het model introduceert gemaximeerde opnames, leeftijdsgrenzen en terugbetalingsverplichtingen die worden geactiveerd bij verkoop van de woning (tenzij herinvestering plaatsvindt), met de mogelijkheid om pensioenvermogen vrijwillig aan te vullen. De belastingheffing blijft uitgesteld onder het EET-regime en wordt pas geactiveerd wanneer middelen niet langer worden aangewend voor woon- of pensioendoeleinden.

Het model is ontworpen om te functioneren binnen bestaande juridische en administratieve kaders en maakt gebruik van recente institutionele ontwikkelingen, zoals de overgang naar individuele pensioenvermogens onder de Wet toekomst pensioenen (Wtp). Het vergt coördinatie tussen pensioenfondsen, belastingautoriteiten, notarissen en financiële toezichthouders om juridische naleving en uitvoerbaarheid te waarborgen. Vervroegde opnames worden functioneel gelijkgesteld aan hypotheekfinanciering, zodat loan-to-value- en loan-to-income-normen van toepassing blijven, waarmee potentiële verstoringen van de woningmarkt worden beperkt.

Wanneer het model wordt getoetst aan de zes beoordelingscriteria, voldoet het aan alle vereisten. Het verkort huishoudbalansen door hypotheekschulden te verminderen en liquiditeit te vergroten op cruciale momenten in de levensloop. Het waarborgt de langetermijnadequaatheid van pensioenen via leeftijdsafhankelijke maxima, terugbetalingsverplichtingen en prikkels voor aanvulling. De fiscale behandeling is consistent met het Nederlandse stelsel en gebaseerd op beginselen van rechtvaardigheid en eenvoud. Operationeel is het model uitvoerbaar met incrementele aanpassingen aan bestaande infrastructuur. Effecten op de woningmarkt blijven beheersbaar door naleving van LTV-normen en doelgebonden gebruik. Ook aan de eisen van

het EU-recht wordt voldaan, door juridische proportionaliteit, territoriale consistentie en non-discriminatie.

Hoewel de implementatie wetswijzigingen zal vereisen – met name in de Wet op de loonbelasting 1964 (bijvoorbeeld artikel 19b) – en zorgvuldige afstemming met andere keuzemogelijkheden zoals het bedrag ineens bij pensionering, is het mechanisme zelf institutioneel robuust. Het biedt een juridisch, fiscaal en operationeel blauwdruk voor beleidsmakers om de hardnekkige disbalans tussen pensioenvermogen en hypotheekschuld in Nederland aan te pakken.

Dit proefschrift laat zien dat een zorgvuldig vormgegeven mechanisme voor vervroegde pensioenopname ten behoeve van wonen Nederlandse huishoudens meer financiële flexibiliteit kan bieden zonder de kerndoelstellingen van het pensioenstelsel aan te tasten. Door pensioen- en woonbeleid te integreren binnen een gereguleerd en fiscaal neutraal kader, adresseert het voorgestelde model een van de meest hardnekkige structurele uitdagingen in de Nederlandse huishoudfinanciën: het naast elkaar bestaan van grote, illiquide pensioenvermogens en hoge hypotheekschulden.

Het model maakt gerichte liquiditeit mogelijk op het moment dat deze het meest nodig is – bij woningverwerving – terwijl de integriteit van het pensioenstelsel behouden blijft. Het erkent dat huishoudens een dubbele rol vervullen, als pensioenspaarders en als woningbezitters, en dat deze rollen coherent moeten worden vormgegeven in plaats van gescheiden in institutionele silo's. Daarmee doorbreekt het model de rigide scheiding tussen opbouw- en uitkeringsfase en onderstreept het belang van juridische vormgeving voor zowel gedragsmatige als verdelingseffecten van pensioenbeleid.

Hoewel risico's en onzekerheden blijven bestaan en succesvolle implementatie afhankelijk zal zijn van verdere politieke keuzes, wetswijzigingen en gecoördineerde betrokkenheid van stakeholders, biedt dit proefschrift een onderbouwd en haalbaar antwoord op de centrale onderzoeksvraag.

Tot op heden bestaat in het Nederlandse recht geen wettelijk geïntegreerd en fiscaal gefaciliteerd model voor vervroegde pensioenopname ten behoeve van wonen. Dit proefschrift levert daarom een vernieuwende bijdrage door te laten zien hoe pensioenkapitaal structureel en rechtmatig kan worden verbonden met woningfinanciering, binnen de grenzen van het bestaande juridische en institutionele kader.

Een meer geïntegreerde benadering van pensioenen en wonen is niet alleen mogelijk, maar ook noodzakelijk en wenselijk voor het realiseren van een veerkrachtiger, eerlijker en coherenter financieel toekomstperspectief voor Nederlandse huishoudens, waarbij levensloopflexibiliteit wordt versterkt zonder afbreuk te doen aan de langetermijnzekerheid van het pensioen.

Appendices

A. Appendices Chapter 2

A1: Mortgage forms in the Netherlands[1049]

Annuity mortgage

With an annuity mortgage, you pay a fixed gross amount per month during the term. The monthly payment consists of a principal component (the repayment component) and an interest component. Over the term of your mortgage, the interest component of your monthly payment will gradually decrease, while the principal component will gradually increase. Every month, a part of the loan is paid off. The total amount of debt will therefore decrease, as will the interest that you pay over the remainder of the loan. As a result - if you are eligible for mortgage interest deduction – your tax deduction will also decrease. This, in turn, can lead to an increase in the net monthly mortgage costs. We thus see that the gross monthly payment stays the same, while the net monthly payment rises over the term of the mortgage. By the end of the term, the mortgage will have been repaid completely.

Linear mortgage

With a linear mortgage, the monthly payment consists of a principal component (the repayment) and an interest component. The principal component is the same each month during the entire term of the mortgage. Because of the monthly repayments, the interest component decreases since you pay interest over the remainder of the loan. Hence, the gross amount decreases during the term. This results – if you are eligible for mortgage interest deduction – in a decrease of your tax deduction. By the end of the term, the mortgage will have been repaid completely.

Interest-only mortgage

With an interest-only mortgage, you do not repay the mortgage in monthly payments. The monthly payment consists only of the interest component. It is possible to make voluntarily additional repayments, resulting in a smaller loan amount and thus smaller amount of interest to pay each month. With no voluntary repayments, neither the loan amount will change, nor will the monthly interest payment change during the interest fixed period. At the end of the term –

[1049] Definitions compiled from: De Hypotheekshop, 'Hypotheekvormen' <https://www.hypotheekshop.nl/hypotheekvormen> accessed 16 May 2025;
Rabobank, 'Hypotheekvormen vergelijken' <https://www.rabobank.nl/particulieren/hypotheek/hypotheek-vergelijken/?intcamp=pa-hypotheek&inttype=tegel-hypotheekvormen.vergelijken&intsource=hypotheek> accessed 16 May 2025;
SNS Bank, 'Onze hypotheekvormen op een rij' <https://www.snsbank.nl/particulier/hypotheken/onze-hypotheekvormen-op-een-rij.html> accessed 16 May 2025.

when selling the house – the proceeds are used to pay off the mortgage debt at once. Interest is deductible only if the mortgage has been taken out before 2013 and you meet the conditions making you eligible for mortgage interest deduction.

Savings mortgage

With a savings mortgage, you save the total mortgage amount. At the end of the term, the entire loan amount is repaid at once. The monthly payment will thus consist of a savings component and an interest component. During the term, you will receive a compensation for the saved money, which is equal to your mortgage interest. You also pay for a life insurance, so that repayment of the loan is arranged if you (or your partner) suddenly die. Because the mortgage loan is not being paid off during the term, optimum use can be made of the mortgage interest deduction. That is, if one is eligible for mortgage interest deduction.

Bank savings mortgage

With a bank savings mortgage – as with a savings mortgage – you save the total amount of the mortgage loan. The monthly payment will thus consist of a savings component and an interest component. The money will be put on a blocked savings account on which you will receive interest. This interest rate is equal to the mortgage interest rate. At the end of the term, the mortgage loan will be paid off at once with the money on the blocked savings account.

Investment mortgage

With an investment mortgage, you save the total amount of the mortgage loan on an investment account. The money you save is invested so that you can pay off the entire mortgage loan earlier. An important issue here is uncertainty. You do not know in advance, what your investment will yield. Therefore, it could be the case that you build up less and have to put in extra money at the end of the term when the loan has to be repaid in full.

Life mortgage

With a life mortgage, you combine an interest-only mortgage with a life insurance. The monthly payment consists of an interest component and an insurance premium component. You will receive a compensation for the premium you accrue with which you will ultimately pay off the mortgage loan at once at the end of the term. The insurer also contributes to the accrual by, for example, profit sharing.

Hybrid mortgage

With a hybrid mortgage, the advantages of a savings- and an investment mortgage are combined. You decide how large the investment part is and how large the savings part is, based on your own risk aversion.

A2: MID with different mortgage amounts

	Scenario 1	Scenario 2	Scenario 3
Income	€ 35,000.00	€ 80,000.00	€ 80,000.00
Mortgage amount	€130,000.00	€ 130,000.00	€ 325,000.00
Mortgage interest rate	1.60%	1.60%	1.60%
Mortgage interest payment (1st year)	€ 2,080.00	€ 2,080.00	€ 5,200.00
Taxable income	**€ 32,920.00**	**€ 77,920.00**	**€ 74,800.00**
Taxes due (without mortgage interest rate deduction):			
Bracket 1	€ 13,118.00	€ 14,407.69	€ 14,407.69
Bracket 2		€ 14,383.32	€ 14,383.32
Bracket 3		€ 1,575.59	€ 1,575.59
Total	**€ 13,118.00**	**€ 30,366.60**	**€ 30,366.60**
Taxes due (with mortgage interest rate deduction):			
Bracket 1	€ 12,338.42	€ 14,407.69	€ 14,407.69
Bracket 2		€ 14,383.32	€ 14,383.32
Bracket 3		€ 545.99	
Total	**€ 12,338.42**	**€ 29,337.00**	**€ 28,791.01**
Difference	**€ 779.58**	**€ 1,029.60**	**€ 1,575.59**

Note 1: These are simplified example calculations to show how mortgage interest deduction works. In reality, one also has to take into account an adverse effect of the *eigenwoningforfait* (deemed income from owner occupation).

B. Appendices Chapter 3

IN ACCORDANCE WITH THE GERMAN QUANTITATIVE ILLUSTRATION

B1: Regular savings

		Contribution							
Year	**Age**	**Monthly**	**Yearly**	**Interest**	**Interest per year**		**Savings**	**Extra (+)**	**Extra (-)**
1	24	€ 375.00	€ 4,500.00	1%	€	22.50	€ 4,522.50		
2	25	€ 375.00	€ 4,500.00	1%	€	67.73	€ 9,090.23		
3	26	€ 416.67	€ 5,000.00	1%	€	115.90	€ 14,206.13		
4	27	€ 416.67	€ 5,000.00	1%	€	167.06	€ 19,373.19		
5	28	€ 500.00	€ 6,000.00	1%	€	223.73	€ 25,596.92		
6	29	€ 500.00	€ 6,000.00	1%	€	285.97	€ 31,882.89		
7	30	€ 583.33	€ 7,000.00	1%	€	353.83	€ 39,236.72		
8	31	€ 583.33	€ 7,000.00	1%	€	427.37	€ 46,664.09		
9	32	€ 666.67	€ 8,000.00	1%	€	506.64	€ 55,170.73		
10	33	€ 666.67	€ 8,000.00	1%	€	591.71	€ 63,762.43		
11	34	€ 666.67	€ 8,000.00	1%	€	677.62	€ 72,440.06		€ 70,000.00
12	35	€ 750.00	€ 9,000.00	1%	€	69.40	€ 11,509.46		
13	36	€ 750.00	€ 9,000.00	1%	€	160.09	€ 20,669.55		
14	37	€ 791.67	€ 9,500.00	1%	€	254.20	€ 30,423.75		
15	38	€ 791.67	€ 9,500.00	1%	€	351.74	€ 40,275.49		
16	39	€ 916.67	€ 11,000.00	1%	€	457.75	€ 51,733.24		
17	40	€ 916.67	€ 11,000.00	1%	€	572.33	€ 63,305.57		
18	41	€ 958.33	€ 11,500.00	1%	€	690.56	€ 75,496.13		
19	42	€ 958.33	€ 11,500.00	1%	€	812.46	€ 87,808.59		
20	43	€ 1,041.67	€ 12,500.00	1%	€	940.59	€ 101,249.18		
21	44	€ 1,041.67	€ 12,500.00	1%	€	1,074.99	€ 114,824.17		€ 110,000.00
22	45	€ 1,083.33	€ 13,000.00	1%	€	113.24	€ 17,937.41		
23	46	€ 1,083.33	€ 13,000.00	1%	€	244.37	€ 31,181.78		
24	47	€ 1,083.33	€ 13,000.00	1%	€	376.82	€ 44,558.60		
25	48	€ 1,125.00	€ 13,500.00	1%	€	513.09	€ 58,571.69		
26	49	€ 1,125.00	€ 13,500.00	1%	€	653.22	€ 72,724.90		

		Contribution								
Year	Age	Monthly	Yearly	Interest	Interest per year		Savings	Extra (+)	Extra (-)
27	50	€ 1,125.00	€ 13,500.00	1%	€	794.75	€ 87,019.65		
28	51	€ 1,166.67	€ 14,000.00	1%	€	940.20	€ 101,959.85		
29	52	€ 1,166.67	€ 14,000.00	1%	€	1,089.60	€ 117,049.45		
30	53	€ 1,166.67	€ 14,000.00	1%	€	1,240.49	€ 132,289.94		
31	54	€ 1,208.33	€ 14,500.00	1%	€	1,395.40	€ 148,185.34		
32	55	€ 1,208.33	€ 14,500.00	1%	€	1,554.35	€ 164,239.70		
33	56	€ 1,208.33	€ 14,500.00	1%	€	1,714.90	€ 180,454.59		
34	57	€ 1,250.00	€ 15,000.00	1%	€	1,879.55	€ 197,334.14		
35	58	€ 1,250.00	€ 15,000.00	1%	€	2,048.34	€ 214,382.48		
36	59	€ 1,291.67	€ 15,500.00	1%	€	2,221.32	€ 232,103.81		
37	60	€ 1,291.67	€ 15,500.00	1%	€	2,398.54	€ 250,002.34		
38	61	€ 1,333.33	€ 16,000.00	1%	€	2,580.02	€ 268,582.37		
39	62	€ 1,333.33	€ 16,000.00	1%	€	2,765.82	€ 287,348.19		
40	63	€ 1,333.33	€ 16,000.00	1%	€	2,953.48	€ 306,301.67		
41	64	€ 1,333.33	€ 16,000.00	1%	€	3,143.02	€ 325,444.69		
42	65	€ 1,333.33	€ 16,000.00	1%	€	3,334.45	€ 344,779.14		
43	66	€ 1,333.33	€ 16,000.00	1%	€	3,527.79	€ 364,306.93		
44	67	€ -	€ -	1%	€	3,643.07	€ 367,950.00		
45	68	€ -	€ -	1%	€	3,679.50	€ 371,629.50		
46	69	€ -	€ -	1%	€	3,716.29	€ 375,345.79		
47	70	€ -	€ -	1%	€	3,753.46	€ 379,099.25		
48	71	€ -	€ -	1%	€	3,790.99	€ 382,890.24		
49	72	€ -	€ -	1%	€	3,828.90	€ 386,719.14		
50	73	€ -	€ -	1%	€	3,867.19	€ 390,586.34		
51	74	€ -	€ -	1%	€	3,905.86	€ 394,492.20		
52	75	€ -	€ -	1%	€	3,944.92	€ 398,437.12		
53	76	€ -	€ -	1%	€	3,984.37	€ 402,421.49		
54	77	€ -	€ -	1%	€	4,024.21	€ 406,445.71		
55	78	€ -	€ -	1%	€	4,064.46	€ 410,510.16		
56	79	€ -	€ -	1%	€	4,105.10	€ 414,615.27		
57	80	€ -	€ -	1%	€	4,146.15	€ 418,761.42		

		Contribution									
Year	**Age**	**Monthly**		**Yearly**		**Interest**	**Interest per year**		**Savings**	**Extra (+)**	**Extra (-)**
58	81	€	-	€	-	1%	€	4,187.61	€ 422,949.03		
59	82	€	-	€	-	1%	€	4,229.49	€ 427,178.52		
60	83	€	-	€	-	1%	€	4,271.79	€ 431,450.31		
61	84	€	-	€	-	1%	€	4,314.50	€ 435,764.81		
62	85	€	-	€	-	1%	€	4,357.65	€ 440,122.46		
63	86	€	-	€	-	1%	€	4,401.22	€ 444,523.68		
64	87	€	-	€	-	1%	€	4,445.24	€ 448,968.92		
65	88	€	-	€	-	1%	€	4,489.69	€ 453,458.61		
66	89	€	-	€	-	1%	€	4,534.59	€ 457,993.20		
67	90	€	-	€	-	1%	€	4,579.93	€ 462,573.13		

B2: *Bausparen*

		Contribution							
Year	**Age**	**Monthly**	**Yearly**	**Government bonus**	**Interest**	**Interest per year**	**Savings**
1	24	€ 375.00	€ 4,500.00	€ 200.00	1%	€ 23.50	€ 4,723.50
2	25	€ 375.00	€ 4,500.00	€ 43.75	1%	€ 69.95	€ 9,337.20
3	26	€ 416.67	€ 5,000.00	€ 43.75	1%	€ 118.59	€ 14,499.54
4	27	€ 416.67	€ 5,000.00	€ 43.75	1%	€ 170.21	€ 19,713.51
5	28	€ 500.00	€ 6,000.00	€ 43.75	1%	€ 227.35	€ 25,984.61
6	29	€ 500.00	€ 6,000.00	€ 43.75	1%	€ 290.06	€ 32,318.43
7	30	€ 583.33	€ 7,000.00	€ 43.75	1%	€ 358.40	€ 39,720.58
8	31	€ 583.33	€ 7,000.00	€ 43.75	1%	€ 432.42	€ 47,196.76
9	32	€ 666.67	€ 8,000.00	€ 43.75	1%	€ 512.19	€ 55,752.69
10	33	€ 666.67	€ 8,000.00	€ 43.75	1%	€ 597.75	€ 64,394.19
11	34	€ 666.67	€ 8,000.00	€ 43.75	1%	€ 684.16	€ 73,122.10

B3: Annuity mortgage – event 2

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
1	1	€ 873.27	€ 546.39	€ 326.88	€ 199,573.12
	2	€ 873.27	€ 545.50	€ 327.77	€ 199,245.35
	3	€ 873.27	€ 544.60	€ 328.67	€ 198,916.68
	4	€ 873.27	€ 543.71	€ 329.57	€ 198,587.11
	5	€ 873.27	€ 542.80	€ 330.47	€ 198,256.65
	6	€ 873.27	€ 541.90	€ 331.37	€ 197,925.28
	7	€ 873.27	€ 541.00	€ 332.28	€ 197,593.00
	8	€ 873.27	€ 540.09	€ 333.18	€ 197,259.81
	9	€ 873.27	€ 539.18	€ 334.10	€ 196,925.72
	10	€ 873.27	€ 538.26	€ 335.01	€ 196,590.71
	11	€ 873.27	€ 537.35	€ 335.92	€ 196,254.79
	12	€ 873.27	€ 536.43	€ 336.84	€ 195,917.94
2	13	€ 873.27	€ 535.51	€ 337.76	€ 195,580.18
	14	€ 873.27	€ 534.59	€ 338.69	€ 195,241.49
	15	€ 873.27	€ 533.66	€ 339.61	€ 194,901.88
	16	€ 873.27	€ 532.73	€ 340.54	€ 194,561.34
	17	€ 873.27	€ 531.80	€ 341.47	€ 194,219.87
	18	€ 873.27	€ 530.87	€ 342.40	€ 193,877.47
	19	€ 873.27	€ 529.93	€ 343.34	€ 193,534.13
	20	€ 873.27	€ 528.99	€ 344.28	€ 193,189.85
	21	€ 873.27	€ 528.05	€ 345.22	€ 192,844.63
	22	€ 873.27	€ 527.11	€ 346.16	€ 192,498.46
	23	€ 873.27	€ 526.16	€ 347.11	€ 192,151.35
	24	€ 873.27	€ 525.21	€ 348.06	€ 191,803.30
3	25	€ 873.27	€ 524.26	€ 349.01	€ 191,454.29
	26	€ 873.27	€ 523.31	€ 349.96	€ 191,104.32
	27	€ 873.27	€ 522.35	€ 350.92	€ 190,753.40
	28	€ 873.27	€ 521.39	€ 351.88	€ 190,401.52
	29	€ 873.27	€ 520.43	€ 352.84	€ 190,048.68
	30	€ 873.27	€ 519.47	€ 353.81	€ 189,694.87
	31	€ 873.27	€ 518.50	€ 354.77	€ 189,340.10
	32	€ 873.27	€ 517.53	€ 355.74	€ 188,984.36
	33	€ 873.27	€ 516.56	€ 356.71	€ 188,627.64
	34	€ 873.27	€ 515.58	€ 357.69	€ 188,269.95
	35	€ 873.27	€ 514.60	€ 358.67	€ 187,911.29
	36	€ 873.27	€ 513.62	€ 359.65	€ 187,551.64
4	37	€ 873.27	€ 512.64	€ 360.63	€ 187,191.01
	38	€ 873.27	€ 511.66	€ 361.62	€ 186,829.39

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	39	€ 873.27	€ 510.67	€ 362.61	€ 186,466.79
	40	€ 873.27	€ 509.68	€ 363.60	€ 186,103.19
	41	€ 873.27	€ 508.68	€ 364.59	€ 185,738.60
	42	€ 873.27	€ 507.69	€ 365.59	€ 185,373.01
	43	€ 873.27	€ 506.69	€ 366.59	€ 185,006.43
	44	€ 873.27	€ 505.68	€ 367.59	€ 184,638.84
	45	€ 873.27	€ 504.68	€ 368.59	€ 184,270.25
	46	€ 873.27	€ 503.67	€ 369.60	€ 183,900.65
	47	€ 873.27	€ 502.66	€ 370.61	€ 183,530.03
	48	€ 873.27	€ 501.65	€ 371.62	€ 183,158.41
5	49	€ 873.27	€ 500.63	€ 372.64	€ 182,785.77
	50	€ 873.27	€ 499.61	€ 373.66	€ 182,412.11
	51	€ 873.27	€ 498.59	€ 374.68	€ 182,037.44
	52	€ 873.27	€ 497.57	€ 375.70	€ 181,661.73
	53	€ 873.27	€ 496.54	€ 376.73	€ 181,285.00
	54	€ 873.27	€ 495.51	€ 377.76	€ 180,907.24
	55	€ 873.27	€ 494.48	€ 378.79	€ 180,528.45
	56	€ 873.27	€ 493.44	€ 379.83	€ 180,148.62
	57	€ 873.27	€ 492.41	€ 380.87	€ 179,767.76
	58	€ 873.27	€ 491.37	€ 381.91	€ 179,385.85
	59	€ 873.27	€ 490.32	€ 382.95	€ 179,002.90
	60	€ 873.27	€ 489.27	€ 384.00	€ 178,618.90
6	61	€ 873.27	€ 488.22	€ 385.05	€ 178,233.85
	62	€ 873.27	€ 487.17	€ 386.10	€ 177,847.75
	63	€ 873.27	€ 486.12	€ 387.16	€ 177,460.60
	64	€ 873.27	€ 485.06	€ 388.21	€ 177,072.39
	65	€ 873.27	€ 484.00	€ 389.27	€ 176,683.11
	66	€ 873.27	€ 482.93	€ 390.34	€ 176,292.77
	67	€ 873.27	€ 481.87	€ 391.41	€ 175,901.37
	68	€ 873.27	€ 480.80	€ 392.48	€ 175,508.89
	69	€ 873.27	€ 479.72	€ 393.55	€ 175,115.34
	70	€ 873.27	€ 478.65	€ 394.62	€ 174,720.72
	71	€ 873.27	€ 477.57	€ 395.70	€ 174,325.02
	72	€ 873.27	€ 476.49	€ 396.78	€ 173,928.23
7	73	€ 873.27	€ 475.40	€ 397.87	€ 173,530.37
	74	€ 873.27	€ 474.32	€ 398.96	€ 173,131.41
	75	€ 873.27	€ 473.23	€ 400.05	€ 172,731.36
	76	€ 873.27	€ 472.13	€ 401.14	€ 172,330.22
	77	€ 873.27	€ 471.04	€ 402.24	€ 171,927.99
	78	€ 873.27	€ 469.94	€ 403.34	€ 171,524.65

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	79	€ 873.27	€ 468.83	€ 404.44	€ 171,120.21
	80	€ 873.27	€ 467.73	€ 405.54	€ 170,714.67
	81	€ 873.27	€ 466.62	€ 406.65	€ 170,308.02
	82	€ 873.27	€ 465.51	€ 407.76	€ 169,900.26
	83	€ 873.27	€ 464.39	€ 408.88	€ 169,491.38
	84	€ 873.27	€ 463.28	€ 410.00	€ 169,081.38
8	85	€ 873.27	€ 462.16	€ 411.12	€ 168,670.26
	86	€ 873.27	€ 461.03	€ 412.24	€ 168,258.02
	87	€ 873.27	€ 459.91	€ 413.37	€ 167,844.66
	88	€ 873.27	€ 458.78	€ 414.50	€ 167,430.16
	89	€ 873.27	€ 457.64	€ 415.63	€ 167,014.53
	90	€ 873.27	€ 456.51	€ 416.77	€ 166,597.77
	91	€ 873.27	€ 455.37	€ 417.90	€ 166,179.86
	92	€ 873.27	€ 454.22	€ 419.05	€ 165,760.81
	93	€ 873.27	€ 453.08	€ 420.19	€ 165,340.62
	94	€ 873.27	€ 451.93	€ 421.34	€ 164,919.28
	95	€ 873.27	€ 450.78	€ 422.49	€ 164,496.79
	96	€ 873.27	€ 449.62	€ 423.65	€ 164,073.14
9	97	€ 873.27	€ 448.47	€ 424.81	€ 163,648.33
	98	€ 873.27	€ 447.31	€ 425.97	€ 163,222.37
	99	€ 873.27	€ 446.14	€ 427.13	€ 162,795.24
	100	€ 873.27	€ 444.97	€ 428.30	€ 162,366.94
	101	€ 873.27	€ 443.80	€ 429.47	€ 161,937.47
	102	€ 873.27	€ 442.63	€ 430.64	€ 161,506.82
	103	€ 873.27	€ 441.45	€ 431.82	€ 161,075.00
	104	€ 873.27	€ 440.27	€ 433.00	€ 160,642.00
	105	€ 873.27	€ 439.09	€ 434.18	€ 160,207.82
	106	€ 873.27	€ 437.90	€ 435.37	€ 159,772.45
	107	€ 873.27	€ 436.71	€ 436.56	€ 159,335.89
	108	€ 873.27	€ 435.52	€ 437.75	€ 158,898.13
10	109	€ 873.27	€ 434.32	€ 438.95	€ 158,459.18
	110	€ 873.27	€ 433.12	€ 440.15	€ 158,019.03
	111	€ 873.27	€ 431.92	€ 441.35	€ 157,577.68
	112	€ 873.27	€ 430.71	€ 442.56	€ 157,135.12
	113	€ 873.27	€ 429.50	€ 443.77	€ 156,691.35
	114	€ 873.27	€ 428.29	€ 444.98	€ 156,246.37
	115	€ 873.27	€ 427.07	€ 446.20	€ 155,800.17
	116	€ 873.27	€ 425.85	€ 447.42	€ 155,352.75
	117	€ 873.27	€ 424.63	€ 448.64	€ 154,904.11
	118	€ 873.27	€ 423.40	€ 449.87	€ 154,454.24

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	119	€ 873.27	€ 422.17	€ 451.10	€ 154,003.14
	120	€ 873.27	€ 420.94	€ 452.33	€ 153,550.81
11	121	€ 873.27	€ 419.71	€ 453.57	€ 153,097.25
	122	€ 873.27	€ 418.47	€ 454.81	€ 152,642.44
	123	€ 873.27	€ 417.22	€ 456.05	€ 152,186.39
	124	€ 873.27	€ 415.98	€ 457.30	€ 151,729.10
	125	€ 873.27	€ 414.73	€ 458.55	€ 151,270.55
	126	€ 873.27	€ 413.47	€ 459.80	€ 150,810.75
	127	€ 873.27	€ 412.22	€ 461.06	€ 150,349.69
	128	€ 873.27	€ 410.96	€ 462.32	€ 149,887.38
	129	€ 873.27	€ 409.69	€ 463.58	€ 149,423.80
	130	€ 873.27	€ 408.43	€ 464.85	€ 148,958.95
	131	€ 873.27	€ 407.15	€ 466.12	€ 148,492.83
	132	€ 873.27	€ 405.88	€ 467.39	€ 148,025.44
12	133	€ 873.27	€ 404.60	€ 468.67	€ 147,556.77
	134	€ 873.27	€ 403.32	€ 469.95	€ 147,086.82
	135	€ 873.27	€ 402.04	€ 471.23	€ 146,615.59
	136	€ 873.27	€ 400.75	€ 472.52	€ 146,143.06
	137	€ 873.27	€ 399.46	€ 473.81	€ 145,669.25
	138	€ 873.27	€ 398.16	€ 475.11	€ 145,194.14
	139	€ 873.27	€ 396.86	€ 476.41	€ 144,717.73
	140	€ 873.27	€ 395.56	€ 477.71	€ 144,240.02
	141	€ 873.27	€ 394.26	€ 479.02	€ 143,761.00
	142	€ 873.27	€ 392.95	€ 480.33	€ 143,280.68
	143	€ 873.27	€ 391.63	€ 481.64	€ 142,799.04
	144	€ 873.27	€ 390.32	€ 482.95	€ 142,316.09
13	145	€ 873.27	€ 389.00	€ 484.27	€ 141,831.81
	146	€ 873.27	€ 387.67	€ 485.60	€ 141,346.21
	147	€ 873.27	€ 386.35	€ 486.93	€ 140,859.29
	148	€ 873.27	€ 385.02	€ 488.26	€ 140,371.03
	149	€ 873.27	€ 383.68	€ 489.59	€ 139,881.44
	150	€ 873.27	€ 382.34	€ 490.93	€ 139,390.51
	151	€ 873.27	€ 381.00	€ 492.27	€ 138,898.24
	152	€ 873.27	€ 379.66	€ 493.62	€ 138,404.62
	153	€ 873.27	€ 378.31	€ 494.97	€ 137,909.65
	154	€ 873.27	€ 376.95	€ 496.32	€ 137,413.33
	155	€ 873.27	€ 375.60	€ 497.68	€ 136,915.66
	156	€ 873.27	€ 374.24	€ 499.04	€ 136,416.62
14	157	€ 873.27	€ 372.87	€ 500.40	€ 135,916.22
	158	€ 873.27	€ 371.50	€ 501.77	€ 135,414.45

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	159	€ 873.27	€ 370.13	€ 503.14	€ 134,911.32
	160	€ 873.27	€ 368.76	€ 504.51	€ 134,406.80
	161	€ 873.27	€ 367.38	€ 505.89	€ 133,900.91
	162	€ 873.27	€ 366.00	€ 507.28	€ 133,393.63
	163	€ 873.27	€ 364.61	€ 508.66	€ 132,884.97
	164	€ 873.27	€ 363.22	€ 510.05	€ 132,374.91
	165	€ 873.27	€ 361.82	€ 511.45	€ 131,863.47
	166	€ 873.27	€ 360.43	€ 512.85	€ 131,350.62
	167	€ 873.27	€ 359.03	€ 514.25	€ 130,836.37
	168	€ 873.27	€ 357.62	€ 515.65	€ 130,320.72
15	169	€ 873.27	€ 356.21	€ 517.06	€ 129,803.66
	170	€ 873.27	€ 354.80	€ 518.48	€ 129,285.18
	171	€ 873.27	€ 353.38	€ 519.89	€ 128,765.29
	172	€ 873.27	€ 351.96	€ 521.31	€ 128,243.98
	173	€ 873.27	€ 350.53	€ 522.74	€ 127,721.24
	174	€ 873.27	€ 349.10	€ 524.17	€ 127,197.07
	175	€ 873.27	€ 347.67	€ 525.60	€ 126,671.47
	176	€ 873.27	€ 346.24	€ 527.04	€ 126,144.43
	177	€ 873.27	€ 344.79	€ 528.48	€ 125,615.96
	178	€ 873.27	€ 343.35	€ 529.92	€ 125,086.04
	179	€ 873.27	€ 341.90	€ 531.37	€ 124,554.66
	180	€ 873.27	€ 340.45	€ 532.82	€ 124,021.84
16	181	€ 873.27	€ 338.99	€ 534.28	€ 123,487.56
	182	€ 873.27	€ 337.53	€ 535.74	€ 122,951.82
	183	€ 873.27	€ 336.07	€ 537.20	€ 122,414.62
	184	€ 873.27	€ 334.60	€ 538.67	€ 121,875.95
	185	€ 873.27	€ 333.13	€ 540.14	€ 121,335.80
	186	€ 873.27	€ 331.65	€ 541.62	€ 120,794.18
	187	€ 873.27	€ 330.17	€ 543.10	€ 120,251.08
	188	€ 873.27	€ 328.69	€ 544.59	€ 119,706.49
	189	€ 873.27	€ 327.20	€ 546.07	€ 119,160.42
	190	€ 873.27	€ 325.71	€ 547.57	€ 118,612.85
	191	€ 873.27	€ 324.21	€ 549.06	€ 118,063.79
	192	€ 873.27	€ 322.71	€ 550.56	€ 117,513.22
17	193	€ 873.27	€ 321.20	€ 552.07	€ 116,961.15
	194	€ 873.27	€ 319.69	€ 553.58	€ 116,407.58
	195	€ 873.27	€ 318.18	€ 555.09	€ 115,852.49
	196	€ 873.27	€ 316.66	€ 556.61	€ 115,295.88
	197	€ 873.27	€ 315.14	€ 558.13	€ 114,737.75
	198	€ 873.27	€ 313.62	€ 559.66	€ 114,178.09

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	199	€ 873.27	€ 312.09	€ 561.19	€ 113,616.91
	200	€ 873.27	€ 310.55	€ 562.72	€ 113,054.19
	201	€ 873.27	€ 309.01	€ 564.26	€ 112,489.93
	202	€ 873.27	€ 307.47	€ 565.80	€ 111,924.13
	203	€ 873.27	€ 305.93	€ 567.35	€ 111,356.78
	204	€ 873.27	€ 304.38	€ 568.90	€ 110,787.89
18	205	€ 873.27	€ 302.82	€ 570.45	€ 110,217.43
	206	€ 873.27	€ 301.26	€ 572.01	€ 109,645.42
	207	€ 873.27	€ 299.70	€ 573.57	€ 109,071.85
	208	€ 873.27	€ 298.13	€ 575.14	€ 108,496.71
	209	€ 873.27	€ 296.56	€ 576.71	€ 107,919.99
	210	€ 873.27	€ 294.98	€ 578.29	€ 107,341.70
	211	€ 873.27	€ 293.40	€ 579.87	€ 106,761.83
	212	€ 873.27	€ 291.82	€ 581.46	€ 106,180.37
	213	€ 873.27	€ 290.23	€ 583.05	€ 105,597.33
	214	€ 873.27	€ 288.63	€ 584.64	€ 105,012.69
	215	€ 873.27	€ 287.03	€ 586.24	€ 104,426.45
	216	€ 873.27	€ 285.43	€ 587.84	€ 103,838.61
19	217	€ 873.27	€ 283.83	€ 589.45	€ 103,249.16
	218	€ 873.27	€ 282.21	€ 591.06	€ 102,658.10
	219	€ 873.27	€ 280.60	€ 592.67	€ 102,065.43
	220	€ 873.27	€ 278.98	€ 594.29	€ 101,471.14
	221	€ 873.27	€ 277.35	€ 595.92	€ 100,875.22
	222	€ 873.27	€ 275.73	€ 597.55	€ 100,277.67
	223	€ 873.27	€ 274.09	€ 599.18	€ 99,678.49
	224	€ 873.27	€ 272.45	€ 600.82	€ 99,077.68
	225	€ 873.27	€ 270.81	€ 602.46	€ 98,475.22
	226	€ 873.27	€ 269.17	€ 604.11	€ 97,871.11
	227	€ 873.27	€ 267.51	€ 605.76	€ 97,265.35
	228	€ 873.27	€ 265.86	€ 607.41	€ 96,657.94
20	229	€ 873.27	€ 264.20	€ 609.07	€ 96,048.86
	230	€ 873.27	€ 262.53	€ 610.74	€ 95,438.13
	231	€ 873.27	€ 260.86	€ 612.41	€ 94,825.72
	232	€ 873.27	€ 259.19	€ 614.08	€ 94,211.64
	233	€ 873.27	€ 257.51	€ 615.76	€ 93,595.87
	234	€ 873.27	€ 255.83	€ 617.44	€ 92,978.43
	235	€ 873.27	€ 254.14	€ 619.13	€ 92,359.30
	236	€ 873.27	€ 252.45	€ 620.82	€ 91,738.48
	237	€ 873.27	€ 250.75	€ 622.52	€ 91,115.96
	238	€ 873.27	€ 249.05	€ 624.22	€ 90,491.73

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	239	€ 873.27	€ 247.34	€ 625.93	€ 89,865.81
	240	€ 873.27	€ 245.63	€ 627.64	€ 89,238.17
21	241	€ 873.27	€ 243.92	€ 629.35	€ 88,608.81
	242	€ 873.27	€ 242.20	€ 631.07	€ 87,977.74
	243	€ 873.27	€ 240.47	€ 632.80	€ 87,344.94
	244	€ 873.27	€ 238.74	€ 634.53	€ 86,710.41
	245	€ 873.27	€ 237.01	€ 636.26	€ 86,074.15
	246	€ 873.27	€ 235.27	€ 638.00	€ 85,436.14
	247	€ 873.27	€ 233.53	€ 639.75	€ 84,796.40
	248	€ 873.27	€ 231.78	€ 641.50	€ 84,154.90
	249	€ 873.27	€ 230.02	€ 643.25	€ 83,511.65
	250	€ 873.27	€ 228.27	€ 645.01	€ 82,866.64
	251	€ 873.27	€ 226.50	€ 646.77	€ 82,219.87
	252	€ 873.27	€ 224.73	€ 648.54	€ 81,571.34
22	253	€ 873.27	€ 222.96	€ 650.31	€ 80,921.03
	254	€ 873.27	€ 221.18	€ 652.09	€ 80,268.94
	255	€ 873.27	€ 219.40	€ 653.87	€ 79,615.07
	256	€ 873.27	€ 217.61	€ 655.66	€ 78,959.41
	257	€ 873.27	€ 215.82	€ 657.45	€ 78,301.96
	258	€ 873.27	€ 214.03	€ 659.25	€ 77,642.71
	259	€ 873.27	€ 212.22	€ 661.05	€ 76,981.66
	260	€ 873.27	€ 210.42	€ 662.86	€ 76,318.81
	261	€ 873.27	€ 208.60	€ 664.67	€ 75,654.14
	262	€ 873.27	€ 206.79	€ 666.48	€ 74,987.66
	263	€ 873.27	€ 204.97	€ 668.31	€ 74,319.35
	264	€ 873.27	€ 203.14	€ 670.13	€ 73,649.22
23	265	€ 873.27	€ 201.31	€ 671.96	€ 72,977.25
	266	€ 873.27	€ 199.47	€ 673.80	€ 72,303.45
	267	€ 873.27	€ 197.63	€ 675.64	€ 71,627.81
	268	€ 873.27	€ 195.78	€ 677.49	€ 70,950.32
	269	€ 873.27	€ 193.93	€ 679.34	€ 70,270.98
	270	€ 873.27	€ 192.07	€ 681.20	€ 69,589.78
	271	€ 873.27	€ 190.21	€ 683.06	€ 68,906.72
	272	€ 873.27	€ 188.35	€ 684.93	€ 68,221.79
	273	€ 873.27	€ 186.47	€ 686.80	€ 67,534.99
	274	€ 873.27	€ 184.60	€ 688.68	€ 66,846.32
	275	€ 873.27	€ 182.71	€ 690.56	€ 66,155.76
	276	€ 873.27	€ 180.83	€ 692.45	€ 65,463.31
24	277	€ 873.27	€ 178.93	€ 694.34	€ 64,768.97
	278	€ 873.27	€ 177.04	€ 696.24	€ 64,072.74

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	279	€ 873.27	€ 175.13	€ 698.14	€ 63,374.60
	280	€ 873.27	€ 173.22	€ 700.05	€ 62,674.55
	281	€ 873.27	€ 171.31	€ 701.96	€ 61,972.59
	282	€ 873.27	€ 169.39	€ 703.88	€ 61,268.71
	283	€ 873.27	€ 167.47	€ 705.80	€ 60,562.90
	284	€ 873.27	€ 165.54	€ 707.73	€ 59,855.17
	285	€ 873.27	€ 163.60	€ 709.67	€ 59,145.50
	286	€ 873.27	€ 161.66	€ 711.61	€ 58,433.89
	287	€ 873.27	€ 159.72	€ 713.55	€ 57,720.34
	288	€ 873.27	€ 157.77	€ 715.50	€ 57,004.84
25	289	€ 873.27	€ 155.81	€ 717.46	€ 56,287.38
	290	€ 873.27	€ 153.85	€ 719.42	€ 55,567.96
	291	€ 873.27	€ 151.89	€ 721.39	€ 54,846.57
	292	€ 873.27	€ 149.91	€ 723.36	€ 54,123.21
	293	€ 873.27	€ 147.94	€ 725.34	€ 53,397.88
	294	€ 873.27	€ 145.95	€ 727.32	€ 52,670.56
	295	€ 873.27	€ 143.97	€ 729.31	€ 51,941.25
	296	€ 873.27	€ 141.97	€ 731.30	€ 51,209.95
	297	€ 873.27	€ 139.97	€ 733.30	€ 50,476.66
	298	€ 873.27	€ 137.97	€ 735.30	€ 49,741.35
	299	€ 873.27	€ 135.96	€ 737.31	€ 49,004.04
	300	€ 873.27	€ 133.94	€ 739.33	€ 48,264.71

B4: Annuity mortgage – event 3a

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
1	1	€ 839.19	€ 525.07	€ 314.12	€ 191,783.13
	2	€ 839.19	€ 524.21	€ 314.98	€ 191,468.15
	3	€ 839.19	€ 523.35	€ 315.84	€ 191,152.31
	4	€ 839.19	€ 522.48	€ 316.70	€ 190,835.61
	5	€ 839.19	€ 521.62	€ 317.57	€ 190,518.04
	6	€ 839.19	€ 520.75	€ 318.44	€ 190,199.60
	7	€ 839.19	€ 519.88	€ 319.31	€ 189,880.30
	8	€ 839.19	€ 519.01	€ 320.18	€ 189,560.12
	9	€ 839.19	€ 518.13	€ 321.05	€ 189,239.06
	10	€ 839.19	€ 517.25	€ 321.93	€ 188,917.13
	11	€ 839.19	€ 516.37	€ 322.81	€ 188,594.32
	12	€ 839.19	€ 515.49	€ 323.69	€ 188,270.62
2	13	€ 839.19	€ 514.61	€ 324.58	€ 187,946.04
	14	€ 839.19	€ 513.72	€ 325.47	€ 187,620.58
	15	€ 839.19	€ 512.83	€ 326.36	€ 187,294.22
	16	€ 839.19	€ 511.94	€ 327.25	€ 186,966.97
	17	€ 839.19	€ 511.04	€ 328.14	€ 186,638.83
	18	€ 839.19	€ 510.15	€ 329.04	€ 186,309.79
	19	€ 839.19	€ 509.25	€ 329.94	€ 185,979.85
	20	€ 839.19	€ 508.34	€ 330.84	€ 185,649.01
	21	€ 839.19	€ 507.44	€ 331.74	€ 185,317.27
	22	€ 839.19	€ 506.53	€ 332.65	€ 184,984.62
	23	€ 839.19	€ 505.62	€ 333.56	€ 184,651.06
	24	€ 839.19	€ 504.71	€ 334.47	€ 184,316.58
3	25	€ 839.19	€ 503.80	€ 335.39	€ 183,981.20
	26	€ 839.19	€ 502.88	€ 336.30	€ 183,644.89
	27	€ 839.19	€ 501.96	€ 337.22	€ 183,307.67
	28	€ 839.19	€ 501.04	€ 338.14	€ 182,969.53
	29	€ 839.19	€ 500.12	€ 339.07	€ 182,630.46
	30	€ 839.19	€ 499.19	€ 340.00	€ 182,290.46
	31	€ 839.19	€ 498.26	€ 340.92	€ 181,949.54
	32	€ 839.19	€ 497.33	€ 341.86	€ 181,607.68
	33	€ 839.19	€ 496.39	€ 342.79	€ 181,264.89
	34	€ 839.19	€ 495.46	€ 343.73	€ 180,921.16
	35	€ 839.19	€ 494.52	€ 344.67	€ 180,576.49
	36	€ 839.19	€ 493.58	€ 345.61	€ 180,230.88
4	37	€ 839.19	€ 492.63	€ 346.55	€ 179,884.33
	38	€ 839.19	€ 491.68	€ 347.50	€ 179,536.83

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	39	€ 839.19	€ 490.73	€ 348.45	€ 179,188.37
	40	€ 839.19	€ 489.78	€ 349.40	€ 178,838.97
	41	€ 839.19	€ 488.83	€ 350.36	€ 178,488.61
	42	€ 839.19	€ 487.87	€ 351.32	€ 178,137.30
	43	€ 839.19	€ 486.91	€ 352.28	€ 177,785.02
	44	€ 839.19	€ 485.95	€ 353.24	€ 177,431.78
	45	€ 839.19	€ 484.98	€ 354.21	€ 177,077.57
	46	€ 839.19	€ 484.01	€ 355.17	€ 176,722.40
	47	€ 839.19	€ 483.04	€ 356.14	€ 176,366.26
	48	€ 839.19	€ 482.07	€ 357.12	€ 176,009.14
5	49	€ 839.19	€ 481.09	€ 358.09	€ 175,651.04
	50	€ 839.19	€ 480.11	€ 359.07	€ 175,291.97
	51	€ 839.19	€ 479.13	€ 360.05	€ 174,931.92
	52	€ 839.19	€ 478.15	€ 361.04	€ 174,570.88
	53	€ 839.19	€ 477.16	€ 362.03	€ 174,208.85
	54	€ 839.19	€ 476.17	€ 363.01	€ 173,845.84
	55	€ 839.19	€ 475.18	€ 364.01	€ 173,481.83
	56	€ 839.19	€ 474.18	€ 365.00	€ 173,116.83
	57	€ 839.19	€ 473.19	€ 366.00	€ 172,750.83
	58	€ 839.19	€ 472.19	€ 367.00	€ 172,383.83
	59	€ 839.19	€ 471.18	€ 368.00	€ 172,015.83
	60	€ 839.19	€ 470.18	€ 369.01	€ 171,646.82
6	61	€ 839.19	€ 469.17	€ 370.02	€ 171,276.80
	62	€ 839.19	€ 468.16	€ 371.03	€ 170,905.77
	63	€ 839.19	€ 467.14	€ 372.04	€ 170,533.73
	64	€ 839.19	€ 466.13	€ 373.06	€ 170,160.67
	65	€ 839.19	€ 465.11	€ 374.08	€ 169,786.59
	66	€ 839.19	€ 464.08	€ 375.10	€ 169,411.49
	67	€ 839.19	€ 463.06	€ 376.13	€ 169,035.36
	68	€ 839.19	€ 462.03	€ 377.16	€ 168,658.20
	69	€ 839.19	€ 461.00	€ 378.19	€ 168,280.02
	70	€ 839.19	€ 459.97	€ 379.22	€ 167,900.80
	71	€ 839.19	€ 458.93	€ 380.26	€ 167,520.54
	72	€ 839.19	€ 457.89	€ 381.30	€ 167,139.25
7	73	€ 839.19	€ 456.85	€ 382.34	€ 166,756.91
	74	€ 839.19	€ 455.80	€ 383.38	€ 166,373.52
	75	€ 839.19	€ 454.75	€ 384.43	€ 165,989.09
	76	€ 839.19	€ 453.70	€ 385.48	€ 165,603.61
	77	€ 839.19	€ 452.65	€ 386.54	€ 165,217.07
	78	€ 839.19	€ 451.59	€ 387.59	€ 164,829.48

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	79	€ 839.19	€ 450.53	€ 388.65	€ 164,440.83
	80	€ 839.19	€ 449.47	€ 389.71	€ 164,051.12
	81	€ 839.19	€ 448.41	€ 390.78	€ 163,660.34
	82	€ 839.19	€ 447.34	€ 391.85	€ 163,268.49
	83	€ 839.19	€ 446.27	€ 392.92	€ 162,875.57
	84	€ 839.19	€ 445.19	€ 393.99	€ 162,481.58
8	85	€ 839.19	€ 444.12	€ 395.07	€ 162,086.51
	86	€ 839.19	€ 443.04	€ 396.15	€ 161,690.36
	87	€ 839.19	€ 441.95	€ 397.23	€ 161,293.13
	88	€ 839.19	€ 440.87	€ 398.32	€ 160,894.81
	89	€ 839.19	€ 439.78	€ 399.41	€ 160,495.41
	90	€ 839.19	€ 438.69	€ 400.50	€ 160,094.91
	91	€ 839.19	€ 437.59	€ 401.59	€ 159,693.32
	92	€ 839.19	€ 436.50	€ 402.69	€ 159,290.62
	93	€ 839.19	€ 435.39	€ 403.79	€ 158,886.83
	94	€ 839.19	€ 434.29	€ 404.89	€ 158,481.94
	95	€ 839.19	€ 433.18	€ 406.00	€ 158,075.94
	96	€ 839.19	€ 432.07	€ 407.11	€ 157,668.83
9	97	€ 839.19	€ 430.96	€ 408.22	€ 157,260.60
	98	€ 839.19	€ 429.85	€ 409.34	€ 156,851.26
	99	€ 839.19	€ 428.73	€ 410.46	€ 156,440.80
	100	€ 839.19	€ 427.60	€ 411.58	€ 156,029.22
	101	€ 839.19	€ 426.48	€ 412.71	€ 155,616.52
	102	€ 839.19	€ 425.35	€ 413.83	€ 155,202.68
	103	€ 839.19	€ 424.22	€ 414.96	€ 154,787.72
	104	€ 839.19	€ 423.09	€ 416.10	€ 154,371.62
	105	€ 839.19	€ 421.95	€ 417.24	€ 153,954.38
	106	€ 839.19	€ 420.81	€ 418.38	€ 153,536.01
	107	€ 839.19	€ 419.67	€ 419.52	€ 153,116.49
	108	€ 839.19	€ 418.52	€ 420.67	€ 152,695.82
10	109	€ 839.19	€ 417.37	€ 421.82	€ 152,274.00
	110	€ 839.19	€ 416.22	€ 422.97	€ 151,851.03
	111	€ 839.19	€ 415.06	€ 424.13	€ 151,426.91
	112	€ 839.19	€ 413.90	€ 425.29	€ 151,001.62
	113	€ 839.19	€ 412.74	€ 426.45	€ 150,575.17
	114	€ 839.19	€ 411.57	€ 427.61	€ 150,147.56
	115	€ 839.19	€ 410.40	€ 428.78	€ 149,718.78
	116	€ 839.19	€ 409.23	€ 429.95	€ 149,288.82
	117	€ 839.19	€ 408.06	€ 431.13	€ 148,857.69
	118	€ 839.19	€ 406.88	€ 432.31	€ 148,425.39

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	119	€ 839.19	€ 405.70	€ 433.49	€ 147,991.90
	120	€ 839.19	€ 404.51	€ 434.67	€ 147,557.22
11	121	€ 839.19	€ 403.32	€ 435.86	€ 147,121.36
	122	€ 839.19	€ 402.13	€ 437.05	€ 146,684.31
	123	€ 839.19	€ 400.94	€ 438.25	€ 146,246.06
	124	€ 839.19	€ 399.74	€ 439.45	€ 145,806.61
	125	€ 839.19	€ 398.54	€ 440.65	€ 145,365.96
	126	€ 839.19	€ 397.33	€ 441.85	€ 144,924.11
	127	€ 839.19	€ 396.13	€ 443.06	€ 144,481.05
	128	€ 839.19	€ 394.91	€ 444.27	€ 144,036.78
	129	€ 839.19	€ 393.70	€ 445.48	€ 143,591.30
	130	€ 839.19	€ 392.48	€ 446.70	€ 143,144.59
	131	€ 839.19	€ 391.26	€ 447.92	€ 142,696.67
	132	€ 839.19	€ 390.04	€ 449.15	€ 142,247.52
12	133	€ 839.19	€ 388.81	€ 450.38	€ 141,797.15
	134	€ 839.19	€ 387.58	€ 451.61	€ 141,345.54
	135	€ 839.19	€ 386.34	€ 452.84	€ 140,892.70
	136	€ 839.19	€ 385.11	€ 454.08	€ 140,438.62
	137	€ 839.19	€ 383.87	€ 455.32	€ 139,983.30
	138	€ 839.19	€ 382.62	€ 456.56	€ 139,526.74
	139	€ 839.19	€ 381.37	€ 457.81	€ 139,068.92
	140	€ 839.19	€ 380.12	€ 459.06	€ 138,609.86
	141	€ 839.19	€ 378.87	€ 460.32	€ 138,149.54
	142	€ 839.19	€ 377.61	€ 461.58	€ 137,687.96
	143	€ 839.19	€ 376.35	€ 462.84	€ 137,225.13
	144	€ 839.19	€ 375.08	€ 464.10	€ 136,761.02
13	145	€ 839.19	€ 373.81	€ 465.37	€ 136,295.65
	146	€ 839.19	€ 372.54	€ 466.64	€ 135,829.01
	147	€ 839.19	€ 371.27	€ 467.92	€ 135,361.09
	148	€ 839.19	€ 369.99	€ 469.20	€ 134,891.89
	149	€ 839.19	€ 368.70	€ 470.48	€ 134,421.41
	150	€ 839.19	€ 367.42	€ 471.77	€ 133,949.64
	151	€ 839.19	€ 366.13	€ 473.06	€ 133,476.58
	152	€ 839.19	€ 364.84	€ 474.35	€ 133,002.23
	153	€ 839.19	€ 363.54	€ 475.65	€ 132,526.59
	154	€ 839.19	€ 362.24	€ 476.95	€ 132,049.64
	155	€ 839.19	€ 360.94	€ 478.25	€ 131,571.39
	156	€ 839.19	€ 359.63	€ 479.56	€ 131,091.83
14	157	€ 839.19	€ 358.32	€ 480.87	€ 130,610.97
	158	€ 839.19	€ 357.00	€ 482.18	€ 130,128.78

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	159	€ 839.19	€ 355.69	€ 483.50	€ 129,645.28
	160	€ 839.19	€ 354.36	€ 484.82	€ 129,160.46
	161	€ 839.19	€ 353.04	€ 486.15	€ 128,674.32
	162	€ 839.19	€ 351.71	€ 487.48	€ 128,186.84
	163	€ 839.19	€ 350.38	€ 488.81	€ 127,698.03
	164	€ 839.19	€ 349.04	€ 490.14	€ 127,207.89
	165	€ 839.19	€ 347.70	€ 491.48	€ 126,716.40
	166	€ 839.19	€ 346.36	€ 492.83	€ 126,223.58
	167	€ 839.19	€ 345.01	€ 494.17	€ 125,729.40
	168	€ 839.19	€ 343.66	€ 495.53	€ 125,233.88
15	169	€ 839.19	€ 342.31	€ 496.88	€ 124,737.00
	170	€ 839.19	€ 340.95	€ 498.24	€ 124,238.76
	171	€ 839.19	€ 339.59	€ 499.60	€ 123,739.16
	172	€ 839.19	€ 338.22	€ 500.97	€ 123,238.19
	173	€ 839.19	€ 336.85	€ 502.33	€ 122,735.86
	174	€ 839.19	€ 335.48	€ 503.71	€ 122,232.15
	175	€ 839.19	€ 334.10	€ 505.08	€ 121,727.07
	176	€ 839.19	€ 332.72	€ 506.46	€ 121,220.60
	177	€ 839.19	€ 331.34	€ 507.85	€ 120,712.75
	178	€ 839.19	€ 329.95	€ 509.24	€ 120,203.52
	179	€ 839.19	€ 328.56	€ 510.63	€ 119,692.89
	180	€ 839.19	€ 327.16	€ 512.02	€ 119,180.86
16	181	€ 839.19	€ 325.76	€ 513.42	€ 118,667.44
	182	€ 839.19	€ 324.36	€ 514.83	€ 118,152.61
	183	€ 839.19	€ 322.95	€ 516.24	€ 117,636.37
	184	€ 839.19	€ 321.54	€ 517.65	€ 117,118.73
	185	€ 839.19	€ 320.12	€ 519.06	€ 116,599.67
	186	€ 839.19	€ 318.71	€ 520.48	€ 116,079.19
	187	€ 839.19	€ 317.28	€ 521.90	€ 115,557.29
	188	€ 839.19	€ 315.86	€ 523.33	€ 115,033.96
	189	€ 839.19	€ 314.43	€ 524.76	€ 114,509.20
	190	€ 839.19	€ 312.99	€ 526.19	€ 113,983.00
	191	€ 839.19	€ 311.55	€ 527.63	€ 113,455.37
	192	€ 839.19	€ 310.11	€ 529.07	€ 112,926.30
17	193	€ 839.19	€ 308.67	€ 530.52	€ 112,395.78
	194	€ 839.19	€ 307.22	€ 531.97	€ 111,863.81
	195	€ 839.19	€ 305.76	€ 533.42	€ 111,330.38
	196	€ 839.19	€ 304.30	€ 534.88	€ 110,795.50
	197	€ 839.19	€ 302.84	€ 536.34	€ 110,259.16
	198	€ 839.19	€ 301.38	€ 537.81	€ 109,721.34

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	199	€ 839.19	€ 299.91	€ 539.28	€ 109,182.06
	200	€ 839.19	€ 298.43	€ 540.75	€ 108,641.31
	201	€ 839.19	€ 296.95	€ 542.23	€ 108,099.08
	202	€ 839.19	€ 295.47	€ 543.71	€ 107,555.36
	203	€ 839.19	€ 293.98	€ 545.20	€ 107,010.16
	204	€ 839.19	€ 292.49	€ 546.69	€ 106,463.47
18	205	€ 839.19	€ 291.00	€ 548.19	€ 105,915.29
	206	€ 839.19	€ 289.50	€ 549.68	€ 105,365.60
	207	€ 839.19	€ 288.00	€ 551.19	€ 104,814.42
	208	€ 839.19	€ 286.49	€ 552.69	€ 104,261.72
	209	€ 839.19	€ 284.98	€ 554.20	€ 103,707.52
	210	€ 839.19	€ 283.47	€ 555.72	€ 103,151.80
	211	€ 839.19	€ 281.95	€ 557.24	€ 102,594.56
	212	€ 839.19	€ 280.43	€ 558.76	€ 102,035.80
	213	€ 839.19	€ 278.90	€ 560.29	€ 101,475.52
	214	€ 839.19	€ 277.37	€ 561.82	€ 100,913.70
	215	€ 839.19	€ 275.83	€ 563.35	€ 100,350.34
	216	€ 839.19	€ 274.29	€ 564.89	€ 99,785.45
19	217	€ 839.19	€ 272.75	€ 566.44	€ 99,219.01
	218	€ 839.19	€ 271.20	€ 567.99	€ 98,651.02
	219	€ 839.19	€ 269.65	€ 569.54	€ 98,081.48
	220	€ 839.19	€ 268.09	€ 571.10	€ 97,510.39
	221	€ 839.19	€ 266.53	€ 572.66	€ 96,937.73
	222	€ 839.19	€ 264.96	€ 574.22	€ 96,363.51
	223	€ 839.19	€ 263.39	€ 575.79	€ 95,787.71
	224	€ 839.19	€ 261.82	€ 577.37	€ 95,210.35
	225	€ 839.19	€ 260.24	€ 578.94	€ 94,631.40
	226	€ 839.19	€ 258.66	€ 580.53	€ 94,050.88
	227	€ 839.19	€ 257.07	€ 582.11	€ 93,468.77
	228	€ 839.19	€ 255.48	€ 583.70	€ 92,885.06
20	229	€ 839.19	€ 253.89	€ 585.30	€ 92,299.76
	230	€ 839.19	€ 252.29	€ 586.90	€ 91,712.86
	231	€ 839.19	€ 250.68	€ 588.50	€ 91,124.36
	232	€ 839.19	€ 249.07	€ 590.11	€ 90,534.25
	233	€ 839.19	€ 247.46	€ 591.73	€ 89,942.52
	234	€ 839.19	€ 245.84	€ 593.34	€ 89,349.18
	235	€ 839.19	€ 244.22	€ 594.96	€ 88,754.21
	236	€ 839.19	€ 242.59	€ 596.59	€ 88,157.62
	237	€ 839.19	€ 240.96	€ 598.22	€ 87,559.40
	238	€ 839.19	€ 239.33	€ 599.86	€ 86,959.55

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	239	€ 839.19	€ 237.69	€ 601.50	€ 86,358.05
	240	€ 839.19	€ 236.05	€ 603.14	€ 85,754.91
21	241	€ 839.19	€ 234.40	€ 604.79	€ 85,150.12
	242	€ 839.19	€ 232.74	€ 606.44	€ 84,543.68
	243	€ 839.19	€ 231.09	€ 608.10	€ 83,935.58
	244	€ 839.19	€ 229.42	€ 609.76	€ 83,325.82
	245	€ 839.19	€ 227.76	€ 611.43	€ 82,714.39
	246	€ 839.19	€ 226.09	€ 613.10	€ 82,101.29
	247	€ 839.19	€ 224.41	€ 614.78	€ 81,486.51
	248	€ 839.19	€ 222.73	€ 616.46	€ 80,870.06
	249	€ 839.19	€ 221.04	€ 618.14	€ 80,251.92
	250	€ 839.19	€ 219.36	€ 619.83	€ 79,632.09
	251	€ 839.19	€ 217.66	€ 621.52	€ 79,010.56
	252	€ 839.19	€ 215.96	€ 623.22	€ 78,387.34
22	253	€ 839.19	€ 214.26	€ 624.93	€ 77,762.41
	254	€ 839.19	€ 212.55	€ 626.63	€ 77,135.78
	255	€ 839.19	€ 210.84	€ 628.35	€ 76,507.43
	256	€ 839.19	€ 209.12	€ 630.07	€ 75,877.37
	257	€ 839.19	€ 207.40	€ 631.79	€ 75,245.58
	258	€ 839.19	€ 205.67	€ 633.51	€ 74,612.06
	259	€ 839.19	€ 203.94	€ 635.25	€ 73,976.82
	260	€ 839.19	€ 202.20	€ 636.98	€ 73,339.84
	261	€ 839.19	€ 200.46	€ 638.72	€ 72,701.11
	262	€ 839.19	€ 198.72	€ 640.47	€ 72,060.64
	263	€ 839.19	€ 196.97	€ 642.22	€ 71,418.42
	264	€ 839.19	€ 195.21	€ 643.98	€ 70,774.45
23	265	€ 839.19	€ 193.45	€ 645.74	€ 70,128.71
	266	€ 839.19	€ 191.69	€ 647.50	€ 69,481.21
	267	€ 839.19	€ 189.92	€ 649.27	€ 68,831.94
	268	€ 839.19	€ 188.14	€ 651.04	€ 68,180.90
	269	€ 839.19	€ 186.36	€ 652.82	€ 67,528.07
	270	€ 839.19	€ 184.58	€ 654.61	€ 66,873.46
	271	€ 839.19	€ 182.79	€ 656.40	€ 66,217.07
	272	€ 839.19	€ 180.99	€ 658.19	€ 65,558.87
	273	€ 839.19	€ 179.19	€ 659.99	€ 64,898.88
	274	€ 839.19	€ 177.39	€ 661.80	€ 64,237.09
	275	€ 839.19	€ 175.58	€ 663.60	€ 63,573.48
	276	€ 839.19	€ 173.77	€ 665.42	€ 62,908.06
24	277	€ 839.19	€ 171.95	€ 667.24	€ 62,240.83
	278	€ 839.19	€ 170.12	€ 669.06	€ 61,571.77

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	279	€ 839.19	€ 168.30	€ 670.89	€ 60,900.88
	280	€ 839.19	€ 166.46	€ 672.72	€ 60,228.16
	281	€ 839.19	€ 164.62	€ 674.56	€ 59,553.59
	282	€ 839.19	€ 162.78	€ 676.41	€ 58,877.19
	283	€ 839.19	€ 160.93	€ 678.25	€ 58,198.93
	284	€ 839.19	€ 159.08	€ 680.11	€ 57,518.82
	285	€ 839.19	€ 157.22	€ 681.97	€ 56,836.86
	286	€ 839.19	€ 155.35	€ 683.83	€ 56,153.03
	287	€ 839.19	€ 153.48	€ 685.70	€ 55,467.33
	288	€ 839.19	€ 151.61	€ 687.57	€ 54,779.75
25	289	€ 839.19	€ 149.73	€ 689.45	€ 54,090.30
	290	€ 839.19	€ 147.85	€ 691.34	€ 53,398.96
	291	€ 839.19	€ 145.96	€ 693.23	€ 52,705.73
	292	€ 839.19	€ 144.06	€ 695.12	€ 52,010.61
	293	€ 839.19	€ 142.16	€ 697.02	€ 51,313.58
	294	€ 839.19	€ 140.26	€ 698.93	€ 50,614.65
	295	€ 839.19	€ 138.35	€ 700.84	€ 49,913.82
	296	€ 839.19	€ 136.43	€ 702.75	€ 49,211.06
	297	€ 839.19	€ 134.51	€ 704.68	€ 48,506.39
	298	€ 839.19	€ 132.58	€ 706.60	€ 47,799.78
	299	€ 839.19	€ 130.65	€ 708.53	€ 47,091.25
	300	€ 839.19	€ 128.72	€ 710.47	€ 46,380.78

C. Appendices Chapter 4

IN ACCORDANCE WITH THE UK QUANTITATIVE ILLUSTRATION

C1: Regular savings – event 3/4a

		Contribution									
Year	**Age**	**Monthly**		**Yearly**		**Interest**	**Interest per year**		**Savings**		**Extra (+)**	**Extra (-)**
1	24	£	187.50	£	2,250.00	1%	£	11.25	£	2,261.25		
2	25	£	187.50	£	2,250.00	1%	£	33.86	£	4,545.11		
3	26	£	208.33	£	2,500.00	1%	£	57.95	£	7,103.06		
4	27	£	208.33	£	2,500.00	1%	£	83.53	£	9,686.59		
5	28	£	250.00	£	3,000.00	1%	£	111.87	£	12,798.46		
6	29	£	250.00	£	3,000.00	1%	£	142.98	£	15,941.44		
7	30	£	291.67	£	3,500.00	1%	£	176.91	£	19,618.36		
8	31	£	291.67	£	3,500.00	1%	£	213.68	£	23,332.04		
9	32	£	333.33	£	4,000.00	1%	£	253.32	£	27,585.36		
10	33	£	333.33	£	4,000.00	1%	£	295.85	£	31,881.22		
11	34	£	333.33	£	4,000.00	1%	£	338.81	£	36,220.03		£ 35,000.00
12	35	£	375.00	£	4,500.00	1%	£	34.70	£	5,754.73		
13	36	£	375.00	£	4,500.00	1%	£	80.05	£	10,334.78		
14	37	£	395.83	£	4,750.00	1%	£	127.10	£	15,211.87		
15	38	£	395.83	£	4,750.00	1%	£	175.87	£	20,137.74		
16	39	£	458.33	£	5,500.00	1%	£	228.88	£	25,866.62		
17	40	£	458.33	£	5,500.00	1%	£	286.17	£	31,652.79		
18	41	£	479.17	£	5,750.00	1%	£	345.28	£	37,748.06		
19	42	£	479.17	£	5,750.00	1%	£	406.23	£	43,904.30		
20	43	£	520.83	£	6,250.00	1%	£	470.29	£	50,624.59		
21	44	£	520.83	£	6,250.00	1%	£	537.50	£	57,412.08		£ 55,000.00
22	45	£	541.67	£	6,500.00	1%	£	56.62	£	8,968.71		
23	46	£	541.67	£	6,500.00	1%	£	122.19	£	15,590.89		
24	47	£	541.67	£	6,500.00	1%	£	188.41	£	22,279.30		
25	48	£	562.50	£	6,750.00	1%	£	256.54	£	29,285.84		
26	49	£	562.50	£	6,750.00	1%	£	326.61	£	36,362.45		

		Contribution								
Year	Age	Monthly	Yearly	Interest	Interest per year	Savings	Extra (+)	Extra (-)
27	50	£ 562.50	£ 6,750.00	1%	£ 397.37	£ 43,509.83		
28	51	£ 583.33	£ 7,000.00	1%	£ 470.10	£ 50,979.93		
29	52	£ 583.33	£ 7,000.00	1%	£ 544.80	£ 58,524.72		
30	53	£ 583.33	£ 7,000.00	1%	£ 620.25	£ 66,144.97		
31	54	£ 604.17	£ 7,250.00	1%	£ 697.70	£ 74,092.67		
32	55	£ 604.17	£ 7,250.00	1%	£ 777.18	£ 82,119.85		
33	56	£ 604.17	£ 7,250.00	1%	£ 857.45	£ 90,227.30		
34	57	£ 625.00	£ 7,500.00	1%	£ 939.77	£ 98,667.07		
35	58	£ 625.00	£ 7,500.00	1%	£ 1,024.17	£ 107,191.24		
36	59	£ 645.83	£ 7,750.00	1%	£ 1,110.66	£ 116,051.90		
37	60	£ 645.83	£ 7,750.00	1%	£ 1,199.27	£ 125,001.17		
38	61	£ 666.67	£ 8,000.00	1%	£ 1,290.01	£ 134,291.18		
39	62	£ 666.67	£ 8,000.00	1%	£ 1,382.91	£ 143,674.10		
40	63	£ 666.67	£ 8,000.00	1%	£ 1,476.74	£ 153,150.84		
41	64	£ 666.67	£ 8,000.00	1%	£ 1,571.51	£ 162,722.34		
42	65	£ 666.67	£ 8,000.00	1%	£ 1,667.22	£ 172,389.57		
43	66	£ 666.67	£ 8,000.00	1%	£ 1,763.90	£ 182,153.46	£ 160,917.94	
44	67	£ -	£ -	1%	£ 3,430.71	£ 346,502.12		
45	68	£ -	£ -	1%	£ 3,465.02	£ 349,967.14		
46	69	£ -	£ -	1%	£ 3,499.67	£ 353,466.81		
47	70	£ -	£ -	1%	£ 3,534.67	£ 357,001.48		
48	71	£ -	£ -	1%	£ 3,570.01	£ 360,571.50		
49	72	£ -	£ -	1%	£ 3,605.71	£ 364,177.21		
50	73	£ -	£ -	1%	£ 3,641.77	£ 367,818.98		
51	74	£ -	£ -	1%	£ 3,678.19	£ 371,497.17		
52	75	£ -	£ -	1%	£ 3,714.97	£ 375,212.14		
53	76	£ -	£ -	1%	£ 3,752.12	£ 378,964.27		
54	77	£ -	£ -	1%	£ 3,789.64	£ 382,753.91		
55	78	£ -	£ -	1%	£ 3,827.54	£ 386,581.45		
56	79	£ -	£ -	1%	£ 3,865.81	£ 390,447.26		
57	80	£ -	£ -	1%	£ 3,904.47	£ 394,351.73		

		Contribution								
Year	Age	Monthly		Yearly		Interest	Interest per year		Savings	Extra (+)	Extra (-)
58	81	£	-	£	-	1%	£	3,943.52	£ 398,295.25		
59	82	£	-	£	-	1%	£	3,982.95	£ 402,278.20		
60	83	£	-	£	-	1%	£	4,022.78	£ 406,300.99		
61	84	£	-	£	-	1%	£	4,063.01	£ 410,364.00		
62	85	£	-	£	-	1%	£	4,103.64	£ 414,467.64		
63	86	£	-	£	-	1%	£	4,144.68	£ 418,612.31		
64	87	£	-	£	-	1%	£	4,186.12	£ 422,798.44		

C2: Regular savings – event 4b

		Contribution		Interest	Interest per year	Savings	Extra (+)	Extra (-)
Year	Age	Monthly	Yearly					
1	24	£ 187.50	£ 2,250.00	1%	£ 11.25	£ 2,261.25		
2	25	£ 187.50	£ 2,250.00	1%	£ 33.86	£ 4,545.11		
3	26	£ 208.33	£ 2,500.00	1%	£ 57.95	£ 7,103.06		
4	27	£ 208.33	£ 2,500.00	1%	£ 83.53	£ 9,686.59		
5	28	£ 250.00	£ 3,000.00	1%	£ 111.87	£ 12,798.46		
6	29	£ 250.00	£ 3,000.00	1%	£ 142.98	£ 15,941.44		
7	30	£ 291.67	£ 3,500.00	1%	£ 176.91	£ 19,618.36		
8	31	£ 291.67	£ 3,500.00	1%	£ 213.68	£ 23,332.04		
9	32	£ 333.33	£ 4,000.00	1%	£ 253.32	£ 27,585.36		
10	33	£ 333.33	£ 4,000.00	1%	£ 295.85	£ 31,881.22		
11	34	£ 333.33	£ 4,000.00	1%	£ 338.81	£ 36,220.03		£35,000.00
12	35	£ 375.00	£ 4,500.00	1%	£ 34.70	£ 5,754.73		
13	36	£ 375.00	£ 4,500.00	1%	£ 80.05	£ 10,334.78		
14	37	£ 395.83	£ 4,750.00	1%	£ 127.10	£ 15,211.87		
15	38	£ 395.83	£ 4,750.00	1%	£ 175.87	£ 20,137.74		
16	39	£ 458.33	£ 5,500.00	1%	£ 228.88	£ 25,866.62		
17	40	£ 458.33	£ 5,500.00	1%	£ 286.17	£ 31,652.79		
18	41	£ 479.17	£ 5,750.00	1%	£ 345.28	£ 37,748.06		
19	42	£ 479.17	£ 5,750.00	1%	£ 406.23	£ 43,904.30		
20	43	£ 520.83	£ 6,250.00	1%	£ 470.29	£ 50,624.59		
21	44	£ 520.83	£ 6,250.00	1%	£ 537.50	£ 57,412.08	£323,218.12	
22	45	£ 541.67	£ 6,500.00	1%	£ 3,838.80	£ 390,969.00		
23	46	£ 541.67	£ 6,500.00	1%	£ 3,942.19	£ 401,411.19		
24	47	£ 541.67	£ 6,500.00	1%	£ 4,046.61	£ 411,957.80		
25	48	£ 562.50	£ 6,750.00	1%	£ 4,153.33	£ 422,861.13		
26	49	£ 562.50	£ 6,750.00	1%	£ 4,262.36	£ 433,873.49		
27	50	£ 562.50	£ 6,750.00	1%	£ 4,372.48	£ 444,995.98		
28	51	£ 583.33	£ 7,000.00	1%	£ 4,484.96	£ 456,480.94		
29	52	£ 583.33	£ 7,000.00	1%	£ 4,599.81	£ 468,080.75		

		Contribution									
Year	**Age**	**Monthly**		**Yearly**		**Interest**	**Interest per year**		**Savings**	**Extra (+)**	**Extra (-)**
30	53	£	583.33	£	7,000.00	1%	£	4,715.81	£ 479,796.56		
31	54	£	604.17	£	7,250.00	1%	£	4,834.22	£ 491,880.77		
32	55	£	604.17	£	7,250.00	1%	£	4,955.06	£ 504,085.83		
33	56	£	604.17	£	7,250.00	1%	£	5,077.11	£ 516,412.94		
34	57	£	625.00	£	7,500.00	1%	£	5,201.63	£ 529,114.57		
35	58	£	625.00	£	7,500.00	1%	£	5,328.65	£ 541,943.21		
36	59	£	645.83	£	7,750.00	1%	£	5,458.18	£ 555,151.39		
37	60	£	645.83	£	7,750.00	1%	£	5,590.26	£ 568,491.66		
38	61	£	666.67	£	8,000.00	1%	£	5,724.92	£ 582,216.57		
39	62	£	666.67	£	8,000.00	1%	£	5,862.17	£ 596,078.74		
40	63	£	666.67	£	8,000.00	1%	£	6,000.79	£ 610,079.53		
41	64	£	666.67	£	8,000.00	1%	£	6,140.80	£ 624,220.32		
42	65	£	666.67	£	8,000.00	1%	£	6,282.20	£ 638,502.53		
43	66	£	666.67	£	8,000.00	1%	£	6,425.03	£ 652,927.55	£160,917.94	
44	67	£	-	£	-	1%	£	8,138.45	£ 821,983.95		
45	68	£	-	£	-	1%	£	8,219.84	£ 830,203.79		
46	69	£	-	£	-	1%	£	8,302.04	£ 838,505.83		
47	70	£	-	£	-	1%	£	8,385.06	£ 846,890.88		
48	71	£	-	£	-	1%	£	8,468.91	£ 855,359.79		
49	72	£	-	£	-	1%	£	8,553.60	£ 863,913.39		
50	73	£	-	£	-	1%	£	8,639.13	£ 872,552.52		
51	74	£	-	£	-	1%	£	8,725.53	£ 881,278.05		
52	75	£	-	£	-	1%	£	8,812.78	£ 890,090.83		
53	76	£	-	£	-	1%	£	8,900.91	£ 898,991.74		
54	77	£	-	£	-	1%	£	8,989.92	£ 907,981.66		
55	78	£	-	£	-	1%	£	9,079.82	£ 917,061.47		
56	79	£	-	£	-	1%	£	9,170.61	£ 926,232.09		
57	80	£	-	£	-	1%	£	9,262.32	£ 935,494.41		
58	81	£	-	£	-	1%	£	9,354.94	£ 944,849.35		
59	82	£	-	£	-	1%	£	9,448.49	£ 954,297.85		

Year	Age	Contribution Monthly		Yearly		Interest	Interest per year		Savings		Extra (+)	Extra (-)
60	83	£	-	£	-	1%	£	9,542.98	£	963,840.82		
61	84	£	-	£	-	1%	£	9,638.41	£	973,479.23		
62	85	£	-	£	-	1%	£	9,734.79	£	983,214.03		
63	86	£	-	£	-	1%	£	9,832.14	£	993,046.17		
64	87	£	-	£	-	1%	£	9,930.46	£	1,002,976.63		

C3: Lifetime ISA

		Contribution										
Year	**Age**	**Monthly**	**Yearly**	**Government bonus**	**Interest**	**Interest per year**	**Savings**	**Extra (+)**	**Extra (-)**
1	18	£ 100.00	£ 1,200.00	£ 300.00	3%	£ 22.50	£ 1,522.50		
2	19	£ 100.00	£ 1,200.00	£ 300.00	3%	£ 68.18	£ 3,090.68		
3	20	£ 125.00	£ 1,500.00	£ 375.00	3%	£ 120.85	£ 5,086.52		
4	21	£ 125.00	£ 1,500.00	£ 375.00	3%	£ 180.72	£ 7,142.24		
5	22	£ 150.00	£ 1,800.00	£ 450.00	3%	£ 248.02	£ 9,640.26		
6	23	£ 150.00	£ 1,800.00	£ 450.00	3%	£ 322.96	£ 12,213.22		
7	24	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 441.40	£ 17,654.61		
8	25	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 604.64	£ 23,259.25		
9	26	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 772.78	£ 29,032.03		
10	27	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 945.96	£ 34,977.99		
11	28	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 1,124.34	£ 41,102.33		
12	29	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 1,308.07	£ 47,410.40		
13	30	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 1,497.31	£ 53,907.71		
14	31	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 1,692.23	£ 60,599.94		
15	32	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 1,893.00	£ 67,492.94		
16	33	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 2,099.79	£ 74,592.73		
17	34	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 2,312.78	£ 81,905.51		£ 80,000
18	35	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 132.17	£ 7,037.68		
19	36	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 286.13	£ 12,323.81		
20	37	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 444.71	£ 17,768.52		
21	38	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 608.06	£ 23,376.58		
22	39	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 776.30	£ 29,152.87		
23	40	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 949.59	£ 35,102.46		
24	41	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 1,128.07	£ 41,230.53		
25	42	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 1,311.92	£ 47,542.45		
26	43	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 1,501.27	£ 54,043.72		
27	44	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 1,696.31	£ 60,740.03		
28	45	£ 333.33	£ 4,000.00	£ 1,000.00	3%	£ 1,897.20	£ 67,637.23		

		Contribution											
Year	Age	Monthly		Yearly		Government bonus		Interest	Interest per year		Savings	Extra (+)	Extra (-)
29	46	£	333.33	£	4,000.00	£	1,000.00	3%	£	2,104.12	£ 74,741.35		
30	47	£	333.33	£	4,000.00	£	1,000.00	3%	£	2,317.24	£ 82,058.59		
31	48	£	333.33	£	4,000.00	£	1,000.00	3%	£	2,536.76	£ 89,595.35		
32	49	£	333.33	£	4,000.00	£	1,000.00	3%	£	2,762.86	£ 97,358.21		
33	50	£	-	£	-	£	-	3%	£	2,920.75	£ 100,278.96		
34	51	£	-	£	-	£	-	3%	£	3,008.37	£ 103,287.33		
35	52	£	-	£	-	£	-	3%	£	3,098.62	£ 106,385.95		
36	53	£	-	£	-	£	-	3%	£	3,191.58	£ 109,577.52		
37	54	£	-	£	-	£	-	3%	£	3,287.33	£ 112,864.85		
38	55	£	-	£	-	£	-	3%	£	3,385.95	£ 116,250.80		
39	56	£	-	£	-	£	-	3%	£	3,487.52	£ 119,738.32		
40	57	£	-	£	-	£	-	3%	£	3,592.15	£ 123,330.47		
41	58	£	-	£	-	£	-	3%	£	3,699.91	£ 127,030.38		
42	59	£	-	£	-	£	-	3%	£	3,810.91	£ 130,841.29		
43	60	£	-	£	-	£	-	3%	£	3,925.24	£ 134,766.53		
44	61	£	-	£	-	£	-	3%	£	4,043.00	£ 138,809.53		
45	62	£	-	£	-	£	-	3%	£	4,164.29	£ 142,973.81		
46	63	£	-	£	-	£	-	3%	£	4,289.21	£ 147,263.03		
47	64	£	-	£	-	£	-	3%	£	4,417.89	£ 151,680.92		
48	65	£	-	£	-	£	-	3%	£	4,550.43	£ 156,231.35		
49	66	£	-	£	-	£	-	3%	£	4,686.94	£ 160,918.29		

C4: Pension asset accumulation (workplace pension scheme)

		Automatic Enrolment earnings thresholds			Savings contributions							
Age	**Wages**	**lower earnings limit (LEL)**	**upper earnings limit (UEL)**	**Pensionable salary**	**Employer**	**Employee**	**Total**	**Savings per year**	**Interest**	**Interest per year**	**Pension assets**
25	£ 35,000	£ 6,240	£ 50,270	£ 28,760	3%	5%	8%	£ 2,300.80	1%	£ 11.50	£ 2,312.30
26	£ 35,000	£ 6,240	£ 50,270	£ 28,760	3%	5%	8%	£ 2,300.80	1%	£ 23.12	£ 4,636.23
27	£ 40,000	£ 6,240	£ 50,270	£ 33,760	3%	5%	8%	£ 2,700.80	1%	£ 46.36	£ 7,383.39
28	£ 40,000	£ 6,240	£ 50,270	£ 33,760	3%	5%	8%	£ 2,700.80	1%	£ 73.83	£ 10,158.02
29	£ 50,000	£ 6,240	£ 50,270	£ 43,760	3%	5%	8%	£ 3,500.80	1%	£ 101.58	£ 13,760.40
30	£ 50,000	£ 6,240	£ 50,270	£ 43,760	3%	5%	8%	£ 3,500.80	1%	£ 137.60	£ 17,398.81
31	£ 60,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 173.99	£ 21,095.20
32	£ 60,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 210.95	£ 24,828.55
33	£ 70,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 248.29	£ 28,599.23
34	£ 70,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 285.99	£ 32,407.63
35	£ 70,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 324.08	£ 36,254.10
36	£ 80,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 362.54	£ 40,139.04
37	£ 80,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 401.39	£ 44,062.83
38	£ 85,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 440.63	£ 48,025.86
39	£ 85,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 480.26	£ 52,028.52
40	£100,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 520.29	£ 56,071.21
41	£100,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 560.71	£ 60,154.32
42	£105,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 601.54	£ 64,278.26
43	£105,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 642.78	£ 68,443.44
44	£115,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 684.43	£ 72,650.28
45	£115,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 726.50	£ 76,899.18
46	£120,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 768.99	£ 81,190.57
47	£120,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 811.91	£ 85,524.88
48	£120,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 855.25	£ 89,902.53
49	£125,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 899.03	£ 94,323.95
50	£125,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 943.24	£ 98,789.59
51	£125,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 987.90	£ 103,299.89
52	£130,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 1,033.00	£ 107,855.29
53	£130,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 1,078.55	£ 112,456.24
54	£130,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 1,124.56	£ 117,103.20
55	£135,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 1,171.03	£ 121,796.63
56	£135,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 1,217.97	£ 126,537.00

		Automatic Enrolment earnings thresholds			Savings contributions						
Age	**Wages**	**lower earnings limit (LEL)**	**upper earnings limit (UEL)**	**Pensionable salary**	**Employer**	**Employee**	**Total**	**Savings per year**	**Interest**	**Interest per year**	**Pension assets**
57	£135,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 1,265.37	£ 131,324.77
58	£140,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 1,313.25	£ 136,160.42
59	£140,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 1,361.60	£ 141,044.42
60	£145,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 1,410.44	£ 145,977.27
61	£145,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 1,459.77	£ 150,959.44
62	£150,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 1,509.59	£ 155,991.43
63	£150,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 1,559.91	£ 161,073.75
64	£150,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 1,610.74	£ 166,206.88
65	£150,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 1,662.07	£ 171,391.35
66	£150,000	£ 6,240	£ 50,270	£ 44,030	3%	5%	8%	£ 3,522.40	1%	£ 1,713.91	£ 176,627.67

C5: Repayment mortgage – event 3

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
1	1	£ 1,824.99	£ 1,327.46	£ 497.53	£ 305,252.47
	2	£ 1,824.99	£ 1,325.30	£ 499.69	£ 304,752.79
	3	£ 1,824.99	£ 1,323.14	£ 501.86	£ 304,250.93
	4	£ 1,824.99	£ 1,320.96	£ 504.04	£ 303,746.89
	5	£ 1,824.99	£ 1,318.77	£ 506.22	£ 303,240.67
	6	£ 1,824.99	£ 1,316.57	£ 508.42	£ 302,732.25
	7	£ 1,824.99	£ 1,314.36	£ 510.63	£ 302,221.62
	8	£ 1,824.99	£ 1,312.15	£ 512.85	£ 301,708.77
	9	£ 1,824.99	£ 1,309.92	£ 515.07	£ 301,193.70
	10	£ 1,824.99	£ 1,307.68	£ 517.31	£ 300,676.39
	11	£ 1,824.99	£ 1,305.44	£ 519.56	£ 300,156.84
	12	£ 1,824.99	£ 1,303.18	£ 521.81	£ 299,635.02
2	13	£ 1,824.99	£ 1,300.92	£ 524.08	£ 299,110.95
	14	£ 1,824.99	£ 1,298.64	£ 526.35	£ 298,584.60
	15	£ 1,824.99	£ 1,296.35	£ 528.64	£ 298,055.96
	16	£ 1,824.99	£ 1,294.06	£ 530.93	£ 297,525.03
	17	£ 1,824.99	£ 1,291.75	£ 533.24	£ 296,991.79
	18	£ 1,824.99	£ 1,289.44	£ 535.55	£ 296,456.24
	19	£ 1,824.99	£ 1,287.11	£ 537.88	£ 295,918.36
	20	£ 1,824.99	£ 1,284.78	£ 540.21	£ 295,378.15
	21	£ 1,824.99	£ 1,282.43	£ 542.56	£ 294,835.59
	22	£ 1,824.99	£ 1,280.08	£ 544.91	£ 294,290.68
	23	£ 1,824.99	£ 1,277.71	£ 547.28	£ 293,743.40
	24	£ 1,824.99	£ 1,275.34	£ 549.66	£ 293,193.74
3	25	£ 1,824.99	£ 1,272.95	£ 552.04	£ 292,641.70
	26	£ 1,824.99	£ 1,270.55	£ 554.44	£ 292,087.26
	27	£ 1,824.99	£ 1,268.15	£ 556.85	£ 291,530.41
	28	£ 1,824.99	£ 1,265.73	£ 559.26	£ 290,971.15
	29	£ 1,824.99	£ 1,263.30	£ 561.69	£ 290,409.46
	30	£ 1,824.99	£ 1,260.86	£ 564.13	£ 289,845.33
	31	£ 1,824.99	£ 1,258.41	£ 566.58	£ 289,278.75
	32	£ 1,824.99	£ 1,255.95	£ 569.04	£ 288,709.71
	33	£ 1,824.99	£ 1,253.48	£ 571.51	£ 288,138.20
	34	£ 1,824.99	£ 1,251.00	£ 573.99	£ 287,564.20
	35	£ 1,824.99	£ 1,248.51	£ 576.48	£ 286,987.72
	36	£ 1,824.99	£ 1,246.01	£ 578.99	£ 286,408.73
4	37	£ 1,824.99	£ 1,243.49	£ 581.50	£ 285,827.23
	38	£ 1,824.99	£ 1,240.97	£ 584.03	£ 285,243.21

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	39	£ 1,824.99	£ 1,238.43	£ 586.56	£ 284,656.65
	40	£ 1,824.99	£ 1,235.88	£ 589.11	£ 284,067.54
	41	£ 1,824.99	£ 1,233.33	£ 591.67	£ 283,475.87
	42	£ 1,824.99	£ 1,230.76	£ 594.23	£ 282,881.64
	43	£ 1,824.99	£ 1,228.18	£ 596.81	£ 282,284.83
	44	£ 1,824.99	£ 1,225.59	£ 599.41	£ 281,685.42
	45	£ 1,824.99	£ 1,222.98	£ 602.01	£ 281,083.41
	46	£ 1,824.99	£ 1,220.37	£ 604.62	£ 280,478.79
	47	£ 1,824.99	£ 1,217.75	£ 607.25	£ 279,871.55
	48	£ 1,824.99	£ 1,215.11	£ 609.88	£ 279,261.66
5	49	£ 1,824.99	£ 1,212.46	£ 612.53	£ 278,649.13
	50	£ 1,824.99	£ 1,209.80	£ 615.19	£ 278,033.94
	51	£ 1,824.99	£ 1,207.13	£ 617.86	£ 277,416.08
	52	£ 1,824.99	£ 1,204.45	£ 620.54	£ 276,795.54
	53	£ 1,824.99	£ 1,201.75	£ 623.24	£ 276,172.30
	54	£ 1,824.99	£ 1,199.05	£ 625.94	£ 275,546.36
	55	£ 1,824.99	£ 1,196.33	£ 628.66	£ 274,917.70
	56	£ 1,824.99	£ 1,193.60	£ 631.39	£ 274,286.31
	57	£ 1,824.99	£ 1,190.86	£ 634.13	£ 273,652.17
	58	£ 1,824.99	£ 1,188.11	£ 636.89	£ 273,015.29
	59	£ 1,824.99	£ 1,185.34	£ 639.65	£ 272,375.64
	60	£ 1,824.99	£ 1,182.56	£ 642.43	£ 271,733.21
6	61	£ 1,824.99	£ 1,179.78	£ 645.22	£ 271,087.99
	62	£ 1,824.99	£ 1,176.97	£ 648.02	£ 270,439.98
	63	£ 1,824.99	£ 1,174.16	£ 650.83	£ 269,789.14
	64	£ 1,824.99	£ 1,171.33	£ 653.66	£ 269,135.49
	65	£ 1,824.99	£ 1,168.50	£ 656.50	£ 268,478.99
	66	£ 1,824.99	£ 1,165.65	£ 659.35	£ 267,819.65
	67	£ 1,824.99	£ 1,162.78	£ 662.21	£ 267,157.44
	68	£ 1,824.99	£ 1,159.91	£ 665.08	£ 266,492.36
	69	£ 1,824.99	£ 1,157.02	£ 667.97	£ 265,824.38
	70	£ 1,824.99	£ 1,154.12	£ 670.87	£ 265,153.51
	71	£ 1,824.99	£ 1,151.21	£ 673.78	£ 264,479.73
	72	£ 1,824.99	£ 1,148.28	£ 676.71	£ 263,803.02
7	73	£ 1,824.99	£ 1,145.34	£ 679.65	£ 263,123.37
	74	£ 1,824.99	£ 1,142.39	£ 682.60	£ 262,440.78
	75	£ 1,824.99	£ 1,139.43	£ 685.56	£ 261,755.22
	76	£ 1,824.99	£ 1,136.45	£ 688.54	£ 261,066.68
	77	£ 1,824.99	£ 1,133.46	£ 691.53	£ 260,375.15
	78	£ 1,824.99	£ 1,130.46	£ 694.53	£ 259,680.62

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	79	£ 1,824.99	£ 1,127.45	£ 697.55	£ 258,983.08
	80	£ 1,824.99	£ 1,124.42	£ 700.57	£ 258,282.50
	81	£ 1,824.99	£ 1,121.38	£ 703.62	£ 257,578.89
	82	£ 1,824.99	£ 1,118.32	£ 706.67	£ 256,872.22
	83	£ 1,824.99	£ 1,115.25	£ 709.74	£ 256,162.48
	84	£ 1,824.99	£ 1,112.17	£ 712.82	£ 255,449.66
8	85	£ 1,824.99	£ 1,109.08	£ 715.91	£ 254,733.75
	86	£ 1,824.99	£ 1,105.97	£ 719.02	£ 254,014.72
	87	£ 1,824.99	£ 1,102.85	£ 722.14	£ 253,292.58
	88	£ 1,824.99	£ 1,099.71	£ 725.28	£ 252,567.30
	89	£ 1,824.99	£ 1,096.56	£ 728.43	£ 251,838.87
	90	£ 1,824.99	£ 1,093.40	£ 731.59	£ 251,107.28
	91	£ 1,824.99	£ 1,090.22	£ 734.77	£ 250,372.51
	92	£ 1,824.99	£ 1,087.03	£ 737.96	£ 249,634.55
	93	£ 1,824.99	£ 1,083.83	£ 741.16	£ 248,893.39
	94	£ 1,824.99	£ 1,080.61	£ 744.38	£ 248,149.01
	95	£ 1,824.99	£ 1,077.38	£ 747.61	£ 247,401.40
	96	£ 1,824.99	£ 1,074.13	£ 750.86	£ 246,650.54
9	97	£ 1,824.99	£ 1,070.87	£ 754.12	£ 245,896.43
	98	£ 1,824.99	£ 1,067.60	£ 757.39	£ 245,139.03
	99	£ 1,824.99	£ 1,064.31	£ 760.68	£ 244,378.35
	100	£ 1,824.99	£ 1,061.01	£ 763.98	£ 243,614.37
	101	£ 1,824.99	£ 1,057.69	£ 767.30	£ 242,847.07
	102	£ 1,824.99	£ 1,054.36	£ 770.63	£ 242,076.44
	103	£ 1,824.99	£ 1,051.02	£ 773.98	£ 241,302.47
	104	£ 1,824.99	£ 1,047.65	£ 777.34	£ 240,525.13
	105	£ 1,824.99	£ 1,044.28	£ 780.71	£ 239,744.42
	106	£ 1,824.99	£ 1,040.89	£ 784.10	£ 238,960.32
	107	£ 1,824.99	£ 1,037.49	£ 787.51	£ 238,172.81
	108	£ 1,824.99	£ 1,034.07	£ 790.92	£ 237,381.89
10	109	£ 1,824.99	£ 1,030.63	£ 794.36	£ 236,587.53
	110	£ 1,824.99	£ 1,027.18	£ 797.81	£ 235,789.72
	111	£ 1,824.99	£ 1,023.72	£ 801.27	£ 234,988.45
	112	£ 1,824.99	£ 1,020.24	£ 804.75	£ 234,183.70
	113	£ 1,824.99	£ 1,016.75	£ 808.24	£ 233,375.45
	114	£ 1,824.99	£ 1,013.24	£ 811.75	£ 232,563.70
	115	£ 1,824.99	£ 1,009.71	£ 815.28	£ 231,748.42
	116	£ 1,824.99	£ 1,006.17	£ 818.82	£ 230,929.61
	117	£ 1,824.99	£ 1,002.62	£ 822.37	£ 230,107.23
	118	£ 1,824.99	£ 999.05	£ 825.94	£ 229,281.29

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	119	£ 1,824.99	£ 995.46	£ 829.53	£ 228,451.76
	120	£ 1,824.99	£ 991.86	£ 833.13	£ 227,618.63
11	121	£ 1,824.99	£ 988.24	£ 836.75	£ 226,781.88
	122	£ 1,824.99	£ 984.61	£ 840.38	£ 225,941.50
	123	£ 1,824.99	£ 980.96	£ 844.03	£ 225,097.47
	124	£ 1,824.99	£ 977.30	£ 847.69	£ 224,249.78
	125	£ 1,824.99	£ 973.62	£ 851.37	£ 223,398.41
	126	£ 1,824.99	£ 969.92	£ 855.07	£ 222,543.34
	127	£ 1,824.99	£ 966.21	£ 858.78	£ 221,684.55
	128	£ 1,824.99	£ 962.48	£ 862.51	£ 220,822.04
	129	£ 1,824.99	£ 958.74	£ 866.26	£ 219,955.79
	130	£ 1,824.99	£ 954.97	£ 870.02	£ 219,085.77
	131	£ 1,824.99	£ 951.20	£ 873.79	£ 218,211.98
	132	£ 1,824.99	£ 947.40	£ 877.59	£ 217,334.39
12	133	£ 1,824.99	£ 943.59	£ 881.40	£ 216,452.99
	134	£ 1,824.99	£ 939.77	£ 885.22	£ 215,567.76
	135	£ 1,824.99	£ 935.92	£ 889.07	£ 214,678.70
	136	£ 1,824.99	£ 932.06	£ 892.93	£ 213,785.77
	137	£ 1,824.99	£ 928.19	£ 896.81	£ 212,888.96
	138	£ 1,824.99	£ 924.29	£ 900.70	£ 211,988.26
	139	£ 1,824.99	£ 920.38	£ 904.61	£ 211,083.65
	140	£ 1,824.99	£ 916.45	£ 908.54	£ 210,175.12
	141	£ 1,824.99	£ 912.51	£ 912.48	£ 209,262.64
	142	£ 1,824.99	£ 908.55	£ 916.44	£ 208,346.19
	143	£ 1,824.99	£ 904.57	£ 920.42	£ 207,425.77
	144	£ 1,824.99	£ 900.57	£ 924.42	£ 206,501.35
13	145	£ 1,824.99	£ 896.56	£ 928.43	£ 205,572.92
	146	£ 1,824.99	£ 892.53	£ 932.46	£ 204,640.46
	147	£ 1,824.99	£ 888.48	£ 936.51	£ 203,703.95
	148	£ 1,824.99	£ 884.41	£ 940.58	£ 202,763.37
	149	£ 1,824.99	£ 880.33	£ 944.66	£ 201,818.71
	150	£ 1,824.99	£ 876.23	£ 948.76	£ 200,869.95
	151	£ 1,824.99	£ 872.11	£ 952.88	£ 199,917.07
	152	£ 1,824.99	£ 867.97	£ 957.02	£ 198,960.05
	153	£ 1,824.99	£ 863.82	£ 961.17	£ 197,998.87
	154	£ 1,824.99	£ 859.65	£ 965.35	£ 197,033.53
	155	£ 1,824.99	£ 855.45	£ 969.54	£ 196,063.99
	156	£ 1,824.99	£ 851.24	£ 973.75	£ 195,090.24
14	157	£ 1,824.99	£ 847.02	£ 977.97	£ 194,112.27
	158	£ 1,824.99	£ 842.77	£ 982.22	£ 193,130.05

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	159	£ 1,824.99	£ 838.51	£ 986.49	£ 192,143.56
	160	£ 1,824.99	£ 834.22	£ 990.77	£ 191,152.79
	161	£ 1,824.99	£ 829.92	£ 995.07	£ 190,157.72
	162	£ 1,824.99	£ 825.60	£ 999.39	£ 189,158.33
	163	£ 1,824.99	£ 821.26	£ 1,003.73	£ 188,154.60
	164	£ 1,824.99	£ 816.90	£ 1,008.09	£ 187,146.52
	165	£ 1,824.99	£ 812.53	£ 1,012.46	£ 186,134.05
	166	£ 1,824.99	£ 808.13	£ 1,016.86	£ 185,117.19
	167	£ 1,824.99	£ 803.72	£ 1,021.27	£ 184,095.92
	168	£ 1,824.99	£ 799.28	£ 1,025.71	£ 183,070.21
15	169	£ 1,824.99	£ 794.83	£ 1,030.16	£ 182,040.05
	170	£ 1,824.99	£ 790.36	£ 1,034.63	£ 181,005.41
	171	£ 1,824.99	£ 785.87	£ 1,039.13	£ 179,966.29
	172	£ 1,824.99	£ 781.35	£ 1,043.64	£ 178,922.65
	173	£ 1,824.99	£ 776.82	£ 1,048.17	£ 177,874.48
	174	£ 1,824.99	£ 772.27	£ 1,052.72	£ 176,821.76
	175	£ 1,824.99	£ 767.70	£ 1,057.29	£ 175,764.47
	176	£ 1,824.99	£ 763.11	£ 1,061.88	£ 174,702.59
	177	£ 1,824.99	£ 758.50	£ 1,066.49	£ 173,636.10
	178	£ 1,824.99	£ 753.87	£ 1,071.12	£ 172,564.97
	179	£ 1,824.99	£ 749.22	£ 1,075.77	£ 171,489.20
	180	£ 1,824.99	£ 744.55	£ 1,080.44	£ 170,408.76
16	181	£ 1,824.99	£ 739.86	£ 1,085.13	£ 169,323.63
	182	£ 1,824.99	£ 735.15	£ 1,089.84	£ 168,233.78
	183	£ 1,824.99	£ 730.41	£ 1,094.58	£ 167,139.20
	184	£ 1,824.99	£ 725.66	£ 1,099.33	£ 166,039.87
	185	£ 1,824.99	£ 720.89	£ 1,104.10	£ 164,935.77
	186	£ 1,824.99	£ 716.10	£ 1,108.90	£ 163,826.88
	187	£ 1,824.99	£ 711.28	£ 1,113.71	£ 162,713.17
	188	£ 1,824.99	£ 706.45	£ 1,118.55	£ 161,594.62
	189	£ 1,824.99	£ 701.59	£ 1,123.40	£ 160,471.22
	190	£ 1,824.99	£ 696.71	£ 1,128.28	£ 159,342.94
	191	£ 1,824.99	£ 691.81	£ 1,133.18	£ 158,209.76
	192	£ 1,824.99	£ 686.89	£ 1,138.10	£ 157,071.67
17	193	£ 1,824.99	£ 681.95	£ 1,143.04	£ 155,928.63
	194	£ 1,824.99	£ 676.99	£ 1,148.00	£ 154,780.63
	195	£ 1,824.99	£ 672.01	£ 1,152.99	£ 153,627.64
	196	£ 1,824.99	£ 667.00	£ 1,157.99	£ 152,469.65
	197	£ 1,824.99	£ 661.97	£ 1,163.02	£ 151,306.63
	198	£ 1,824.99	£ 656.92	£ 1,168.07	£ 150,138.56

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	199	£ 1,824.99	£ 651.85	£ 1,173.14	£ 148,965.42
	200	£ 1,824.99	£ 646.76	£ 1,178.23	£ 147,787.19
	201	£ 1,824.99	£ 641.64	£ 1,183.35	£ 146,603.84
	202	£ 1,824.99	£ 636.50	£ 1,188.49	£ 145,415.35
	203	£ 1,824.99	£ 631.34	£ 1,193.65	£ 144,221.70
	204	£ 1,824.99	£ 626.16	£ 1,198.83	£ 143,022.87
18	205	£ 1,824.99	£ 620.96	£ 1,204.03	£ 141,818.84
	206	£ 1,824.99	£ 615.73	£ 1,209.26	£ 140,609.58
	207	£ 1,824.99	£ 610.48	£ 1,214.51	£ 139,395.07
	208	£ 1,824.99	£ 605.21	£ 1,219.78	£ 138,175.28
	209	£ 1,824.99	£ 599.91	£ 1,225.08	£ 136,950.20
	210	£ 1,824.99	£ 594.59	£ 1,230.40	£ 135,719.80
	211	£ 1,824.99	£ 589.25	£ 1,235.74	£ 134,484.06
	212	£ 1,824.99	£ 583.88	£ 1,241.11	£ 133,242.95
	213	£ 1,824.99	£ 578.50	£ 1,246.50	£ 131,996.46
	214	£ 1,824.99	£ 573.08	£ 1,251.91	£ 130,744.55
	215	£ 1,824.99	£ 567.65	£ 1,257.34	£ 129,487.21
	216	£ 1,824.99	£ 562.19	£ 1,262.80	£ 128,224.41
19	217	£ 1,824.99	£ 556.71	£ 1,268.28	£ 126,956.12
	218	£ 1,824.99	£ 551.20	£ 1,273.79	£ 125,682.33
	219	£ 1,824.99	£ 545.67	£ 1,279.32	£ 124,403.01
	220	£ 1,824.99	£ 540.12	£ 1,284.88	£ 123,118.14
	221	£ 1,824.99	£ 534.54	£ 1,290.45	£ 121,827.68
	222	£ 1,824.99	£ 528.94	£ 1,296.06	£ 120,531.63
	223	£ 1,824.99	£ 523.31	£ 1,301.68	£ 119,229.94
	224	£ 1,824.99	£ 517.66	£ 1,307.34	£ 117,922.61
	225	£ 1,824.99	£ 511.98	£ 1,313.01	£ 116,609.60
	226	£ 1,824.99	£ 506.28	£ 1,318.71	£ 115,290.89
	227	£ 1,824.99	£ 500.55	£ 1,324.44	£ 113,966.45
	228	£ 1,824.99	£ 494.80	£ 1,330.19	£ 112,636.26
20	229	£ 1,824.99	£ 489.03	£ 1,335.96	£ 111,300.30
	230	£ 1,824.99	£ 483.23	£ 1,341.76	£ 109,958.53
	231	£ 1,824.99	£ 477.40	£ 1,347.59	£ 108,610.95
	232	£ 1,824.99	£ 471.55	£ 1,353.44	£ 107,257.51
	233	£ 1,824.99	£ 465.68	£ 1,359.32	£ 105,898.19
	234	£ 1,824.99	£ 459.77	£ 1,365.22	£ 104,532.97
	235	£ 1,824.99	£ 453.85	£ 1,371.14	£ 103,161.83
	236	£ 1,824.99	£ 447.89	£ 1,377.10	£ 101,784.73
	237	£ 1,824.99	£ 441.92	£ 1,383.08	£ 100,401.66
	238	£ 1,824.99	£ 435.91	£ 1,389.08	£ 99,012.58

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	239	£ 1,824.99	£ 429.88	£ 1,395.11	£ 97,617.46
	240	£ 1,824.99	£ 423.82	£ 1,401.17	£ 96,216.29
21	241	£ 1,824.99	£ 417.74	£ 1,407.25	£ 94,809.04
	242	£ 1,824.99	£ 411.63	£ 1,413.36	£ 93,395.68
	243	£ 1,824.99	£ 405.49	£ 1,419.50	£ 91,976.18
	244	£ 1,824.99	£ 399.33	£ 1,425.66	£ 90,550.52
	245	£ 1,824.99	£ 393.14	£ 1,431.85	£ 89,118.67
	246	£ 1,824.99	£ 386.92	£ 1,438.07	£ 87,680.60
	247	£ 1,824.99	£ 380.68	£ 1,444.31	£ 86,236.29
	248	£ 1,824.99	£ 374.41	£ 1,450.58	£ 84,785.70
	249	£ 1,824.99	£ 368.11	£ 1,456.88	£ 83,328.82
	250	£ 1,824.99	£ 361.79	£ 1,463.21	£ 81,865.62
	251	£ 1,824.99	£ 355.43	£ 1,469.56	£ 80,396.06
	252	£ 1,824.99	£ 349.05	£ 1,475.94	£ 78,920.12
22	253	£ 1,824.99	£ 342.64	£ 1,482.35	£ 77,437.77
	254	£ 1,824.99	£ 336.21	£ 1,488.78	£ 75,948.99
	255	£ 1,824.99	£ 329.75	£ 1,495.25	£ 74,453.75
	256	£ 1,824.99	£ 323.25	£ 1,501.74	£ 72,952.01
	257	£ 1,824.99	£ 316.73	£ 1,508.26	£ 71,443.75
	258	£ 1,824.99	£ 310.18	£ 1,514.81	£ 69,928.94
	259	£ 1,824.99	£ 303.61	£ 1,521.38	£ 68,407.56
	260	£ 1,824.99	£ 297.00	£ 1,527.99	£ 66,879.57
	261	£ 1,824.99	£ 290.37	£ 1,534.62	£ 65,344.95
	262	£ 1,824.99	£ 283.71	£ 1,541.29	£ 63,803.66
	263	£ 1,824.99	£ 277.01	£ 1,547.98	£ 62,255.68
	264	£ 1,824.99	£ 270.29	£ 1,554.70	£ 60,700.98
23	265	£ 1,824.99	£ 263.54	£ 1,561.45	£ 59,139.54
	266	£ 1,824.99	£ 256.76	£ 1,568.23	£ 57,571.31
	267	£ 1,824.99	£ 249.96	£ 1,575.04	£ 55,996.27
	268	£ 1,824.99	£ 243.12	£ 1,581.87	£ 54,414.40
	269	£ 1,824.99	£ 236.25	£ 1,588.74	£ 52,825.66
	270	£ 1,824.99	£ 229.35	£ 1,595.64	£ 51,230.02
	271	£ 1,824.99	£ 222.42	£ 1,602.57	£ 49,627.45
	272	£ 1,824.99	£ 215.47	£ 1,609.53	£ 48,017.92
	273	£ 1,824.99	£ 208.48	£ 1,616.51	£ 46,401.41
	274	£ 1,824.99	£ 201.46	£ 1,623.53	£ 44,777.88
	275	£ 1,824.99	£ 194.41	£ 1,630.58	£ 43,147.29
	276	£ 1,824.99	£ 187.33	£ 1,637.66	£ 41,509.63
24	277	£ 1,824.99	£ 180.22	£ 1,644.77	£ 39,864.86
	278	£ 1,824.99	£ 173.08	£ 1,651.91	£ 38,212.95

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	279	£ 1,824.99	£ 165.91	£ 1,659.08	£ 36,553.87
	280	£ 1,824.99	£ 158.70	£ 1,666.29	£ 34,887.58
	281	£ 1,824.99	£ 151.47	£ 1,673.52	£ 33,214.06
	282	£ 1,824.99	£ 144.20	£ 1,680.79	£ 31,533.27
	283	£ 1,824.99	£ 136.91	£ 1,688.08	£ 29,845.19
	284	£ 1,824.99	£ 129.58	£ 1,695.41	£ 28,149.77
	285	£ 1,824.99	£ 122.22	£ 1,702.77	£ 26,447.00
	286	£ 1,824.99	£ 114.82	£ 1,710.17	£ 24,736.83
	287	£ 1,824.99	£ 107.40	£ 1,717.59	£ 23,019.24
	288	£ 1,824.99	£ 99.94	£ 1,725.05	£ 21,294.19
25	289	£ 1,824.99	£ 92.45	£ 1,732.54	£ 19,561.65
	290	£ 1,824.99	£ 84.93	£ 1,740.06	£ 17,821.59
	291	£ 1,824.99	£ 77.38	£ 1,747.62	£ 16,073.97
	292	£ 1,824.99	£ 69.79	£ 1,755.20	£ 14,318.77
	293	£ 1,824.99	£ 62.17	£ 1,762.82	£ 12,555.94
	294	£ 1,824.99	£ 54.51	£ 1,770.48	£ 10,785.46
	295	£ 1,824.99	£ 46.83	£ 1,778.16	£ 9,007.30
	296	£ 1,824.99	£ 39.11	£ 1,785.89	£ 7,221.41
	297	£ 1,824.99	£ 31.35	£ 1,793.64	£ 5,427.78
	298	£ 1,824.99	£ 23.57	£ 1,801.43	£ 3,626.35
	299	£ 1,824.99	£ 15.74	£ 1,809.25	£ 1,817.10
	300	£ 1,824.99	£ 7.89	£ 1,817.10	£ 0.00

C6: Repayment mortgage – event 4a

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
1	1	£ 1,756.54	£ 1,277.67	£ 478.87	£ 293,803.02
	2	£ 1,756.54	£ 1,275.59	£ 480.94	£ 293,322.07
	3	£ 1,756.54	£ 1,273.51	£ 483.03	£ 292,839.04
	4	£ 1,756.54	£ 1,271.41	£ 485.13	£ 292,353.91
	5	£ 1,756.54	£ 1,269.30	£ 487.24	£ 291,866.67
	6	£ 1,756.54	£ 1,267.19	£ 489.35	£ 291,377.32
	7	£ 1,756.54	£ 1,265.06	£ 491.48	£ 290,885.84
	8	£ 1,756.54	£ 1,262.93	£ 493.61	£ 290,392.23
	9	£ 1,756.54	£ 1,260.79	£ 495.75	£ 289,896.48
	10	£ 1,756.54	£ 1,258.63	£ 497.91	£ 289,398.58
	11	£ 1,756.54	£ 1,256.47	£ 500.07	£ 288,898.51
	12	£ 1,756.54	£ 1,254.30	£ 502.24	£ 288,396.27
2	13	£ 1,756.54	£ 1,252.12	£ 504.42	£ 287,891.85
	14	£ 1,756.54	£ 1,249.93	£ 506.61	£ 287,385.24
	15	£ 1,756.54	£ 1,247.73	£ 508.81	£ 286,876.43
	16	£ 1,756.54	£ 1,245.52	£ 511.02	£ 286,365.41
	17	£ 1,756.54	£ 1,243.30	£ 513.24	£ 285,852.18
	18	£ 1,756.54	£ 1,241.07	£ 515.46	£ 285,336.71
	19	£ 1,756.54	£ 1,238.84	£ 517.70	£ 284,819.01
	20	£ 1,756.54	£ 1,236.59	£ 519.95	£ 284,299.06
	21	£ 1,756.54	£ 1,234.33	£ 522.21	£ 283,776.85
	22	£ 1,756.54	£ 1,232.06	£ 524.48	£ 283,252.38
	23	£ 1,756.54	£ 1,229.79	£ 526.75	£ 282,725.62
	24	£ 1,756.54	£ 1,227.50	£ 529.04	£ 282,196.59
3	25	£ 1,756.54	£ 1,225.20	£ 531.34	£ 281,665.25
	26	£ 1,756.54	£ 1,222.90	£ 533.64	£ 281,131.61
	27	£ 1,756.54	£ 1,220.58	£ 535.96	£ 280,595.65
	28	£ 1,756.54	£ 1,218.25	£ 538.29	£ 280,057.36
	29	£ 1,756.54	£ 1,215.92	£ 540.62	£ 279,516.74
	30	£ 1,756.54	£ 1,213.57	£ 542.97	£ 278,973.76
	31	£ 1,756.54	£ 1,211.21	£ 545.33	£ 278,428.44
	32	£ 1,756.54	£ 1,208.84	£ 547.70	£ 277,880.74
	33	£ 1,756.54	£ 1,206.47	£ 550.07	£ 277,330.67
	34	£ 1,756.54	£ 1,204.08	£ 552.46	£ 276,778.20
	35	£ 1,756.54	£ 1,201.68	£ 554.86	£ 276,223.34
	36	£ 1,756.54	£ 1,199.27	£ 557.27	£ 275,666.07
4	37	£ 1,756.54	£ 1,196.85	£ 559.69	£ 275,106.38
	38	£ 1,756.54	£ 1,194.42	£ 562.12	£ 274,544.26

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	39	£ 1,756.54	£ 1,191.98	£ 564.56	£ 273,979.70
	40	£ 1,756.54	£ 1,189.53	£ 567.01	£ 273,412.69
	41	£ 1,756.54	£ 1,187.07	£ 569.47	£ 272,843.22
	42	£ 1,756.54	£ 1,184.59	£ 571.95	£ 272,271.27
	43	£ 1,756.54	£ 1,182.11	£ 574.43	£ 271,696.85
	44	£ 1,756.54	£ 1,179.62	£ 576.92	£ 271,119.92
	45	£ 1,756.54	£ 1,177.11	£ 579.43	£ 270,540.50
	46	£ 1,756.54	£ 1,174.60	£ 581.94	£ 269,958.55
	47	£ 1,756.54	£ 1,172.07	£ 584.47	£ 269,374.08
	48	£ 1,756.54	£ 1,169.53	£ 587.01	£ 268,787.08
5	49	£ 1,756.54	£ 1,166.98	£ 589.56	£ 268,197.52
	50	£ 1,756.54	£ 1,164.42	£ 592.12	£ 267,605.40
	51	£ 1,756.54	£ 1,161.85	£ 594.69	£ 267,010.72
	52	£ 1,756.54	£ 1,159.27	£ 597.27	£ 266,413.45
	53	£ 1,756.54	£ 1,156.68	£ 599.86	£ 265,813.59
	54	£ 1,756.54	£ 1,154.07	£ 602.47	£ 265,211.12
	55	£ 1,756.54	£ 1,151.46	£ 605.08	£ 264,606.04
	56	£ 1,756.54	£ 1,148.83	£ 607.71	£ 263,998.33
	57	£ 1,756.54	£ 1,146.19	£ 610.35	£ 263,387.99
	58	£ 1,756.54	£ 1,143.54	£ 613.00	£ 262,774.99
	59	£ 1,756.54	£ 1,140.88	£ 615.66	£ 262,159.33
	60	£ 1,756.54	£ 1,138.21	£ 618.33	£ 261,541.00
6	61	£ 1,756.54	£ 1,135.52	£ 621.02	£ 260,919.99
	62	£ 1,756.54	£ 1,132.83	£ 623.71	£ 260,296.27
	63	£ 1,756.54	£ 1,130.12	£ 626.42	£ 259,669.85
	64	£ 1,756.54	£ 1,127.40	£ 629.14	£ 259,040.71
	65	£ 1,756.54	£ 1,124.67	£ 631.87	£ 258,408.84
	66	£ 1,756.54	£ 1,121.93	£ 634.61	£ 257,774.23
	67	£ 1,756.54	£ 1,119.17	£ 637.37	£ 257,136.86
	68	£ 1,756.54	£ 1,116.40	£ 640.14	£ 256,496.72
	69	£ 1,756.54	£ 1,113.62	£ 642.92	£ 255,853.80
	70	£ 1,756.54	£ 1,110.83	£ 645.71	£ 255,208.10
	71	£ 1,756.54	£ 1,108.03	£ 648.51	£ 254,559.59
	72	£ 1,756.54	£ 1,105.21	£ 651.33	£ 253,908.26
7	73	£ 1,756.54	£ 1,102.39	£ 654.15	£ 253,254.10
	74	£ 1,756.54	£ 1,099.54	£ 656.99	£ 252,597.11
	75	£ 1,756.54	£ 1,096.69	£ 659.85	£ 251,937.26
	76	£ 1,756.54	£ 1,093.83	£ 662.71	£ 251,274.55
	77	£ 1,756.54	£ 1,090.95	£ 665.59	£ 250,608.96
	78	£ 1,756.54	£ 1,088.06	£ 668.48	£ 249,940.48

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	79	£ 1,756.54	£ 1,085.16	£ 671.38	£ 249,269.10
	80	£ 1,756.54	£ 1,082.24	£ 674.30	£ 248,594.80
	81	£ 1,756.54	£ 1,079.32	£ 677.22	£ 247,917.58
	82	£ 1,756.54	£ 1,076.38	£ 680.16	£ 247,237.42
	83	£ 1,756.54	£ 1,073.42	£ 683.12	£ 246,554.30
	84	£ 1,756.54	£ 1,070.46	£ 686.08	£ 245,868.22
8	85	£ 1,756.54	£ 1,067.48	£ 689.06	£ 245,179.15
	86	£ 1,756.54	£ 1,064.49	£ 692.05	£ 244,487.10
	87	£ 1,756.54	£ 1,061.48	£ 695.06	£ 243,792.04
	88	£ 1,756.54	£ 1,058.46	£ 698.08	£ 243,093.97
	89	£ 1,756.54	£ 1,055.43	£ 701.11	£ 242,392.86
	90	£ 1,756.54	£ 1,052.39	£ 704.15	£ 241,688.71
	91	£ 1,756.54	£ 1,049.33	£ 707.21	£ 240,981.50
	92	£ 1,756.54	£ 1,046.26	£ 710.28	£ 240,271.22
	93	£ 1,756.54	£ 1,043.18	£ 713.36	£ 239,557.86
	94	£ 1,756.54	£ 1,040.08	£ 716.46	£ 238,841.40
	95	£ 1,756.54	£ 1,036.97	£ 719.57	£ 238,121.83
	96	£ 1,756.54	£ 1,033.85	£ 722.69	£ 237,399.14
9	97	£ 1,756.54	£ 1,030.71	£ 725.83	£ 236,673.31
	98	£ 1,756.54	£ 1,027.56	£ 728.98	£ 235,944.32
	99	£ 1,756.54	£ 1,024.39	£ 732.15	£ 235,212.17
	100	£ 1,756.54	£ 1,021.21	£ 735.33	£ 234,476.85
	101	£ 1,756.54	£ 1,018.02	£ 738.52	£ 233,738.33
	102	£ 1,756.54	£ 1,014.81	£ 741.73	£ 232,996.60
	103	£ 1,756.54	£ 1,011.59	£ 744.95	£ 232,251.66
	104	£ 1,756.54	£ 1,008.36	£ 748.18	£ 231,503.48
	105	£ 1,756.54	£ 1,005.11	£ 751.43	£ 230,752.05
	106	£ 1,756.54	£ 1,001.85	£ 754.69	£ 229,997.36
	107	£ 1,756.54	£ 998.57	£ 757.97	£ 229,239.39
	108	£ 1,756.54	£ 995.28	£ 761.26	£ 228,478.13
10	109	£ 1,756.54	£ 991.98	£ 764.56	£ 227,713.57
	110	£ 1,756.54	£ 988.66	£ 767.88	£ 226,945.68
	111	£ 1,756.54	£ 985.32	£ 771.22	£ 226,174.47
	112	£ 1,756.54	£ 981.97	£ 774.57	£ 225,399.90
	113	£ 1,756.54	£ 978.61	£ 777.93	£ 224,621.97
	114	£ 1,756.54	£ 975.23	£ 781.31	£ 223,840.67
	115	£ 1,756.54	£ 971.84	£ 784.70	£ 223,055.97
	116	£ 1,756.54	£ 968.43	£ 788.10	£ 222,267.86
	117	£ 1,756.54	£ 965.01	£ 791.53	£ 221,476.34
	118	£ 1,756.54	£ 961.58	£ 794.96	£ 220,681.37

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	119	£ 1,756.54	£ 958.12	£ 798.41	£ 219,882.96
	120	£ 1,756.54	£ 954.66	£ 801.88	£ 219,081.08
11	121	£ 1,756.54	£ 951.18	£ 805.36	£ 218,275.71
	122	£ 1,756.54	£ 947.68	£ 808.86	£ 217,466.86
	123	£ 1,756.54	£ 944.17	£ 812.37	£ 216,654.48
	124	£ 1,756.54	£ 940.64	£ 815.90	£ 215,838.59
	125	£ 1,756.54	£ 937.10	£ 819.44	£ 215,019.15
	126	£ 1,756.54	£ 933.54	£ 823.00	£ 214,196.15
	127	£ 1,756.54	£ 929.97	£ 826.57	£ 213,369.58
	128	£ 1,756.54	£ 926.38	£ 830.16	£ 212,539.42
	129	£ 1,756.54	£ 922.78	£ 833.76	£ 211,705.65
	130	£ 1,756.54	£ 919.16	£ 837.38	£ 210,868.27
	131	£ 1,756.54	£ 915.52	£ 841.02	£ 210,027.25
	132	£ 1,756.54	£ 911.87	£ 844.67	£ 209,182.58
12	133	£ 1,756.54	£ 908.20	£ 848.34	£ 208,334.24
	134	£ 1,756.54	£ 904.52	£ 852.02	£ 207,482.22
	135	£ 1,756.54	£ 900.82	£ 855.72	£ 206,626.49
	136	£ 1,756.54	£ 897.10	£ 859.44	£ 205,767.06
	137	£ 1,756.54	£ 893.37	£ 863.17	£ 204,903.89
	138	£ 1,756.54	£ 889.62	£ 866.92	£ 204,036.98
	139	£ 1,756.54	£ 885.86	£ 870.68	£ 203,166.30
	140	£ 1,756.54	£ 882.08	£ 874.46	£ 202,291.84
	141	£ 1,756.54	£ 878.28	£ 878.26	£ 201,413.58
	142	£ 1,756.54	£ 874.47	£ 882.07	£ 200,531.51
	143	£ 1,756.54	£ 870.64	£ 885.90	£ 199,645.61
	144	£ 1,756.54	£ 866.79	£ 889.74	£ 198,755.87
13	145	£ 1,756.54	£ 862.93	£ 893.61	£ 197,862.26
	146	£ 1,756.54	£ 859.05	£ 897.49	£ 196,964.77
	147	£ 1,756.54	£ 855.16	£ 901.38	£ 196,063.39
	148	£ 1,756.54	£ 851.24	£ 905.30	£ 195,158.09
	149	£ 1,756.54	£ 847.31	£ 909.23	£ 194,248.86
	150	£ 1,756.54	£ 843.36	£ 913.18	£ 193,335.69
	151	£ 1,756.54	£ 839.40	£ 917.14	£ 192,418.55
	152	£ 1,756.54	£ 835.42	£ 921.12	£ 191,497.42
	153	£ 1,756.54	£ 831.42	£ 925.12	£ 190,572.30
	154	£ 1,756.54	£ 827.40	£ 929.14	£ 189,643.16
	155	£ 1,756.54	£ 823.37	£ 933.17	£ 188,709.99
	156	£ 1,756.54	£ 819.32	£ 937.22	£ 187,772.77
14	157	£ 1,756.54	£ 815.25	£ 941.29	£ 186,831.48
	158	£ 1,756.54	£ 811.16	£ 945.38	£ 185,886.10

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	159	£ 1,756.54	£ 807.06	£ 949.48	£ 184,936.61
	160	£ 1,756.54	£ 802.93	£ 953.61	£ 183,983.00
	161	£ 1,756.54	£ 798.79	£ 957.75	£ 183,025.26
	162	£ 1,756.54	£ 794.63	£ 961.90	£ 182,063.35
	163	£ 1,756.54	£ 790.46	£ 966.08	£ 181,097.27
	164	£ 1,756.54	£ 786.26	£ 970.28	£ 180,127.00
	165	£ 1,756.54	£ 782.05	£ 974.49	£ 179,152.51
	166	£ 1,756.54	£ 777.82	£ 978.72	£ 178,173.79
	167	£ 1,756.54	£ 773.57	£ 982.97	£ 177,190.82
	168	£ 1,756.54	£ 769.30	£ 987.24	£ 176,203.58
15	169	£ 1,756.54	£ 765.02	£ 991.52	£ 175,212.06
	170	£ 1,756.54	£ 760.71	£ 995.83	£ 174,216.23
	171	£ 1,756.54	£ 756.39	£ 1,000.15	£ 173,216.08
	172	£ 1,756.54	£ 752.05	£ 1,004.49	£ 172,211.59
	173	£ 1,756.54	£ 747.69	£ 1,008.85	£ 171,202.74
	174	£ 1,756.54	£ 743.31	£ 1,013.23	£ 170,189.50
	175	£ 1,756.54	£ 738.91	£ 1,017.63	£ 169,171.87
	176	£ 1,756.54	£ 734.49	£ 1,022.05	£ 168,149.82
	177	£ 1,756.54	£ 730.05	£ 1,026.49	£ 167,123.33
	178	£ 1,756.54	£ 725.59	£ 1,030.95	£ 166,092.38
	179	£ 1,756.54	£ 721.12	£ 1,035.42	£ 165,056.96
	180	£ 1,756.54	£ 716.62	£ 1,039.92	£ 164,017.04
16	181	£ 1,756.54	£ 712.11	£ 1,044.43	£ 162,972.61
	182	£ 1,756.54	£ 707.57	£ 1,048.97	£ 161,923.64
	183	£ 1,756.54	£ 703.02	£ 1,053.52	£ 160,870.12
	184	£ 1,756.54	£ 698.44	£ 1,058.10	£ 159,812.03
	185	£ 1,756.54	£ 693.85	£ 1,062.69	£ 158,749.34
	186	£ 1,756.54	£ 689.24	£ 1,067.30	£ 157,682.03
	187	£ 1,756.54	£ 684.60	£ 1,071.94	£ 156,610.10
	188	£ 1,756.54	£ 679.95	£ 1,076.59	£ 155,533.51
	189	£ 1,756.54	£ 675.27	£ 1,081.27	£ 154,452.24
	190	£ 1,756.54	£ 670.58	£ 1,085.96	£ 153,366.28
	191	£ 1,756.54	£ 665.87	£ 1,090.67	£ 152,275.61
	192	£ 1,756.54	£ 661.13	£ 1,095.41	£ 151,180.20
17	193	£ 1,756.54	£ 656.37	£ 1,100.17	£ 150,080.03
	194	£ 1,756.54	£ 651.60	£ 1,104.94	£ 148,975.09
	195	£ 1,756.54	£ 646.80	£ 1,109.74	£ 147,865.35
	196	£ 1,756.54	£ 641.98	£ 1,114.56	£ 146,750.79
	197	£ 1,756.54	£ 637.14	£ 1,119.40	£ 145,631.40
	198	£ 1,756.54	£ 632.28	£ 1,124.26	£ 144,507.14

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	199	£ 1,756.54	£ 627.40	£ 1,129.14	£ 143,378.00
	200	£ 1,756.54	£ 622.50	£ 1,134.04	£ 142,243.96
	201	£ 1,756.54	£ 617.58	£ 1,138.96	£ 141,105.00
	202	£ 1,756.54	£ 612.63	£ 1,143.91	£ 139,961.09
	203	£ 1,756.54	£ 607.66	£ 1,148.88	£ 138,812.21
	204	£ 1,756.54	£ 602.68	£ 1,153.86	£ 137,658.35
18	205	£ 1,756.54	£ 597.67	£ 1,158.87	£ 136,499.48
	206	£ 1,756.54	£ 592.64	£ 1,163.90	£ 135,335.57
	207	£ 1,756.54	£ 587.58	£ 1,168.96	£ 134,166.62
	208	£ 1,756.54	£ 582.51	£ 1,174.03	£ 132,992.58
	209	£ 1,756.54	£ 577.41	£ 1,179.13	£ 131,813.45
	210	£ 1,756.54	£ 572.29	£ 1,184.25	£ 130,629.20
	211	£ 1,756.54	£ 567.15	£ 1,189.39	£ 129,439.81
	212	£ 1,756.54	£ 561.98	£ 1,194.56	£ 128,245.26
	213	£ 1,756.54	£ 556.80	£ 1,199.74	£ 127,045.52
	214	£ 1,756.54	£ 551.59	£ 1,204.95	£ 125,840.57
	215	£ 1,756.54	£ 546.36	£ 1,210.18	£ 124,630.38
	216	£ 1,756.54	£ 541.10	£ 1,215.44	£ 123,414.95
19	217	£ 1,756.54	£ 535.83	£ 1,220.71	£ 122,194.23
	218	£ 1,756.54	£ 530.53	£ 1,226.01	£ 120,968.22
	219	£ 1,756.54	£ 525.20	£ 1,231.34	£ 119,736.89
	220	£ 1,756.54	£ 519.86	£ 1,236.68	£ 118,500.20
	221	£ 1,756.54	£ 514.49	£ 1,242.05	£ 117,258.15
	222	£ 1,756.54	£ 509.10	£ 1,247.44	£ 116,010.71
	223	£ 1,756.54	£ 503.68	£ 1,252.86	£ 114,757.85
	224	£ 1,756.54	£ 498.24	£ 1,258.30	£ 113,499.55
	225	£ 1,756.54	£ 492.78	£ 1,263.76	£ 112,235.79
	226	£ 1,756.54	£ 487.29	£ 1,269.25	£ 110,966.54
	227	£ 1,756.54	£ 481.78	£ 1,274.76	£ 109,691.78
	228	£ 1,756.54	£ 476.25	£ 1,280.29	£ 108,411.48
20	229	£ 1,756.54	£ 470.69	£ 1,285.85	£ 107,125.63
	230	£ 1,756.54	£ 465.10	£ 1,291.44	£ 105,834.19
	231	£ 1,756.54	£ 459.50	£ 1,297.04	£ 104,537.15
	232	£ 1,756.54	£ 453.87	£ 1,302.67	£ 103,234.48
	233	£ 1,756.54	£ 448.21	£ 1,308.33	£ 101,926.15
	234	£ 1,756.54	£ 442.53	£ 1,314.01	£ 100,612.14
	235	£ 1,756.54	£ 436.82	£ 1,319.72	£ 99,292.42
	236	£ 1,756.54	£ 431.09	£ 1,325.45	£ 97,966.98
	237	£ 1,756.54	£ 425.34	£ 1,331.20	£ 96,635.78
	238	£ 1,756.54	£ 419.56	£ 1,336.98	£ 95,298.80

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	239	£ 1,756.54	£ 413.76	£ 1,342.78	£ 93,956.01
	240	£ 1,756.54	£ 407.93	£ 1,348.61	£ 92,607.40
21	241	£ 1,756.54	£ 402.07	£ 1,354.47	£ 91,252.93
	242	£ 1,756.54	£ 396.19	£ 1,360.35	£ 89,892.58
	243	£ 1,756.54	£ 390.28	£ 1,366.26	£ 88,526.32
	244	£ 1,756.54	£ 384.35	£ 1,372.19	£ 87,154.14
	245	£ 1,756.54	£ 378.39	£ 1,378.15	£ 85,775.99
	246	£ 1,756.54	£ 372.41	£ 1,384.13	£ 84,391.86
	247	£ 1,756.54	£ 366.40	£ 1,390.14	£ 83,001.72
	248	£ 1,756.54	£ 360.37	£ 1,396.17	£ 81,605.55
	249	£ 1,756.54	£ 354.30	£ 1,402.24	£ 80,203.31
	250	£ 1,756.54	£ 348.22	£ 1,408.32	£ 78,794.99
	251	£ 1,756.54	£ 342.10	£ 1,414.44	£ 77,380.55
	252	£ 1,756.54	£ 335.96	£ 1,420.58	£ 75,959.97
22	253	£ 1,756.54	£ 329.79	£ 1,426.75	£ 74,533.23
	254	£ 1,756.54	£ 323.60	£ 1,432.94	£ 73,100.29
	255	£ 1,756.54	£ 317.38	£ 1,439.16	£ 71,661.12
	256	£ 1,756.54	£ 311.13	£ 1,445.41	£ 70,215.71
	257	£ 1,756.54	£ 304.85	£ 1,451.69	£ 68,764.03
	258	£ 1,756.54	£ 298.55	£ 1,457.99	£ 67,306.04
	259	£ 1,756.54	£ 292.22	£ 1,464.32	£ 65,841.72
	260	£ 1,756.54	£ 285.86	£ 1,470.68	£ 64,371.04
	261	£ 1,756.54	£ 279.48	£ 1,477.06	£ 62,893.98
	262	£ 1,756.54	£ 273.06	£ 1,483.47	£ 61,410.50
	263	£ 1,756.54	£ 266.62	£ 1,489.92	£ 59,920.59
	264	£ 1,756.54	£ 260.16	£ 1,496.38	£ 58,424.20
23	265	£ 1,756.54	£ 253.66	£ 1,502.88	£ 56,921.32
	266	£ 1,756.54	£ 247.13	£ 1,509.41	£ 55,411.92
	267	£ 1,756.54	£ 240.58	£ 1,515.96	£ 53,895.96
	268	£ 1,756.54	£ 234.00	£ 1,522.54	£ 52,373.41
	269	£ 1,756.54	£ 227.39	£ 1,529.15	£ 50,844.26
	270	£ 1,756.54	£ 220.75	£ 1,535.79	£ 49,308.47
	271	£ 1,756.54	£ 214.08	£ 1,542.46	£ 47,766.01
	272	£ 1,756.54	£ 207.38	£ 1,549.16	£ 46,216.86
	273	£ 1,756.54	£ 200.66	£ 1,555.88	£ 44,660.98
	274	£ 1,756.54	£ 193.90	£ 1,562.64	£ 43,098.34
	275	£ 1,756.54	£ 187.12	£ 1,569.42	£ 41,528.92
	276	£ 1,756.54	£ 180.30	£ 1,576.23	£ 39,952.68
24	277	£ 1,756.54	£ 173.46	£ 1,583.08	£ 38,369.61
	278	£ 1,756.54	£ 166.59	£ 1,589.95	£ 36,779.65

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	279	£ 1,756.54	£ 159.68	£ 1,596.85	£ 35,182.80
	280	£ 1,756.54	£ 152.75	£ 1,603.79	£ 33,579.01
	281	£ 1,756.54	£ 145.79	£ 1,610.75	£ 31,968.26
	282	£ 1,756.54	£ 138.80	£ 1,617.74	£ 30,350.52
	283	£ 1,756.54	£ 131.77	£ 1,624.77	£ 28,725.75
	284	£ 1,756.54	£ 124.72	£ 1,631.82	£ 27,093.93
	285	£ 1,756.54	£ 117.63	£ 1,638.91	£ 25,455.02
	286	£ 1,756.54	£ 110.52	£ 1,646.02	£ 23,809.00
	287	£ 1,756.54	£ 103.37	£ 1,653.17	£ 22,155.83
	288	£ 1,756.54	£ 96.19	£ 1,660.35	£ 20,495.48
25	289	£ 1,756.54	£ 88.98	£ 1,667.56	£ 18,827.93
	290	£ 1,756.54	£ 81.74	£ 1,674.80	£ 17,153.13
	291	£ 1,756.54	£ 74.47	£ 1,682.07	£ 15,471.07
	292	£ 1,756.54	£ 67.17	£ 1,689.37	£ 13,781.70
	293	£ 1,756.54	£ 59.84	£ 1,696.70	£ 12,084.99
	294	£ 1,756.54	£ 52.47	£ 1,704.07	£ 10,380.92
	295	£ 1,756.54	£ 45.07	£ 1,711.47	£ 8,669.45
	296	£ 1,756.54	£ 37.64	£ 1,718.90	£ 6,950.55
	297	£ 1,756.54	£ 30.18	£ 1,726.36	£ 5,224.19
	298	£ 1,756.54	£ 22.68	£ 1,733.86	£ 3,490.33
	299	£ 1,756.54	£ 15.15	£ 1,741.39	£ 1,748.95
	300	£ 1,756.54	£ 7.59	£ 1,748.95	£ 0.00

C7: Repayment mortgage – event 5

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
1	1	£ 1,420.32	£ 659.20	£ 761.12	£ 151,070.35
	2	£ 1,420.32	£ 655.90	£ 764.43	£ 150,305.93
	3	£ 1,420.32	£ 652.58	£ 767.74	£ 149,538.18
	4	£ 1,420.32	£ 649.24	£ 771.08	£ 148,767.10
	5	£ 1,420.32	£ 645.90	£ 774.43	£ 147,992.68
	6	£ 1,420.32	£ 642.53	£ 777.79	£ 147,214.89
	7	£ 1,420.32	£ 639.16	£ 781.17	£ 146,433.73
	8	£ 1,420.32	£ 635.77	£ 784.56	£ 145,649.17
	9	£ 1,420.32	£ 632.36	£ 787.96	£ 144,861.21
	10	£ 1,420.32	£ 628.94	£ 791.38	£ 144,069.82
	11	£ 1,420.32	£ 625.50	£ 794.82	£ 143,275.00
	12	£ 1,420.32	£ 622.05	£ 798.27	£ 142,476.73
2	13	£ 1,420.32	£ 618.59	£ 801.74	£ 141,674.99
	14	£ 1,420.32	£ 615.11	£ 805.22	£ 140,869.78
	15	£ 1,420.32	£ 611.61	£ 808.71	£ 140,061.06
	16	£ 1,420.32	£ 608.10	£ 812.22	£ 139,248.84
	17	£ 1,420.32	£ 604.57	£ 815.75	£ 138,433.09
	18	£ 1,420.32	£ 601.03	£ 819.29	£ 137,613.79
	19	£ 1,420.32	£ 597.47	£ 822.85	£ 136,790.94
	20	£ 1,420.32	£ 593.90	£ 826.42	£ 135,964.52
	21	£ 1,420.32	£ 590.31	£ 830.01	£ 135,134.51
	22	£ 1,420.32	£ 586.71	£ 833.61	£ 134,300.90
	23	£ 1,420.32	£ 583.09	£ 837.23	£ 133,463.66
	24	£ 1,420.32	£ 579.45	£ 840.87	£ 132,622.80
3	25	£ 1,420.32	£ 575.80	£ 844.52	£ 131,778.28
	26	£ 1,420.32	£ 572.14	£ 848.19	£ 130,930.09
	27	£ 1,420.32	£ 568.45	£ 851.87	£ 130,078.22
	28	£ 1,420.32	£ 564.76	£ 855.57	£ 129,222.66
	29	£ 1,420.32	£ 561.04	£ 859.28	£ 128,363.37
	30	£ 1,420.32	£ 557.31	£ 863.01	£ 127,500.36
	31	£ 1,420.32	£ 553.56	£ 866.76	£ 126,633.60
	32	£ 1,420.32	£ 549.80	£ 870.52	£ 125,763.08
	33	£ 1,420.32	£ 546.02	£ 874.30	£ 124,888.78
	34	£ 1,420.32	£ 542.23	£ 878.10	£ 124,010.68
	35	£ 1,420.32	£ 538.41	£ 881.91	£ 123,128.77
	36	£ 1,420.32	£ 534.58	£ 885.74	£ 122,243.03
4	37	£ 1,420.32	£ 530.74	£ 889.58	£ 121,353.45
	38	£ 1,420.32	£ 526.88	£ 893.45	£ 120,460.00

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	39	£ 1,420.32	£ 523.00	£ 897.33	£ 119,562.67
	40	£ 1,420.32	£ 519.10	£ 901.22	£ 118,661.45
	41	£ 1,420.32	£ 515.19	£ 905.13	£ 117,756.32
	42	£ 1,420.32	£ 511.26	£ 909.06	£ 116,847.25
	43	£ 1,420.32	£ 507.31	£ 913.01	£ 115,934.24
	44	£ 1,420.32	£ 503.35	£ 916.98	£ 115,017.27
	45	£ 1,420.32	£ 499.37	£ 920.96	£ 114,096.31
	46	£ 1,420.32	£ 495.37	£ 924.95	£ 113,171.36
	47	£ 1,420.32	£ 491.35	£ 928.97	£ 112,242.38
	48	£ 1,420.32	£ 487.32	£ 933.00	£ 111,309.38
5	49	£ 1,420.32	£ 483.27	£ 937.05	£ 110,372.33
	50	£ 1,420.32	£ 479.20	£ 941.12	£ 109,431.20
	51	£ 1,420.32	£ 475.11	£ 945.21	£ 108,485.99
	52	£ 1,420.32	£ 471.01	£ 949.31	£ 107,536.68
	53	£ 1,420.32	£ 466.89	£ 953.43	£ 106,583.25
	54	£ 1,420.32	£ 462.75	£ 957.57	£ 105,625.67
	55	£ 1,420.32	£ 458.59	£ 961.73	£ 104,663.94
	56	£ 1,420.32	£ 454.42	£ 965.91	£ 103,698.03
	57	£ 1,420.32	£ 450.22	£ 970.10	£ 102,727.93
	58	£ 1,420.32	£ 446.01	£ 974.31	£ 101,753.62
	59	£ 1,420.32	£ 441.78	£ 978.54	£ 100,775.08
	60	£ 1,420.32	£ 437.53	£ 982.79	£ 99,792.28
6	61	£ 1,420.32	£ 433.26	£ 987.06	£ 98,805.23
	62	£ 1,420.32	£ 428.98	£ 991.34	£ 97,813.88
	63	£ 1,420.32	£ 424.68	£ 995.65	£ 96,818.23
	64	£ 1,420.32	£ 420.35	£ 999.97	£ 95,818.26
	65	£ 1,420.32	£ 416.01	£ 1,004.31	£ 94,813.95
	66	£ 1,420.32	£ 411.65	£ 1,008.67	£ 93,805.28
	67	£ 1,420.32	£ 407.27	£ 1,013.05	£ 92,792.23
	68	£ 1,420.32	£ 402.87	£ 1,017.45	£ 91,774.78
	69	£ 1,420.32	£ 398.46	£ 1,021.87	£ 90,752.91
	70	£ 1,420.32	£ 394.02	£ 1,026.30	£ 89,726.61
	71	£ 1,420.32	£ 389.56	£ 1,030.76	£ 88,695.85
	72	£ 1,420.32	£ 385.09	£ 1,035.24	£ 87,660.61
7	73	£ 1,420.32	£ 380.59	£ 1,039.73	£ 86,620.88
	74	£ 1,420.32	£ 376.08	£ 1,044.24	£ 85,576.64
	75	£ 1,420.32	£ 371.55	£ 1,048.78	£ 84,527.86
	76	£ 1,420.32	£ 366.99	£ 1,053.33	£ 83,474.53
	77	£ 1,420.32	£ 362.42	£ 1,057.90	£ 82,416.62
	78	£ 1,420.32	£ 357.83	£ 1,062.50	£ 81,354.12

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	79	£ 1,420.32	£ 353.21	£ 1,067.11	£ 80,287.01
	80	£ 1,420.32	£ 348.58	£ 1,071.74	£ 79,215.27
	81	£ 1,420.32	£ 343.93	£ 1,076.40	£ 78,138.87
	82	£ 1,420.32	£ 339.25	£ 1,081.07	£ 77,057.80
	83	£ 1,420.32	£ 334.56	£ 1,085.76	£ 75,972.04
	84	£ 1,420.32	£ 329.85	£ 1,090.48	£ 74,881.56
8	85	£ 1,420.32	£ 325.11	£ 1,095.21	£ 73,786.35
	86	£ 1,420.32	£ 320.36	£ 1,099.97	£ 72,686.38
	87	£ 1,420.32	£ 315.58	£ 1,104.74	£ 71,581.64
	88	£ 1,420.32	£ 310.78	£ 1,109.54	£ 70,472.10
	89	£ 1,420.32	£ 305.97	£ 1,114.36	£ 69,357.74
	90	£ 1,420.32	£ 301.13	£ 1,119.19	£ 68,238.55
	91	£ 1,420.32	£ 296.27	£ 1,124.05	£ 67,114.49
	92	£ 1,420.32	£ 291.39	£ 1,128.93	£ 65,985.56
	93	£ 1,420.32	£ 286.49	£ 1,133.84	£ 64,851.72
	94	£ 1,420.32	£ 281.56	£ 1,138.76	£ 63,712.96
	95	£ 1,420.32	£ 276.62	£ 1,143.70	£ 62,569.26
	96	£ 1,420.32	£ 271.65	£ 1,148.67	£ 61,420.59
9	97	£ 1,420.32	£ 266.67	£ 1,153.66	£ 60,266.94
	98	£ 1,420.32	£ 261.66	£ 1,158.66	£ 59,108.27
	99	£ 1,420.32	£ 256.63	£ 1,163.69	£ 57,944.58
	100	£ 1,420.32	£ 251.58	£ 1,168.75	£ 56,775.83
	101	£ 1,420.32	£ 246.50	£ 1,173.82	£ 55,602.01
	102	£ 1,420.32	£ 241.41	£ 1,178.92	£ 54,423.09
	103	£ 1,420.32	£ 236.29	£ 1,184.04	£ 53,239.06
	104	£ 1,420.32	£ 231.15	£ 1,189.18	£ 52,049.88
	105	£ 1,420.32	£ 225.98	£ 1,194.34	£ 50,855.54
	106	£ 1,420.32	£ 220.80	£ 1,199.53	£ 49,656.01
	107	£ 1,420.32	£ 215.59	£ 1,204.73	£ 48,451.28
	108	£ 1,420.32	£ 210.36	£ 1,209.96	£ 47,241.32
10	109	£ 1,420.32	£ 205.11	£ 1,215.22	£ 46,026.10
	110	£ 1,420.32	£ 199.83	£ 1,220.49	£ 44,805.61
	111	£ 1,420.32	£ 194.53	£ 1,225.79	£ 43,579.82
	112	£ 1,420.32	£ 189.21	£ 1,231.11	£ 42,348.70
	113	£ 1,420.32	£ 183.86	£ 1,236.46	£ 41,112.24
	114	£ 1,420.32	£ 178.50	£ 1,241.83	£ 39,870.41
	115	£ 1,420.32	£ 173.10	£ 1,247.22	£ 38,623.20
	116	£ 1,420.32	£ 167.69	£ 1,252.63	£ 37,370.56
	117	£ 1,420.32	£ 162.25	£ 1,258.07	£ 36,112.49
	118	£ 1,420.32	£ 156.79	£ 1,263.53	£ 34,848.95

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	119	£ 1,420.32	£ 151.30	£ 1,269.02	£ 33,579.93
	120	£ 1,420.32	£ 145.79	£ 1,274.53	£ 32,305.40
11	121	£ 1,420.32	£ 140.26	£ 1,280.06	£ 31,025.34
	122	£ 1,420.32	£ 134.70	£ 1,285.62	£ 29,739.72
	123	£ 1,420.32	£ 129.12	£ 1,291.20	£ 28,448.51
	124	£ 1,420.32	£ 123.51	£ 1,296.81	£ 27,151.71
	125	£ 1,420.32	£ 117.88	£ 1,302.44	£ 25,849.27
	126	£ 1,420.32	£ 112.23	£ 1,308.09	£ 24,541.17
	127	£ 1,420.32	£ 106.55	£ 1,313.77	£ 23,227.40
	128	£ 1,420.32	£ 100.85	£ 1,319.48	£ 21,907.92
	129	£ 1,420.32	£ 95.12	£ 1,325.21	£ 20,582.71
	130	£ 1,420.32	£ 89.36	£ 1,330.96	£ 19,251.75
	131	£ 1,420.32	£ 83.58	£ 1,336.74	£ 17,915.02
	132	£ 1,420.32	£ 77.78	£ 1,342.54	£ 16,572.47
12	133	£ 1,420.32	£ 71.95	£ 1,348.37	£ 15,224.10
	134	£ 1,420.32	£ 66.10	£ 1,354.23	£ 13,869.88
	135	£ 1,420.32	£ 60.22	£ 1,360.10	£ 12,509.77
	136	£ 1,420.32	£ 54.31	£ 1,366.01	£ 11,143.76
	137	£ 1,420.32	£ 48.38	£ 1,371.94	£ 9,771.82
	138	£ 1,420.32	£ 42.43	£ 1,377.90	£ 8,393.93
	139	£ 1,420.32	£ 36.44	£ 1,383.88	£ 7,010.05
	140	£ 1,420.32	£ 30.44	£ 1,389.89	£ 5,620.16
	141	£ 1,420.32	£ 24.40	£ 1,395.92	£ 4,224.24
	142	£ 1,420.32	£ 18.34	£ 1,401.98	£ 2,822.25
	143	£ 1,420.32	£ 12.25	£ 1,408.07	£ 1,414.18
	144	£ 1,420.32	£ 6.14	£ 1,414.18	£ 0.00

D. Appendices Chapter 5

IN ACCORDANCE WITH THE SWISS QUANTITATIVE ILLUSTRATION

D1: Pension asset accumulation

Wages	Age	Pension contribution (%)	Interest	Savings per year	Interest per year	Pension assets
CHF 65,000.00	25	7%	1%	CHF 4,550.00	CHF 22.75	CHF 4,572.75
CHF 65,000.00	26	7%	1%	CHF 4,550.00	CHF 45.73	CHF 9,168.48
CHF 70,000.00	27	7%	1%	CHF 4,900.00	CHF 91.68	CHF 14,160.16
CHF 70,000.00	28	7%	1%	CHF 4,900.00	CHF 141.60	CHF 19,201.76
CHF 80,000.00	29	7%	1%	CHF 5,600.00	CHF 192.02	CHF 24,993.78
CHF 80,000.00	30	7%	1%	CHF 5,600.00	CHF 249.94	CHF 30,843.72
CHF 85,000.00	31	7%	1%	CHF 5,950.00	CHF 308.44	CHF 37,102.16
CHF 85,000.00	32	7%	1%	CHF 5,950.00	CHF 371.02	CHF 43,423.18
CHF 90,000.00	33	7%	1%	CHF 6,300.00	CHF 434.23	CHF 50,157.41
CHF 100,000.00	34	7%	1%	CHF 7,000.00	CHF 501.57	CHF 57,658.98
CHF 100,000.00	35	10%	1%	CHF 10,000.00	CHF 576.59	CHF 68,235.57
CHF 110,000.00	36	10%	1%	CHF 11,000.00	CHF 682.36	CHF 79,917.93
CHF 110,000.00	37	10%	1%	CHF 11,000.00	CHF 799.18	CHF 91,717.11
CHF 115,000.00	38	10%	1%	CHF 11,500.00	CHF 917.17	CHF 104,134.28
CHF 115,000.00	39	10%	1%	CHF 11,500.00	CHF 1,041.34	CHF 116,675.62
CHF 125,000.00	40	10%	1%	CHF 12,500.00	CHF 1,166.76	CHF 130,342.38
CHF 125,000.00	41	10%	1%	CHF 12,500.00	CHF 1,303.42	CHF 144,145.80
CHF 130,000.00	42	10%	1%	CHF 13,000.00	CHF 1,441.46	CHF 158,587.26
CHF 130,000.00	43	10%	1%	CHF 13,000.00	CHF 1,585.87	CHF 173,173.13
CHF 140,000.00	44	10%	1%	CHF 14,000.00	CHF 1,731.73	CHF 188,904.86
CHF 140,000.00	45	15%	1%	CHF 21,000.00	CHF 1,889.05	CHF 211,793.91
CHF 145,000.00	46	15%	1%	CHF 21,750.00	CHF 2,117.94	CHF 235,661.85
CHF 145,000.00	47	15%	1%	CHF 21,750.00	CHF 2,356.62	CHF 259,768.47
CHF 145,000.00	48	15%	1%	CHF 21,750.00	CHF 2,597.68	CHF 284,116.16
CHF 155,000.00	49	15%	1%	CHF 23,250.00	CHF 2,841.16	CHF 310,207.32
CHF 155,000.00	50	15%	1%	CHF 23,250.00	CHF 3,102.07	CHF 336,559.39
CHF 160,000.00	51	15%	1%	CHF 24,000.00	CHF 3,365.59	CHF 363,924.98
CHF 165,000.00	52	15%	1%	CHF 24,750.00	CHF 3,639.25	CHF 392,314.23

Wages	Age	Pension contribution (%)	Interest	Savings per year	Interest per year	Pension assets
CHF 170,000.00	53	15%	1%	CHF 25,500.00	CHF 3,923.14	CHF 421,737.38
CHF 175,000.00	54	15%	1%	CHF 26,250.00	CHF 4,217.37	CHF 452,204.75
CHF 175,000.00	55	18%	1%	CHF 31,500.00	CHF 4,522.05	CHF 488,226.80
CHF 180,000.00	56	18%	1%	CHF 32,400.00	CHF 4,882.27	CHF 525,509.07
CHF 180,000.00	57	18%	1%	CHF 32,400.00	CHF 5,255.09	CHF 563,164.16
CHF 185,000.00	58	18%	1%	CHF 33,300.00	CHF 5,631.64	CHF 602,095.80
CHF 185,000.00	59	18%	1%	CHF 33,300.00	CHF 6,020.96	CHF 641,416.76
CHF 190,000.00	60	18%	1%	CHF 34,200.00	CHF 6,414.17	CHF 682,030.92
CHF 190,000.00	61	18%	1%	CHF 34,200.00	CHF 6,820.31	CHF 723,051.23
CHF 195,000.00	62	18%	1%	CHF 35,100.00	CHF 7,230.51	CHF 765,381.75
CHF 195,000.00	63	18%	1%	CHF 35,100.00	CHF 7,653.82	CHF 808,135.56
CHF 200,000.00	64	18%	1%	CHF 36,000.00	CHF 8,081.36	CHF 852,216.92
CHF 200,000.00	65	18%	1%	CHF 36,000.00	CHF 8,522.17	CHF 896,739.09

D2: Linear mortgage – event 2

Month	Principal amount	Repayment	Interest	Gross monthly costs
1	CHF 331,511.00	CHF 920.86	CHF 718.27	CHF 1,639.14
2	CHF 330,590.14	CHF 920.86	CHF 716.28	CHF 1,637.14
3	CHF 329,669.27	CHF 920.86	CHF 714.28	CHF 1,635.15
4	CHF 328,748.41	CHF 920.86	CHF 712.29	CHF 1,633.15
5	CHF 327,827.54	CHF 920.86	CHF 710.29	CHF 1,631.16
6	CHF 326,906.68	CHF 920.86	CHF 708.30	CHF 1,629.16
7	CHF 325,985.82	CHF 920.86	CHF 706.30	CHF 1,627.17
8	CHF 325,064.95	CHF 920.86	CHF 704.31	CHF 1,625.17
9	CHF 324,144.09	CHF 920.86	CHF 702.31	CHF 1,623.18
10	CHF 323,223.23	CHF 920.86	CHF 700.32	CHF 1,621.18
11	CHF 322,302.36	CHF 920.86	CHF 698.32	CHF 1,619.19
12	CHF 321,381.50	CHF 920.86	CHF 696.33	CHF 1,617.19
13	CHF 320,460.63	CHF 920.86	CHF 694.33	CHF 1,615.20
14	CHF 319,539.77	CHF 920.86	CHF 692.34	CHF 1,613.20
15	CHF 318,618.91	CHF 920.86	CHF 690.34	CHF 1,611.20
16	CHF 317,698.04	CHF 920.86	CHF 688.35	CHF 1,609.21
17	CHF 316,777.18	CHF 920.86	CHF 686.35	CHF 1,607.21
18	CHF 315,856.31	CHF 920.86	CHF 684.36	CHF 1,605.22
19	CHF 314,935.45	CHF 920.86	CHF 682.36	CHF 1,603.22
20	CHF 314,014.59	CHF 920.86	CHF 680.36	CHF 1,601.23
21	CHF 313,093.72	CHF 920.86	CHF 678.37	CHF 1,599.23
22	CHF 312,172.86	CHF 920.86	CHF 676.37	CHF 1,597.24
23	CHF 311,251.99	CHF 920.86	CHF 674.38	CHF 1,595.24
24	CHF 310,331.13	CHF 920.86	CHF 672.38	CHF 1,593.25
25	CHF 309,410.27	CHF 920.86	CHF 670.39	CHF 1,591.25
26	CHF 308,489.40	CHF 920.86	CHF 668.39	CHF 1,589.26
27	CHF 307,568.54	CHF 920.86	CHF 666.40	CHF 1,587.26
28	CHF 306,647.67	CHF 920.86	CHF 664.40	CHF 1,585.27
29	CHF 305,726.81	CHF 920.86	CHF 662.41	CHF 1,583.27
30	CHF 304,805.95	CHF 920.86	CHF 660.41	CHF 1,581.28
31	CHF 303,885.08	CHF 920.86	CHF 658.42	CHF 1,579.28

Month	Principal amount	Repayment	Interest	Gross monthly costs
32	CHF 302,964.22	CHF 920.86	CHF 656.42	CHF 1,577.29
33	CHF 302,043.36	CHF 920.86	CHF 654.43	CHF 1,575.29
34	CHF 301,122.49	CHF 920.86	CHF 652.43	CHF 1,573.30
35	CHF 300,201.63	CHF 920.86	CHF 650.44	CHF 1,571.30
36	CHF 299,280.76	CHF 920.86	CHF 648.44	CHF 1,569.31
37	CHF 298,359.90	CHF 920.86	CHF 646.45	CHF 1,567.31
38	CHF 297,439.04	CHF 920.86	CHF 644.45	CHF 1,565.32
39	CHF 296,518.17	CHF 920.86	CHF 642.46	CHF 1,563.32
40	CHF 295,597.31	CHF 920.86	CHF 640.46	CHF 1,561.32
41	CHF 294,676.44	CHF 920.86	CHF 638.47	CHF 1,559.33
42	CHF 293,755.58	CHF 920.86	CHF 636.47	CHF 1,557.33
43	CHF 292,834.72	CHF 920.86	CHF 634.48	CHF 1,555.34
44	CHF 291,913.85	CHF 920.86	CHF 632.48	CHF 1,553.34
45	CHF 290,992.99	CHF 920.86	CHF 630.48	CHF 1,551.35
46	CHF 290,072.12	CHF 920.86	CHF 628.49	CHF 1,549.35
47	CHF 289,151.26	CHF 920.86	CHF 626.49	CHF 1,547.36
48	CHF 288,230.40	CHF 920.86	CHF 624.50	CHF 1,545.36
49	CHF 287,309.53	CHF 920.86	CHF 622.50	CHF 1,543.37
50	CHF 286,388.67	CHF 920.86	CHF 620.51	CHF 1,541.37
51	CHF 285,467.81	CHF 920.86	CHF 618.51	CHF 1,539.38
52	CHF 284,546.94	CHF 920.86	CHF 616.52	CHF 1,537.38
53	CHF 283,626.08	CHF 920.86	CHF 614.52	CHF 1,535.39
54	CHF 282,705.21	CHF 920.86	CHF 612.53	CHF 1,533.39
55	CHF 281,784.35	CHF 920.86	CHF 610.53	CHF 1,531.40
56	CHF 280,863.49	CHF 920.86	CHF 608.54	CHF 1,529.40
57	CHF 279,942.62	CHF 920.86	CHF 606.54	CHF 1,527.41
58	CHF 279,021.76	CHF 920.86	CHF 604.55	CHF 1,525.41
59	CHF 278,100.89	CHF 920.86	CHF 602.55	CHF 1,523.42
60	CHF 277,180.03	CHF 920.86	CHF 600.56	CHF 1,521.42
61	CHF 276,259.17	CHF 920.86	CHF 598.56	CHF 1,519.43
62	CHF 275,338.30	CHF 920.86	CHF 596.57	CHF 1,517.43
63	CHF 274,417.44	CHF 920.86	CHF 594.57	CHF 1,515.44
64	CHF 273,496.57	CHF 920.86	CHF 592.58	CHF 1,513.44

Month	Principal amount	Repayment	Interest	Gross monthly costs
65	CHF 272,575.71	CHF 920.86	CHF 590.58	CHF 1,511.44
66	CHF 271,654.85	CHF 920.86	CHF 588.59	CHF 1,509.45
67	CHF 270,733.98	CHF 920.86	CHF 586.59	CHF 1,507.45
68	CHF 269,813.12	CHF 920.86	CHF 584.60	CHF 1,505.46
69	CHF 268,892.26	CHF 920.86	CHF 582.60	CHF 1,503.46
70	CHF 267,971.39	CHF 920.86	CHF 580.60	CHF 1,501.47
71	CHF 267,050.53	CHF 920.86	CHF 578.61	CHF 1,499.47
72	CHF 266,129.66	CHF 920.86	CHF 576.61	CHF 1,497.48
73	CHF 265,208.80	CHF 920.86	CHF 574.62	CHF 1,495.48
74	CHF 264,287.94	CHF 920.86	CHF 572.62	CHF 1,493.49
75	CHF 263,367.07	CHF 920.86	CHF 570.63	CHF 1,491.49
76	CHF 262,446.21	CHF 920.86	CHF 568.63	CHF 1,489.50
77	CHF 261,525.34	CHF 920.86	CHF 566.64	CHF 1,487.50
78	CHF 260,604.48	CHF 920.86	CHF 564.64	CHF 1,485.51
79	CHF 259,683.62	CHF 920.86	CHF 562.65	CHF 1,483.51
80	CHF 258,762.75	CHF 920.86	CHF 560.65	CHF 1,481.52
81	CHF 257,841.89	CHF 920.86	CHF 558.66	CHF 1,479.52
82	CHF 256,921.02	CHF 920.86	CHF 556.66	CHF 1,477.53
83	CHF 256,000.16	CHF 920.86	CHF 554.67	CHF 1,475.53
84	CHF 255,079.30	CHF 920.86	CHF 552.67	CHF 1,473.54
85	CHF 254,158.43	CHF 920.86	CHF 550.68	CHF 1,471.54
86	CHF 253,237.57	CHF 920.86	CHF 548.68	CHF 1,469.55
87	CHF 252,316.71	CHF 920.86	CHF 546.69	CHF 1,467.55
88	CHF 251,395.84	CHF 920.86	CHF 544.69	CHF 1,465.55
89	CHF 250,474.98	CHF 920.86	CHF 542.70	CHF 1,463.56
90	CHF 249,554.11	CHF 920.86	CHF 540.70	CHF 1,461.56
91	CHF 248,633.25	CHF 920.86	CHF 538.71	CHF 1,459.57
92	CHF 247,712.39	CHF 920.86	CHF 536.71	CHF 1,457.57
93	CHF 246,791.52	CHF 920.86	CHF 534.71	CHF 1,455.58
94	CHF 245,870.66	CHF 920.86	CHF 532.72	CHF 1,453.58
95	CHF 244,949.79	CHF 920.86	CHF 530.72	CHF 1,451.59
96	CHF 244,028.93	CHF 920.86	CHF 528.73	CHF 1,449.59

Month	Principal amount	Repayment	Interest	Gross monthly costs
97	CHF 243,108.07	CHF 920.86	CHF 526.73	CHF 1,447.60
98	CHF 242,187.20	CHF 920.86	CHF 524.74	CHF 1,445.60
99	CHF 241,266.34	CHF 920.86	CHF 522.74	CHF 1,443.61
100	CHF 240,345.47	CHF 920.86	CHF 520.75	CHF 1,441.61
101	CHF 239,424.61	CHF 920.86	CHF 518.75	CHF 1,439.62
102	CHF 238,503.75	CHF 920.86	CHF 516.76	CHF 1,437.62
103	CHF 237,582.88	CHF 920.86	CHF 514.76	CHF 1,435.63
104	CHF 236,662.02	CHF 920.86	CHF 512.77	CHF 1,433.63
105	CHF 235,741.16	CHF 920.86	CHF 510.77	CHF 1,431.64
106	CHF 234,820.29	CHF 920.86	CHF 508.78	CHF 1,429.64
107	CHF 233,899.43	CHF 920.86	CHF 506.78	CHF 1,427.65
108	CHF 232,978.56	CHF 920.86	CHF 504.79	CHF 1,425.65
109	CHF 232,057.70	CHF 920.86	CHF 502.79	CHF 1,423.66
110	CHF 231,136.84	CHF 920.86	CHF 500.80	CHF 1,421.66
111	CHF 230,215.97	CHF 920.86	CHF 498.80	CHF 1,419.67
112	CHF 229,295.11	CHF 920.86	CHF 496.81	CHF 1,417.67
113	CHF 228,374.24	CHF 920.86	CHF 494.81	CHF 1,415.67
114	CHF 227,453.38	CHF 920.86	CHF 492.82	CHF 1,413.68
115	CHF 226,532.52	CHF 920.86	CHF 490.82	CHF 1,411.68
116	CHF 225,611.65	CHF 920.86	CHF 488.83	CHF 1,409.69
117	CHF 224,690.79	CHF 920.86	CHF 486.83	CHF 1,407.69
118	CHF 223,769.92	CHF 920.86	CHF 484.83	CHF 1,405.70
119	CHF 222,849.06	CHF 920.86	CHF 482.84	CHF 1,403.70
120	CHF 221,928.20	CHF 920.86	CHF 480.84	CHF 1,401.71
121	CHF 221,007.33	CHF 920.86	CHF 478.85	CHF 1,399.71
122	CHF 220,086.47	CHF 920.86	CHF 476.85	CHF 1,397.72
123	CHF 219,165.61	CHF 920.86	CHF 474.86	CHF 1,395.72
124	CHF 218,244.74	CHF 920.86	CHF 472.86	CHF 1,393.73
125	CHF 217,323.88	CHF 920.86	CHF 470.87	CHF 1,391.73
126	CHF 216,403.01	CHF 920.86	CHF 468.87	CHF 1,389.74
127	CHF 215,482.15	CHF 920.86	CHF 466.88	CHF 1,387.74
128	CHF 214,561.29	CHF 920.86	CHF 464.88	CHF 1,385.75
129	CHF 213,640.42	CHF 920.86	CHF 462.89	CHF 1,383.75

Month	Principal amount	Repayment	Interest	Gross monthly costs
130	CHF 212,719.56	CHF 920.86	CHF 460.89	CHF 1,381.76
131	CHF 211,798.69	CHF 920.86	CHF 458.90	CHF 1,379.76
132	CHF 210,877.83	CHF 920.86	CHF 456.90	CHF 1,377.77
133	CHF 209,956.97	CHF 920.86	CHF 454.91	CHF 1,375.77
134	CHF 209,036.10	CHF 920.86	CHF 452.91	CHF 1,373.78
135	CHF 208,115.24	CHF 920.86	CHF 450.92	CHF 1,371.78
136	CHF 207,194.37	CHF 920.86	CHF 448.92	CHF 1,369.79
137	CHF 206,273.51	CHF 920.86	CHF 446.93	CHF 1,367.79
138	CHF 205,352.65	CHF 920.86	CHF 444.93	CHF 1,365.79
139	CHF 204,431.78	CHF 920.86	CHF 442.94	CHF 1,363.80
140	CHF 203,510.92	CHF 920.86	CHF 440.94	CHF 1,361.80
141	CHF 202,590.06	CHF 920.86	CHF 438.95	CHF 1,359.81
142	CHF 201,669.19	CHF 920.86	CHF 436.95	CHF 1,357.81
143	CHF 200,748.33	CHF 920.86	CHF 434.95	CHF 1,355.82
144	CHF 199,827.46	CHF 920.86	CHF 432.96	CHF 1,353.82
145	CHF 198,906.60	CHF 920.86	CHF 430.96	CHF 1,351.83
146	CHF 197,985.74	CHF 920.86	CHF 428.97	CHF 1,349.83
147	CHF 197,064.87	CHF 920.86	CHF 426.97	CHF 1,347.84
148	CHF 196,144.01	CHF 920.86	CHF 424.98	CHF 1,345.84
149	CHF 195,223.14	CHF 920.86	CHF 422.98	CHF 1,343.85
150	CHF 194,302.28	CHF 920.86	CHF 420.99	CHF 1,341.85
151	CHF 193,381.42	CHF 920.86	CHF 418.99	CHF 1,339.86
152	CHF 192,460.55	CHF 920.86	CHF 417.00	CHF 1,337.86
153	CHF 191,539.69	CHF 920.86	CHF 415.00	CHF 1,335.87
154	CHF 190,618.82	CHF 920.86	CHF 413.01	CHF 1,333.87
155	CHF 189,697.96	CHF 920.86	CHF 411.01	CHF 1,331.88
156	CHF 188,777.10	CHF 920.86	CHF 409.02	CHF 1,329.88
157	CHF 187,856.23	CHF 920.86	CHF 407.02	CHF 1,327.89
158	CHF 186,935.37	CHF 920.86	CHF 405.03	CHF 1,325.89
159	CHF 186,014.51	CHF 920.86	CHF 403.03	CHF 1,323.90
160	CHF 185,093.64	CHF 920.86	CHF 401.04	CHF 1,321.90
161	CHF 184,172.78	CHF 920.86	CHF 399.04	CHF 1,319.90

Month	Principal amount	Repayment	Interest	Gross monthly costs
162	CHF 183,251.91	CHF 920.86	CHF 397.05	CHF 1,317.91
163	CHF 182,331.05	CHF 920.86	CHF 395.05	CHF 1,315.91
164	CHF 181,410.19	CHF 920.86	CHF 393.06	CHF 1,313.92
165	CHF 180,489.32	CHF 920.86	CHF 391.06	CHF 1,311.92
166	CHF 179,568.46	CHF 920.86	CHF 389.06	CHF 1,309.93
167	CHF 178,647.59	CHF 920.86	CHF 387.07	CHF 1,307.93
168	CHF 177,726.73	CHF 920.86	CHF 385.07	CHF 1,305.94
169	CHF 176,805.87	CHF 920.86	CHF 383.08	CHF 1,303.94
170	CHF 175,885.00	CHF 920.86	CHF 381.08	CHF 1,301.95
171	CHF 174,964.14	CHF 920.86	CHF 379.09	CHF 1,299.95
172	CHF 174,043.27	CHF 920.86	CHF 377.09	CHF 1,297.96
173	CHF 173,122.41	CHF 920.86	CHF 375.10	CHF 1,295.96
174	CHF 172,201.55	CHF 920.86	CHF 373.10	CHF 1,293.97
175	CHF 171,280.68	CHF 920.86	CHF 371.11	CHF 1,291.97
176	CHF 170,359.82	CHF 920.86	CHF 369.11	CHF 1,289.98
177	CHF 169,438.96	CHF 920.86	CHF 367.12	CHF 1,287.98
178	CHF 168,518.09	CHF 920.86	CHF 365.12	CHF 1,285.99
179	CHF 167,597.23	CHF 920.86	CHF 363.13	CHF 1,283.99
180	CHF 166,676.36	CHF 920.86	CHF 361.13	CHF 1,282.00
181	CHF 165,755.50	CHF 920.86	CHF 359.14	CHF 1,280.00
182	CHF 164,834.64	CHF 920.86	CHF 357.14	CHF 1,278.01
183	CHF 163,913.77	CHF 920.86	CHF 355.15	CHF 1,276.01
184	CHF 162,992.91	CHF 920.86	CHF 353.15	CHF 1,274.02
185	CHF 162,072.04	CHF 920.86	CHF 351.16	CHF 1,272.02
186	CHF 161,151.18	CHF 920.86	CHF 349.16	CHF 1,270.02
187	CHF 160,230.32	CHF 920.86	CHF 347.17	CHF 1,268.03
188	CHF 159,309.45	CHF 920.86	CHF 345.17	CHF 1,266.03
189	CHF 158,388.59	CHF 920.86	CHF 343.18	CHF 1,264.04
190	CHF 157,467.72	CHF 920.86	CHF 341.18	CHF 1,262.04
191	CHF 156,546.86	CHF 920.86	CHF 339.18	CHF 1,260.05
192	CHF 155,626.00	CHF 920.86	CHF 337.19	CHF 1,258.05
193	CHF 154,705.13	CHF 920.86	CHF 335.19	CHF 1,256.06
194	CHF 153,784.27	CHF 920.86	CHF 333.20	CHF 1,254.06

Month	Principal amount	Repayment	Interest	Gross monthly costs
195	CHF 152,863.41	CHF 920.86	CHF 331.20	CHF 1,252.07
196	CHF 151,942.54	CHF 920.86	CHF 329.21	CHF 1,250.07
197	CHF 151,021.68	CHF 920.86	CHF 327.21	CHF 1,248.08
198	CHF 150,100.81	CHF 920.86	CHF 325.22	CHF 1,246.08
199	CHF 149,179.95	CHF 920.86	CHF 323.22	CHF 1,244.09
200	CHF 148,259.09	CHF 920.86	CHF 321.23	CHF 1,242.09
201	CHF 147,338.22	CHF 920.86	CHF 319.23	CHF 1,240.10
202	CHF 146,417.36	CHF 920.86	CHF 317.24	CHF 1,238.10
203	CHF 145,496.49	CHF 920.86	CHF 315.24	CHF 1,236.11
204	CHF 144,575.63	CHF 920.86	CHF 313.25	CHF 1,234.11
205	CHF 143,654.77	CHF 920.86	CHF 311.25	CHF 1,232.12
206	CHF 142,733.90	CHF 920.86	CHF 309.26	CHF 1,230.12
207	CHF 141,813.04	CHF 920.86	CHF 307.26	CHF 1,228.13
208	CHF 140,892.17	CHF 920.86	CHF 305.27	CHF 1,226.13
209	CHF 139,971.31	CHF 920.86	CHF 303.27	CHF 1,224.14
210	CHF 139,050.45	CHF 920.86	CHF 301.28	CHF 1,222.14
211	CHF 138,129.58	CHF 920.86	CHF 299.28	CHF 1,220.14
212	CHF 137,208.72	CHF 920.86	CHF 297.29	CHF 1,218.15
213	CHF 136,287.86	CHF 920.86	CHF 295.29	CHF 1,216.15
214	CHF 135,366.99	CHF 920.86	CHF 293.30	CHF 1,214.16
215	CHF 134,446.13	CHF 920.86	CHF 291.30	CHF 1,212.16
216	CHF 133,525.26	CHF 920.86	CHF 289.30	CHF 1,210.17
217	CHF 132,604.40	CHF 920.86	CHF 287.31	CHF 1,208.17
218	CHF 131,683.54	CHF 920.86	CHF 285.31	CHF 1,206.18
219	CHF 130,762.67	CHF 920.86	CHF 283.32	CHF 1,204.18
220	CHF 129,841.81	CHF 920.86	CHF 281.32	CHF 1,202.19
221	CHF 128,920.94	CHF 920.86	CHF 279.33	CHF 1,200.19
222	CHF 128,000.08	CHF 920.86	CHF 277.33	CHF 1,198.20
223	CHF 127,079.22	CHF 920.86	CHF 275.34	CHF 1,196.20
224	CHF 126,158.35	CHF 920.86	CHF 273.34	CHF 1,194.21
225	CHF 125,237.49	CHF 920.86	CHF 271.35	CHF 1,192.21
226	CHF 124,316.62	CHF 920.86	CHF 269.35	CHF 1,190.22

Month	Principal amount	Repayment	Interest	Gross monthly costs
227	CHF 123,395.76	CHF 920.86	CHF 267.36	CHF 1,188.22
228	CHF 122,474.90	CHF 920.86	CHF 265.36	CHF 1,186.23
229	CHF 121,554.03	CHF 920.86	CHF 263.37	CHF 1,184.23
230	CHF 120,633.17	CHF 920.86	CHF 261.37	CHF 1,182.24
231	CHF 119,712.31	CHF 920.86	CHF 259.38	CHF 1,180.24
232	CHF 118,791.44	CHF 920.86	CHF 257.38	CHF 1,178.25
233	CHF 117,870.58	CHF 920.86	CHF 255.39	CHF 1,176.25
234	CHF 116,949.71	CHF 920.86	CHF 253.39	CHF 1,174.25
235	CHF 116,028.85	CHF 920.86	CHF 251.40	CHF 1,172.26
236	CHF 115,107.99	CHF 920.86	CHF 249.40	CHF 1,170.26
237	CHF 114,187.12	CHF 920.86	CHF 247.41	CHF 1,168.27
238	CHF 113,266.26	CHF 920.86	CHF 245.41	CHF 1,166.27
239	CHF 112,345.39	CHF 920.86	CHF 243.42	CHF 1,164.28
240	CHF 111,424.53	CHF 920.86	CHF 241.42	CHF 1,162.28
241	CHF 110,503.67	CHF 920.86	CHF 239.42	CHF 1,160.29
242	CHF 109,582.80	CHF 920.86	CHF 237.43	CHF 1,158.29
243	CHF 108,661.94	CHF 920.86	CHF 235.43	CHF 1,156.30
244	CHF 107,741.08	CHF 920.86	CHF 233.44	CHF 1,154.30
245	CHF 106,820.21	CHF 920.86	CHF 231.44	CHF 1,152.31
246	CHF 105,899.35	CHF 920.86	CHF 229.45	CHF 1,150.31
247	CHF 104,978.48	CHF 920.86	CHF 227.45	CHF 1,148.32
248	CHF 104,057.62	CHF 920.86	CHF 225.46	CHF 1,146.32
249	CHF 103,136.76	CHF 920.86	CHF 223.46	CHF 1,144.33
250	CHF 102,215.89	CHF 920.86	CHF 221.47	CHF 1,142.33
251	CHF 101,295.03	CHF 920.86	CHF 219.47	CHF 1,140.34
252	CHF 100,374.16	CHF 920.86	CHF 217.48	CHF 1,138.34
253	CHF 99,453.30	CHF 920.86	CHF 215.48	CHF 1,136.35
254	CHF 98,532.44	CHF 920.86	CHF 213.49	CHF 1,134.35
255	CHF 97,611.57	CHF 920.86	CHF 211.49	CHF 1,132.36
256	CHF 96,690.71	CHF 920.86	CHF 209.50	CHF 1,130.36
257	CHF 95,769.84	CHF 920.86	CHF 207.50	CHF 1,128.37
258	CHF 94,848.98	CHF 920.86	CHF 205.51	CHF 1,126.37
259	CHF 93,928.12	CHF 920.86	CHF 203.51	CHF 1,124.37

Month	Principal amount	Repayment	Interest	Gross monthly costs
260	CHF 93,007.25	CHF 920.86	CHF 201.52	CHF 1,122.38
261	CHF 92,086.39	CHF 920.86	CHF 199.52	CHF 1,120.38
262	CHF 91,165.52	CHF 920.86	CHF 197.53	CHF 1,118.39
263	CHF 90,244.66	CHF 920.86	CHF 195.53	CHF 1,116.39
264	CHF 89,323.80	CHF 920.86	CHF 193.53	CHF 1,114.40
265	CHF 88,402.93	CHF 920.86	CHF 191.54	CHF 1,112.40
266	CHF 87,482.07	CHF 920.86	CHF 189.54	CHF 1,110.41
267	CHF 86,561.21	CHF 920.86	CHF 187.55	CHF 1,108.41
268	CHF 85,640.34	CHF 920.86	CHF 185.55	CHF 1,106.42
269	CHF 84,719.48	CHF 920.86	CHF 183.56	CHF 1,104.42
270	CHF 83,798.61	CHF 920.86	CHF 181.56	CHF 1,102.43
271	CHF 82,877.75	CHF 920.86	CHF 179.57	CHF 1,100.43
272	CHF 81,956.89	CHF 920.86	CHF 177.57	CHF 1,098.44
273	CHF 81,036.02	CHF 920.86	CHF 175.58	CHF 1,096.44
274	CHF 80,115.16	CHF 920.86	CHF 173.58	CHF 1,094.45
275	CHF 79,194.29	CHF 920.86	CHF 171.59	CHF 1,092.45
276	CHF 78,273.43	CHF 920.86	CHF 169.59	CHF 1,090.46
277	CHF 77,352.57	CHF 920.86	CHF 167.60	CHF 1,088.46
278	CHF 76,431.70	CHF 920.86	CHF 165.60	CHF 1,086.47
279	CHF 75,510.84	CHF 920.86	CHF 163.61	CHF 1,084.47
280	CHF 74,589.97	CHF 920.86	CHF 161.61	CHF 1,082.48
281	CHF 73,669.11	CHF 920.86	CHF 159.62	CHF 1,080.48
282	CHF 72,748.25	CHF 920.86	CHF 157.62	CHF 1,078.49
283	CHF 71,827.38	CHF 920.86	CHF 155.63	CHF 1,076.49
284	CHF 70,906.52	CHF 920.86	CHF 153.63	CHF 1,074.49
285	CHF 69,985.66	CHF 920.86	CHF 151.64	CHF 1,072.50
286	CHF 69,064.79	CHF 920.86	CHF 149.64	CHF 1,070.50
287	CHF 68,143.93	CHF 920.86	CHF 147.65	CHF 1,068.51
288	CHF 67,223.06	CHF 920.86	CHF 145.65	CHF 1,066.51
289	CHF 66,302.20	CHF 920.86	CHF 143.65	CHF 1,064.52
290	CHF 65,381.34	CHF 920.86	CHF 141.66	CHF 1,062.52
291	CHF 64,460.47	CHF 920.86	CHF 139.66	CHF 1,060.53

Month	Principal amount	Repayment	Interest	Gross monthly costs
292	CHF 63,539.61	CHF 920.86	CHF 137.67	CHF 1,058.53
293	CHF 62,618.74	CHF 920.86	CHF 135.67	CHF 1,056.54
294	CHF 61,697.88	CHF 920.86	CHF 133.68	CHF 1,054.54
295	CHF 60,777.02	CHF 920.86	CHF 131.68	CHF 1,052.55
296	CHF 59,856.15	CHF 920.86	CHF 129.69	CHF 1,050.55
297	CHF 58,935.29	CHF 920.86	CHF 127.69	CHF 1,048.56
298	CHF 58,014.42	CHF 920.86	CHF 125.70	CHF 1,046.56
299	CHF 57,093.56	CHF 920.86	CHF 123.70	CHF 1,044.57
300	CHF 56,172.70	CHF 920.86	CHF 121.71	CHF 1,042.57
301	CHF 55,251.83	CHF 920.86	CHF 119.71	CHF 1,040.58
302	CHF 54,330.97	CHF 920.86	CHF 117.72	CHF 1,038.58
303	CHF 53,410.11	CHF 920.86	CHF 115.72	CHF 1,036.59
304	CHF 52,489.24	CHF 920.86	CHF 113.73	CHF 1,034.59
305	CHF 51,568.38	CHF 920.86	CHF 111.73	CHF 1,032.60
306	CHF 50,647.51	CHF 920.86	CHF 109.74	CHF 1,030.60
307	CHF 49,726.65	CHF 920.86	CHF 107.74	CHF 1,028.60
308	CHF 48,805.79	CHF 920.86	CHF 105.75	CHF 1,026.61
309	CHF 47,884.92	CHF 920.86	CHF 103.75	CHF 1,024.61
310	CHF 46,964.06	CHF 920.86	CHF 101.76	CHF 1,022.62
311	CHF 46,043.19	CHF 920.86	CHF 99.76	CHF 1,020.62
312	CHF 45,122.33	CHF 920.86	CHF 97.77	CHF 1,018.63
313	CHF 44,201.47	CHF 920.86	CHF 95.77	CHF 1,016.63
314	CHF 43,280.60	CHF 920.86	CHF 93.77	CHF 1,014.64
315	CHF 42,359.74	CHF 920.86	CHF 91.78	CHF 1,012.64
316	CHF 41,438.87	CHF 920.86	CHF 89.78	CHF 1,010.65
317	CHF 40,518.01	CHF 920.86	CHF 87.79	CHF 1,008.65
318	CHF 39,597.15	CHF 920.86	CHF 85.79	CHF 1,006.66
319	CHF 38,676.28	CHF 920.86	CHF 83.80	CHF 1,004.66
320	CHF 37,755.42	CHF 920.86	CHF 81.80	CHF 1,002.67
321	CHF 36,834.56	CHF 920.86	CHF 79.81	CHF 1,000.67
322	CHF 35,913.69	CHF 920.86	CHF 77.81	CHF 998.68
323	CHF 34,992.83	CHF 920.86	CHF 75.82	CHF 996.68
324	CHF 34,071.96	CHF 920.86	CHF 73.82	CHF 994.69

Month	Principal amount	Repayment	Interest	Gross monthly costs
325	CHF 33,151.10	CHF 920.86	CHF 71.83	CHF 992.69
326	CHF 32,230.24	CHF 920.86	CHF 69.83	CHF 990.70
327	CHF 31,309.37	CHF 920.86	CHF 67.84	CHF 988.70
328	CHF 30,388.51	CHF 920.86	CHF 65.84	CHF 986.71
329	CHF 29,467.64	CHF 920.86	CHF 63.85	CHF 984.71
330	CHF 28,546.78	CHF 920.86	CHF 61.85	CHF 982.72
331	CHF 27,625.92	CHF 920.86	CHF 59.86	CHF 980.72
332	CHF 26,705.05	CHF 920.86	CHF 57.86	CHF 978.72
333	CHF 25,784.19	CHF 920.86	CHF 55.87	CHF 976.73
334	CHF 24,863.32	CHF 920.86	CHF 53.87	CHF 974.73
335	CHF 23,942.46	CHF 920.86	CHF 51.88	CHF 972.74
336	CHF 23,021.60	CHF 920.86	CHF 49.88	CHF 970.74
337	CHF 22,100.73	CHF 920.86	CHF 47.88	CHF 968.75
338	CHF 21,179.87	CHF 920.86	CHF 45.89	CHF 966.75
339	CHF 20,259.01	CHF 920.86	CHF 43.89	CHF 964.76
340	CHF 19,338.14	CHF 920.86	CHF 41.90	CHF 962.76
341	CHF 18,417.28	CHF 920.86	CHF 39.90	CHF 960.77
342	CHF 17,496.41	CHF 920.86	CHF 37.91	CHF 958.77
343	CHF 16,575.55	CHF 920.86	CHF 35.91	CHF 956.78
344	CHF 15,654.69	CHF 920.86	CHF 33.92	CHF 954.78
345	CHF 14,733.82	CHF 920.86	CHF 31.92	CHF 952.79
346	CHF 13,812.96	CHF 920.86	CHF 29.93	CHF 950.79
347	CHF 12,892.09	CHF 920.86	CHF 27.93	CHF 948.80
348	CHF 11,971.23	CHF 920.86	CHF 25.94	CHF 946.80
349	CHF 11,050.37	CHF 920.86	CHF 23.94	CHF 944.81
350	CHF 10,129.50	CHF 920.86	CHF 21.95	CHF 942.81
351	CHF 9,208.64	CHF 920.86	CHF 19.95	CHF 940.82
352	CHF 8,287.77	CHF 920.86	CHF 17.96	CHF 938.82
353	CHF 7,366.91	CHF 920.86	CHF 15.96	CHF 936.83
354	CHF 6,446.05	CHF 920.86	CHF 13.97	CHF 934.83
355	CHF 5,525.18	CHF 920.86	CHF 11.97	CHF 932.84
356	CHF 4,604.32	CHF 920.86	CHF 9.98	CHF 930.84

Month	Principal amount	Repayment	Interest	Gross monthly costs
357	CHF 3,683.46	CHF 920.86	CHF 7.98	CHF 928.84
358	CHF 2,762.59	CHF 920.86	CHF 5.99	CHF 926.85
359	CHF 1,841.73	CHF 920.86	CHF 3.99	CHF 924.85
360	CHF 920.86	CHF 920.86	CHF 2.00	CHF 922.86

D3: Linear mortgage – event 3a

Month	Principal amount	Repayment	Interest	Gross monthly costs
1	CHF 238,799.33	CHF 663.33	CHF 517.40	CHF 1,180.73
2	CHF 238,136.00	CHF 663.33	CHF 515.96	CHF 1,179.29
3	CHF 237,472.67	CHF 663.33	CHF 514.52	CHF 1,177.86
4	CHF 236,809.34	CHF 663.33	CHF 513.09	CHF 1,176.42
5	CHF 236,146.01	CHF 663.33	CHF 511.65	CHF 1,174.98
6	CHF 235,482.68	CHF 663.33	CHF 510.21	CHF 1,173.54
7	CHF 234,819.34	CHF 663.33	CHF 508.78	CHF 1,172.11
8	CHF 234,156.01	CHF 663.33	CHF 507.34	CHF 1,170.67
9	CHF 233,492.68	CHF 663.33	CHF 505.90	CHF 1,169.23
10	CHF 232,829.35	CHF 663.33	CHF 504.46	CHF 1,167.80
11	CHF 232,166.02	CHF 663.33	CHF 503.03	CHF 1,166.36
12	CHF 231,502.69	CHF 663.33	CHF 501.59	CHF 1,164.92
13	CHF 230,839.36	CHF 663.33	CHF 500.15	CHF 1,163.48
14	CHF 230,176.02	CHF 663.33	CHF 498.71	CHF 1,162.05
15	CHF 229,512.69	CHF 663.33	CHF 497.28	CHF 1,160.61
16	CHF 228,849.36	CHF 663.33	CHF 495.84	CHF 1,159.17
17	CHF 228,186.03	CHF 663.33	CHF 494.40	CHF 1,157.73
18	CHF 227,522.70	CHF 663.33	CHF 492.97	CHF 1,156.30
19	CHF 226,859.37	CHF 663.33	CHF 491.53	CHF 1,154.86
20	CHF 226,196.04	CHF 663.33	CHF 490.09	CHF 1,153.42
21	CHF 225,532.70	CHF 663.33	CHF 488.65	CHF 1,151.99
22	CHF 224,869.37	CHF 663.33	CHF 487.22	CHF 1,150.55
23	CHF 224,206.04	CHF 663.33	CHF 485.78	CHF 1,149.11
24	CHF 223,542.71	CHF 663.33	CHF 484.34	CHF 1,147.67
25	CHF 222,879.38	CHF 663.33	CHF 482.91	CHF 1,146.24
26	CHF 222,216.05	CHF 663.33	CHF 481.47	CHF 1,144.80
27	CHF 221,552.71	CHF 663.33	CHF 480.03	CHF 1,143.36
28	CHF 220,889.38	CHF 663.33	CHF 478.59	CHF 1,141.93
29	CHF 220,226.05	CHF 663.33	CHF 477.16	CHF 1,140.49
30	CHF 219,562.72	CHF 663.33	CHF 475.72	CHF 1,139.05
31	CHF 218,899.39	CHF 663.33	CHF 474.28	CHF 1,137.61

Month	Principal amount	Repayment	Interest	Gross monthly costs
32	CHF 218,236.06	CHF 663.33	CHF 472.84	CHF 1,136.18
33	CHF 217,572.73	CHF 663.33	CHF 471.41	CHF 1,134.74
34	CHF 216,909.39	CHF 663.33	CHF 469.97	CHF 1,133.30
35	CHF 216,246.06	CHF 663.33	CHF 468.53	CHF 1,131.86
36	CHF 215,582.73	CHF 663.33	CHF 467.10	CHF 1,130.43
37	CHF 214,919.40	CHF 663.33	CHF 465.66	CHF 1,128.99
38	CHF 214,256.07	CHF 663.33	CHF 464.22	CHF 1,127.55
39	CHF 213,592.74	CHF 663.33	CHF 462.78	CHF 1,126.12
40	CHF 212,929.41	CHF 663.33	CHF 461.35	CHF 1,124.68
41	CHF 212,266.07	CHF 663.33	CHF 459.91	CHF 1,123.24
42	CHF 211,602.74	CHF 663.33	CHF 458.47	CHF 1,121.80
43	CHF 210,939.41	CHF 663.33	CHF 457.04	CHF 1,120.37
44	CHF 210,276.08	CHF 663.33	CHF 455.60	CHF 1,118.93
45	CHF 209,612.75	CHF 663.33	CHF 454.16	CHF 1,117.49
46	CHF 208,949.42	CHF 663.33	CHF 452.72	CHF 1,116.06
47	CHF 208,286.09	CHF 663.33	CHF 451.29	CHF 1,114.62
48	CHF 207,622.75	CHF 663.33	CHF 449.85	CHF 1,113.18
49	CHF 206,959.42	CHF 663.33	CHF 448.41	CHF 1,111.74
50	CHF 206,296.09	CHF 663.33	CHF 446.97	CHF 1,110.31
51	CHF 205,632.76	CHF 663.33	CHF 445.54	CHF 1,108.87
52	CHF 204,969.43	CHF 663.33	CHF 444.10	CHF 1,107.43
53	CHF 204,306.10	CHF 663.33	CHF 442.66	CHF 1,105.99
54	CHF 203,642.76	CHF 663.33	CHF 441.23	CHF 1,104.56
55	CHF 202,979.43	CHF 663.33	CHF 439.79	CHF 1,103.12
56	CHF 202,316.10	CHF 663.33	CHF 438.35	CHF 1,101.68
57	CHF 201,652.77	CHF 663.33	CHF 436.91	CHF 1,100.25
58	CHF 200,989.44	CHF 663.33	CHF 435.48	CHF 1,098.81
59	CHF 200,326.11	CHF 663.33	CHF 434.04	CHF 1,097.37
60	CHF 199,662.78	CHF 663.33	CHF 432.60	CHF 1,095.93
61	CHF 198,999.44	CHF 663.33	CHF 431.17	CHF 1,094.50
62	CHF 198,336.11	CHF 663.33	CHF 429.73	CHF 1,093.06
63	CHF 197,672.78	CHF 663.33	CHF 428.29	CHF 1,091.62
64	CHF 197,009.45	CHF 663.33	CHF 426.85	CHF 1,090.19

Month	Principal amount	Repayment	Interest	Gross monthly costs
65	CHF 196,346.12	CHF 663.33	CHF 425.42	CHF 1,088.75
66	CHF 195,682.79	CHF 663.33	CHF 423.98	CHF 1,087.31
67	CHF 195,019.46	CHF 663.33	CHF 422.54	CHF 1,085.87
68	CHF 194,356.12	CHF 663.33	CHF 421.10	CHF 1,084.44
69	CHF 193,692.79	CHF 663.33	CHF 419.67	CHF 1,083.00
70	CHF 193,029.46	CHF 663.33	CHF 418.23	CHF 1,081.56
71	CHF 192,366.13	CHF 663.33	CHF 416.79	CHF 1,080.12
72	CHF 191,702.80	CHF 663.33	CHF 415.36	CHF 1,078.69
73	CHF 191,039.47	CHF 663.33	CHF 413.92	CHF 1,077.25
74	CHF 190,376.14	CHF 663.33	CHF 412.48	CHF 1,075.81
75	CHF 189,712.80	CHF 663.33	CHF 411.04	CHF 1,074.38
76	CHF 189,049.47	CHF 663.33	CHF 409.61	CHF 1,072.94
77	CHF 188,386.14	CHF 663.33	CHF 408.17	CHF 1,071.50
78	CHF 187,722.81	CHF 663.33	CHF 406.73	CHF 1,070.06
79	CHF 187,059.48	CHF 663.33	CHF 405.30	CHF 1,068.63
80	CHF 186,396.15	CHF 663.33	CHF 403.86	CHF 1,067.19
81	CHF 185,732.81	CHF 663.33	CHF 402.42	CHF 1,065.75
82	CHF 185,069.48	CHF 663.33	CHF 400.98	CHF 1,064.32
83	CHF 184,406.15	CHF 663.33	CHF 399.55	CHF 1,062.88
84	CHF 183,742.82	CHF 663.33	CHF 398.11	CHF 1,061.44
85	CHF 183,079.49	CHF 663.33	CHF 396.67	CHF 1,060.00
86	CHF 182,416.16	CHF 663.33	CHF 395.24	CHF 1,058.57
87	CHF 181,752.83	CHF 663.33	CHF 393.80	CHF 1,057.13
88	CHF 181,089.49	CHF 663.33	CHF 392.36	CHF 1,055.69
89	CHF 180,426.16	CHF 663.33	CHF 390.92	CHF 1,054.25
90	CHF 179,762.83	CHF 663.33	CHF 389.49	CHF 1,052.82
91	CHF 179,099.50	CHF 663.33	CHF 388.05	CHF 1,051.38
92	CHF 178,436.17	CHF 663.33	CHF 386.61	CHF 1,049.94
93	CHF 177,772.84	CHF 663.33	CHF 385.17	CHF 1,048.51
94	CHF 177,109.51	CHF 663.33	CHF 383.74	CHF 1,047.07
95	CHF 176,446.17	CHF 663.33	CHF 382.30	CHF 1,045.63
96	CHF 175,782.84	CHF 663.33	CHF 380.86	CHF 1,044.19

Month	Principal amount	Repayment	Interest	Gross monthly costs
97	CHF 175,119.51	CHF 663.33	CHF 379.43	CHF 1,042.76
98	CHF 174,456.18	CHF 663.33	CHF 377.99	CHF 1,041.32
99	CHF 173,792.85	CHF 663.33	CHF 376.55	CHF 1,039.88
100	CHF 173,129.52	CHF 663.33	CHF 375.11	CHF 1,038.45
101	CHF 172,466.19	CHF 663.33	CHF 373.68	CHF 1,037.01
102	CHF 171,802.85	CHF 663.33	CHF 372.24	CHF 1,035.57
103	CHF 171,139.52	CHF 663.33	CHF 370.80	CHF 1,034.13
104	CHF 170,476.19	CHF 663.33	CHF 369.37	CHF 1,032.70
105	CHF 169,812.86	CHF 663.33	CHF 367.93	CHF 1,031.26
106	CHF 169,149.53	CHF 663.33	CHF 366.49	CHF 1,029.82
107	CHF 168,486.20	CHF 663.33	CHF 365.05	CHF 1,028.38
108	CHF 167,822.86	CHF 663.33	CHF 363.62	CHF 1,026.95
109	CHF 167,159.53	CHF 663.33	CHF 362.18	CHF 1,025.51
110	CHF 166,496.20	CHF 663.33	CHF 360.74	CHF 1,024.07
111	CHF 165,832.87	CHF 663.33	CHF 359.30	CHF 1,022.64
112	CHF 165,169.54	CHF 663.33	CHF 357.87	CHF 1,021.20
113	CHF 164,506.21	CHF 663.33	CHF 356.43	CHF 1,019.76
114	CHF 163,842.88	CHF 663.33	CHF 354.99	CHF 1,018.32
115	CHF 163,179.54	CHF 663.33	CHF 353.56	CHF 1,016.89
116	CHF 162,516.21	CHF 663.33	CHF 352.12	CHF 1,015.45
117	CHF 161,852.88	CHF 663.33	CHF 350.68	CHF 1,014.01
118	CHF 161,189.55	CHF 663.33	CHF 349.24	CHF 1,012.58
119	CHF 160,526.22	CHF 663.33	CHF 347.81	CHF 1,011.14
120	CHF 159,862.89	CHF 663.33	CHF 346.37	CHF 1,009.70
121	CHF 159,199.56	CHF 663.33	CHF 344.93	CHF 1,008.26
122	CHF 158,536.22	CHF 663.33	CHF 343.50	CHF 1,006.83
123	CHF 157,872.89	CHF 663.33	CHF 342.06	CHF 1,005.39
124	CHF 157,209.56	CHF 663.33	CHF 340.62	CHF 1,003.95
125	CHF 156,546.23	CHF 663.33	CHF 339.18	CHF 1,002.51
126	CHF 155,882.90	CHF 663.33	CHF 337.75	CHF 1,001.08
127	CHF 155,219.57	CHF 663.33	CHF 336.31	CHF 999.64
128	CHF 154,556.24	CHF 663.33	CHF 334.87	CHF 998.20
129	CHF 153,892.90	CHF 663.33	CHF 333.43	CHF 996.77

Month	Principal amount	Repayment	Interest	Gross monthly costs
130	CHF 153,229.57	CHF 663.33	CHF 332.00	CHF 995.33
131	CHF 152,566.24	CHF 663.33	CHF 330.56	CHF 993.89
132	CHF 151,902.91	CHF 663.33	CHF 329.12	CHF 992.45
133	CHF 151,239.58	CHF 663.33	CHF 327.69	CHF 991.02
134	CHF 150,576.25	CHF 663.33	CHF 326.25	CHF 989.58
135	CHF 149,912.91	CHF 663.33	CHF 324.81	CHF 988.14
136	CHF 149,249.58	CHF 663.33	CHF 323.37	CHF 986.71
137	CHF 148,586.25	CHF 663.33	CHF 321.94	CHF 985.27
138	CHF 147,922.92	CHF 663.33	CHF 320.50	CHF 983.83
139	CHF 147,259.59	CHF 663.33	CHF 319.06	CHF 982.39
140	CHF 146,596.26	CHF 663.33	CHF 317.63	CHF 980.96
141	CHF 145,932.93	CHF 663.33	CHF 316.19	CHF 979.52
142	CHF 145,269.59	CHF 663.33	CHF 314.75	CHF 978.08
143	CHF 144,606.26	CHF 663.33	CHF 313.31	CHF 976.65
144	CHF 143,942.93	CHF 663.33	CHF 311.88	CHF 975.21
145	CHF 143,279.60	CHF 663.33	CHF 310.44	CHF 973.77
146	CHF 142,616.27	CHF 663.33	CHF 309.00	CHF 972.33
147	CHF 141,952.94	CHF 663.33	CHF 307.56	CHF 970.90
148	CHF 141,289.61	CHF 663.33	CHF 306.13	CHF 969.46
149	CHF 140,626.27	CHF 663.33	CHF 304.69	CHF 968.02
150	CHF 139,962.94	CHF 663.33	CHF 303.25	CHF 966.58
151	CHF 139,299.61	CHF 663.33	CHF 301.82	CHF 965.15
152	CHF 138,636.28	CHF 663.33	CHF 300.38	CHF 963.71
153	CHF 137,972.95	CHF 663.33	CHF 298.94	CHF 962.27
154	CHF 137,309.62	CHF 663.33	CHF 297.50	CHF 960.84
155	CHF 136,646.29	CHF 663.33	CHF 296.07	CHF 959.40
156	CHF 135,982.95	CHF 663.33	CHF 294.63	CHF 957.96
157	CHF 135,319.62	CHF 663.33	CHF 293.19	CHF 956.52
158	CHF 134,656.29	CHF 663.33	CHF 291.76	CHF 955.09
159	CHF 133,992.96	CHF 663.33	CHF 290.32	CHF 953.65
160	CHF 133,329.63	CHF 663.33	CHF 288.88	CHF 952.21
161	CHF 132,666.30	CHF 663.33	CHF 287.44	CHF 950.78

Month	Principal amount	Repayment	Interest	Gross monthly costs
162	CHF 132,002.96	CHF 663.33	CHF 286.01	CHF 949.34
163	CHF 131,339.63	CHF 663.33	CHF 284.57	CHF 947.90
164	CHF 130,676.30	CHF 663.33	CHF 283.13	CHF 946.46
165	CHF 130,012.97	CHF 663.33	CHF 281.69	CHF 945.03
166	CHF 129,349.64	CHF 663.33	CHF 280.26	CHF 943.59
167	CHF 128,686.31	CHF 663.33	CHF 278.82	CHF 942.15
168	CHF 128,022.98	CHF 663.33	CHF 277.38	CHF 940.71
169	CHF 127,359.64	CHF 663.33	CHF 275.95	CHF 939.28
170	CHF 126,696.31	CHF 663.33	CHF 274.51	CHF 937.84
171	CHF 126,032.98	CHF 663.33	CHF 273.07	CHF 936.40
172	CHF 125,369.65	CHF 663.33	CHF 271.63	CHF 934.97
173	CHF 124,706.32	CHF 663.33	CHF 270.20	CHF 933.53
174	CHF 124,042.99	CHF 663.33	CHF 268.76	CHF 932.09
175	CHF 123,379.66	CHF 663.33	CHF 267.32	CHF 930.65
176	CHF 122,716.32	CHF 663.33	CHF 265.89	CHF 929.22
177	CHF 122,052.99	CHF 663.33	CHF 264.45	CHF 927.78
178	CHF 121,389.66	CHF 663.33	CHF 263.01	CHF 926.34
179	CHF 120,726.33	CHF 663.33	CHF 261.57	CHF 924.91
180	CHF 120,063.00	CHF 663.33	CHF 260.14	CHF 923.47
181	CHF 119,399.67	CHF 663.33	CHF 258.70	CHF 922.03
182	CHF 118,736.34	CHF 663.33	CHF 257.26	CHF 920.59
183	CHF 118,073.00	CHF 663.33	CHF 255.82	CHF 919.16
184	CHF 117,409.67	CHF 663.33	CHF 254.39	CHF 917.72
185	CHF 116,746.34	CHF 663.33	CHF 252.95	CHF 916.28
186	CHF 116,083.01	CHF 663.33	CHF 251.51	CHF 914.84
187	CHF 115,419.68	CHF 663.33	CHF 250.08	CHF 913.41
188	CHF 114,756.35	CHF 663.33	CHF 248.64	CHF 911.97
189	CHF 114,093.01	CHF 663.33	CHF 247.20	CHF 910.53
190	CHF 113,429.68	CHF 663.33	CHF 245.76	CHF 909.10
191	CHF 112,766.35	CHF 663.33	CHF 244.33	CHF 907.66
192	CHF 112,103.02	CHF 663.33	CHF 242.89	CHF 906.22
193	CHF 111,439.69	CHF 663.33	CHF 241.45	CHF 904.78
194	CHF 110,776.36	CHF 663.33	CHF 240.02	CHF 903.35

Month	Principal amount	Repayment	Interest	Gross monthly costs
195	CHF 110,113.03	CHF 663.33	CHF 238.58	CHF 901.91
196	CHF 109,449.69	CHF 663.33	CHF 237.14	CHF 900.47
197	CHF 108,786.36	CHF 663.33	CHF 235.70	CHF 899.04
198	CHF 108,123.03	CHF 663.33	CHF 234.27	CHF 897.60
199	CHF 107,459.70	CHF 663.33	CHF 232.83	CHF 896.16
200	CHF 106,796.37	CHF 663.33	CHF 231.39	CHF 894.72
201	CHF 106,133.04	CHF 663.33	CHF 229.95	CHF 893.29
202	CHF 105,469.71	CHF 663.33	CHF 228.52	CHF 891.85
203	CHF 104,806.37	CHF 663.33	CHF 227.08	CHF 890.41
204	CHF 104,143.04	CHF 663.33	CHF 225.64	CHF 888.97
205	CHF 103,479.71	CHF 663.33	CHF 224.21	CHF 887.54
206	CHF 102,816.38	CHF 663.33	CHF 222.77	CHF 886.10
207	CHF 102,153.05	CHF 663.33	CHF 221.33	CHF 884.66
208	CHF 101,489.72	CHF 663.33	CHF 219.89	CHF 883.23
209	CHF 100,826.39	CHF 663.33	CHF 218.46	CHF 881.79
210	CHF 100,163.05	CHF 663.33	CHF 217.02	CHF 880.35
211	CHF 99,499.72	CHF 663.33	CHF 215.58	CHF 878.91
212	CHF 98,836.39	CHF 663.33	CHF 214.15	CHF 877.48
213	CHF 98,173.06	CHF 663.33	CHF 212.71	CHF 876.04
214	CHF 97,509.73	CHF 663.33	CHF 211.27	CHF 874.60
215	CHF 96,846.40	CHF 663.33	CHF 209.83	CHF 873.17
216	CHF 96,183.06	CHF 663.33	CHF 208.40	CHF 871.73
217	CHF 95,519.73	CHF 663.33	CHF 206.96	CHF 870.29
218	CHF 94,856.40	CHF 663.33	CHF 205.52	CHF 868.85
219	CHF 94,193.07	CHF 663.33	CHF 204.08	CHF 867.42
220	CHF 93,529.74	CHF 663.33	CHF 202.65	CHF 865.98
221	CHF 92,866.41	CHF 663.33	CHF 201.21	CHF 864.54
222	CHF 92,203.08	CHF 663.33	CHF 199.77	CHF 863.10
223	CHF 91,539.74	CHF 663.33	CHF 198.34	CHF 861.67
224	CHF 90,876.41	CHF 663.33	CHF 196.90	CHF 860.23
225	CHF 90,213.08	CHF 663.33	CHF 195.46	CHF 858.79
226	CHF 89,549.75	CHF 663.33	CHF 194.02	CHF 857.36

Month	Principal amount	Repayment	Interest	Gross monthly costs
227	CHF 88,886.42	CHF 663.33	CHF 192.59	CHF 855.92
228	CHF 88,223.09	CHF 663.33	CHF 191.15	CHF 854.48
229	CHF 87,559.76	CHF 663.33	CHF 189.71	CHF 853.04
230	CHF 86,896.42	CHF 663.33	CHF 188.28	CHF 851.61
231	CHF 86,233.09	CHF 663.33	CHF 186.84	CHF 850.17
232	CHF 85,569.76	CHF 663.33	CHF 185.40	CHF 848.73
233	CHF 84,906.43	CHF 663.33	CHF 183.96	CHF 847.30
234	CHF 84,243.10	CHF 663.33	CHF 182.53	CHF 845.86
235	CHF 83,579.77	CHF 663.33	CHF 181.09	CHF 844.42
236	CHF 82,916.44	CHF 663.33	CHF 179.65	CHF 842.98
237	CHF 82,253.10	CHF 663.33	CHF 178.22	CHF 841.55
238	CHF 81,589.77	CHF 663.33	CHF 176.78	CHF 840.11
239	CHF 80,926.44	CHF 663.33	CHF 175.34	CHF 838.67
240	CHF 80,263.11	CHF 663.33	CHF 173.90	CHF 837.23
241	CHF 79,599.78	CHF 663.33	CHF 172.47	CHF 835.80
242	CHF 78,936.45	CHF 663.33	CHF 171.03	CHF 834.36
243	CHF 78,273.11	CHF 663.33	CHF 169.59	CHF 832.92
244	CHF 77,609.78	CHF 663.33	CHF 168.15	CHF 831.49
245	CHF 76,946.45	CHF 663.33	CHF 166.72	CHF 830.05
246	CHF 76,283.12	CHF 663.33	CHF 165.28	CHF 828.61
247	CHF 75,619.79	CHF 663.33	CHF 163.84	CHF 827.17
248	CHF 74,956.46	CHF 663.33	CHF 162.41	CHF 825.74
249	CHF 74,293.13	CHF 663.33	CHF 160.97	CHF 824.30
250	CHF 73,629.79	CHF 663.33	CHF 159.53	CHF 822.86
251	CHF 72,966.46	CHF 663.33	CHF 158.09	CHF 821.43
252	CHF 72,303.13	CHF 663.33	CHF 156.66	CHF 819.99
253	CHF 71,639.80	CHF 663.33	CHF 155.22	CHF 818.55
254	CHF 70,976.47	CHF 663.33	CHF 153.78	CHF 817.11
255	CHF 70,313.14	CHF 663.33	CHF 152.35	CHF 815.68
256	CHF 69,649.81	CHF 663.33	CHF 150.91	CHF 814.24
257	CHF 68,986.47	CHF 663.33	CHF 149.47	CHF 812.80
258	CHF 68,323.14	CHF 663.33	CHF 148.03	CHF 811.36
259	CHF 67,659.81	CHF 663.33	CHF 146.60	CHF 809.93

Month	Principal amount	Repayment	Interest	Gross monthly costs
260	CHF 66,996.48	CHF 663.33	CHF 145.16	CHF 808.49
261	CHF 66,333.15	CHF 663.33	CHF 143.72	CHF 807.05
262	CHF 65,669.82	CHF 663.33	CHF 142.28	CHF 805.62
263	CHF 65,006.49	CHF 663.33	CHF 140.85	CHF 804.18
264	CHF 64,343.15	CHF 663.33	CHF 139.41	CHF 802.74
265	CHF 63,679.82	CHF 663.33	CHF 137.97	CHF 801.30
266	CHF 63,016.49	CHF 663.33	CHF 136.54	CHF 799.87
267	CHF 62,353.16	CHF 663.33	CHF 135.10	CHF 798.43
268	CHF 61,689.83	CHF 663.33	CHF 133.66	CHF 796.99
269	CHF 61,026.50	CHF 663.33	CHF 132.22	CHF 795.56
270	CHF 60,363.16	CHF 663.33	CHF 130.79	CHF 794.12
271	CHF 59,699.83	CHF 663.33	CHF 129.35	CHF 792.68
272	CHF 59,036.50	CHF 663.33	CHF 127.91	CHF 791.24
273	CHF 58,373.17	CHF 663.33	CHF 126.48	CHF 789.81
274	CHF 57,709.84	CHF 663.33	CHF 125.04	CHF 788.37
275	CHF 57,046.51	CHF 663.33	CHF 123.60	CHF 786.93
276	CHF 56,383.18	CHF 663.33	CHF 122.16	CHF 785.50
277	CHF 55,719.84	CHF 663.33	CHF 120.73	CHF 784.06
278	CHF 55,056.51	CHF 663.33	CHF 119.29	CHF 782.62
279	CHF 54,393.18	CHF 663.33	CHF 117.85	CHF 781.18
280	CHF 53,729.85	CHF 663.33	CHF 116.41	CHF 779.75
281	CHF 53,066.52	CHF 663.33	CHF 114.98	CHF 778.31
282	CHF 52,403.19	CHF 663.33	CHF 113.54	CHF 776.87
283	CHF 51,739.86	CHF 663.33	CHF 112.10	CHF 775.43
284	CHF 51,076.52	CHF 663.33	CHF 110.67	CHF 774.00
285	CHF 50,413.19	CHF 663.33	CHF 109.23	CHF 772.56
286	CHF 49,749.86	CHF 663.33	CHF 107.79	CHF 771.12
287	CHF 49,086.53	CHF 663.33	CHF 106.35	CHF 769.69
288	CHF 48,423.20	CHF 663.33	CHF 104.92	CHF 768.25
289	CHF 47,759.87	CHF 663.33	CHF 103.48	CHF 766.81
290	CHF 47,096.54	CHF 663.33	CHF 102.04	CHF 765.37
291	CHF 46,433.20	CHF 663.33	CHF 100.61	CHF 763.94

Month	Principal amount	Repayment	Interest	Gross monthly costs
292	CHF 45,769.87	CHF 663.33	CHF 99.17	CHF 762.50
293	CHF 45,106.54	CHF 663.33	CHF 97.73	CHF 761.06
294	CHF 44,443.21	CHF 663.33	CHF 96.29	CHF 759.63
295	CHF 43,779.88	CHF 663.33	CHF 94.86	CHF 758.19
296	CHF 43,116.55	CHF 663.33	CHF 93.42	CHF 756.75
297	CHF 42,453.21	CHF 663.33	CHF 91.98	CHF 755.31
298	CHF 41,789.88	CHF 663.33	CHF 90.54	CHF 753.88
299	CHF 41,126.55	CHF 663.33	CHF 89.11	CHF 752.44
300	CHF 40,463.22	CHF 663.33	CHF 87.67	CHF 751.00
301	CHF 39,799.89	CHF 663.33	CHF 86.23	CHF 749.56
302	CHF 39,136.56	CHF 663.33	CHF 84.80	CHF 748.13
303	CHF 38,473.23	CHF 663.33	CHF 83.36	CHF 746.69
304	CHF 37,809.89	CHF 663.33	CHF 81.92	CHF 745.25
305	CHF 37,146.56	CHF 663.33	CHF 80.48	CHF 743.82
306	CHF 36,483.23	CHF 663.33	CHF 79.05	CHF 742.38
307	CHF 35,819.90	CHF 663.33	CHF 77.61	CHF 740.94
308	CHF 35,156.57	CHF 663.33	CHF 76.17	CHF 739.50
309	CHF 34,493.24	CHF 663.33	CHF 74.74	CHF 738.07
310	CHF 33,829.91	CHF 663.33	CHF 73.30	CHF 736.63
311	CHF 33,166.57	CHF 663.33	CHF 71.86	CHF 735.19
312	CHF 32,503.24	CHF 663.33	CHF 70.42	CHF 733.76
313	CHF 31,839.91	CHF 663.33	CHF 68.99	CHF 732.32
314	CHF 31,176.58	CHF 663.33	CHF 67.55	CHF 730.88
315	CHF 30,513.25	CHF 663.33	CHF 66.11	CHF 729.44
316	CHF 29,849.92	CHF 663.33	CHF 64.67	CHF 728.01
317	CHF 29,186.59	CHF 663.33	CHF 63.24	CHF 726.57
318	CHF 28,523.25	CHF 663.33	CHF 61.80	CHF 725.13
319	CHF 27,859.92	CHF 663.33	CHF 60.36	CHF 723.69
320	CHF 27,196.59	CHF 663.33	CHF 58.93	CHF 722.26
321	CHF 26,533.26	CHF 663.33	CHF 57.49	CHF 720.82
322	CHF 25,869.93	CHF 663.33	CHF 56.05	CHF 719.38
323	CHF 25,206.60	CHF 663.33	CHF 54.61	CHF 717.95
324	CHF 24,543.26	CHF 663.33	CHF 53.18	CHF 716.51

Month	Principal amount	Repayment	Interest	Gross monthly costs
325	CHF 23,879.93	CHF 663.33	CHF 51.74	CHF 715.07
326	CHF 23,216.60	CHF 663.33	CHF 50.30	CHF 713.63
327	CHF 22,553.27	CHF 663.33	CHF 48.87	CHF 712.20
328	CHF 21,889.94	CHF 663.33	CHF 47.43	CHF 710.76
329	CHF 21,226.61	CHF 663.33	CHF 45.99	CHF 709.32
330	CHF 20,563.28	CHF 663.33	CHF 44.55	CHF 707.89
331	CHF 19,899.94	CHF 663.33	CHF 43.12	CHF 706.45
332	CHF 19,236.61	CHF 663.33	CHF 41.68	CHF 705.01
333	CHF 18,573.28	CHF 663.33	CHF 40.24	CHF 703.57
334	CHF 17,909.95	CHF 663.33	CHF 38.80	CHF 702.14
335	CHF 17,246.62	CHF 663.33	CHF 37.37	CHF 700.70
336	CHF 16,583.29	CHF 663.33	CHF 35.93	CHF 699.26
337	CHF 15,919.96	CHF 663.33	CHF 34.49	CHF 697.82
338	CHF 15,256.62	CHF 663.33	CHF 33.06	CHF 696.39
339	CHF 14,593.29	CHF 663.33	CHF 31.62	CHF 694.95
340	CHF 13,929.96	CHF 663.33	CHF 30.18	CHF 693.51
341	CHF 13,266.63	CHF 663.33	CHF 28.74	CHF 692.08
342	CHF 12,603.30	CHF 663.33	CHF 27.31	CHF 690.64
343	CHF 11,939.97	CHF 663.33	CHF 25.87	CHF 689.20
344	CHF 11,276.64	CHF 663.33	CHF 24.43	CHF 687.76
345	CHF 10,613.30	CHF 663.33	CHF 23.00	CHF 686.33
346	CHF 9,949.97	CHF 663.33	CHF 21.56	CHF 684.89
347	CHF 9,286.64	CHF 663.33	CHF 20.12	CHF 683.45
348	CHF 8,623.31	CHF 663.33	CHF 18.68	CHF 682.02
349	CHF 7,959.98	CHF 663.33	CHF 17.25	CHF 680.58
350	CHF 7,296.65	CHF 663.33	CHF 15.81	CHF 679.14
351	CHF 6,633.31	CHF 663.33	CHF 14.37	CHF 677.70
352	CHF 5,969.98	CHF 663.33	CHF 12.93	CHF 676.27
353	CHF 5,306.65	CHF 663.33	CHF 11.50	CHF 674.83
354	CHF 4,643.32	CHF 663.33	CHF 10.06	CHF 673.39
355	CHF 3,979.99	CHF 663.33	CHF 8.62	CHF 671.95
356	CHF 3,316.66	CHF 663.33	CHF 7.19	CHF 670.52

Month	Principal amount	Repayment	Interest	Gross monthly costs
357	CHF 2,653.33	CHF 663.33	CHF 5.75	CHF 669.08
358	CHF 1,989.99	CHF 663.33	CHF 4.31	CHF 667.64
359	CHF 1,326.66	CHF 663.33	CHF 2.87	CHF 666.21
360	CHF 663.33	CHF 663.33	CHF 1.44	CHF 664.77

E. Appendices Chapter 6

IN ACCORDANCE WITH THE DUTCH QUANTITATIVE ILLUSTRATION REGARDING THE PROPOSED EARLY WITHDRAWAL MODEL

E1: Pension asset accumulation

Without advance withdrawal:

Age	Wages (yearly)	AOW-offset	Capping limit	Pensionable salary	Accrual rate	Accrual per year	Interest	Interest per year	Pension assets
24	€ 45,000	€ 18,475	€ 137,800	€ 26,525	25%	€ 6,631	4%	€ 133	€ 6,764
25	€ 45,000	€ 18,475	€ 137,800	€ 26,525	25%	€ 6,631	4%	€ 403	€ 13,798
26	€ 50,000	€ 18,475	€ 137,800	€ 31,525	25%	€ 7,881	4%	€ 710	€ 22,389
27	€ 50,000	€ 18,475	€ 137,800	€ 31,525	25%	€ 7,881	4%	€ 1,053	€ 31,324
28	€ 60,000	€ 18,475	€ 137,800	€ 41,525	25%	€ 10,381	4%	€ 1,461	€ 43,165
29	€ 60,000	€ 18,475	€ 137,800	€ 41,525	25%	€ 10,381	4%	€ 1,934	€ 55,481
30	€ 70,000	€ 18,475	€ 137,800	€ 51,525	25%	€ 12,881	4%	€ 2,477	€ 70,839
31	€ 70,000	€ 18,475	€ 137,800	€ 51,525	25%	€ 12,881	4%	€ 3,091	€ 86,811
32	€ 80,000	€ 18,475	€ 137,800	€ 61,525	25%	€ 15,381	4%	€ 3,780	€ 105,973
33	€ 80,000	€ 18,475	€ 137,800	€ 61,525	25%	€ 15,381	4%	€ 4,547	€ 125,901
34	€ 80,000	€ 18,475	€ 137,800	€ 61,525	25%	€ 15,381	4%	€ 5,344	€ 146,625
35	€ 90,000	€ 18,475	€ 137,800	€ 71,525	25%	€ 17,881	4%	€ 6,223	€ 170,729
36	€ 90,000	€ 18,475	€ 137,800	€ 71,525	25%	€ 17,881	4%	€ 7,187	€ 195,797
37	€ 95,000	€ 18,475	€ 137,800	€ 76,525	25%	€ 19,131	4%	€ 8,215	€ 223,143
38	€ 95,000	€ 18,475	€ 137,800	€ 76,525	25%	€ 19,131	4%	€ 9,308	€ 251,583
39	€ 110,000	€ 18,475	€ 137,800	€ 91,525	25%	€ 22,881	4%	€ 10,521	€ 284,985
40	€ 110,000	€ 18,475	€ 137,800	€ 91,525	25%	€ 22,881	4%	€ 11,857	€ 319,723
41	€ 115,000	€ 18,475	€ 137,800	€ 96,525	25%	€ 24,131	4%	€ 13,272	€ 357,126
42	€ 115,000	€ 18,475	€ 137,800	€ 96,525	25%	€ 24,131	4%	€ 14,768	€ 396,025
43	€ 125,000	€ 18,475	€ 137,800	€ 106,525	25%	€ 26,631	4%	€ 16,374	€ 439,030
44	€ 125,000	€ 18,475	€ 137,800	€ 106,525	25%	€ 26,631	4%	€ 18,094	€ 483,755
45	€ 130,000	€ 18,475	€ 137,800	€ 111,525	25%	€ 27,881	4%	€ 19,908	€ 531,544
46	€ 130,000	€ 18,475	€ 137,800	€ 111,525	25%	€ 27,881	4%	€ 21,819	€ 581,245
47	€ 130,000	€ 18,475	€ 137,800	€ 111,525	25%	€ 27,881	4%	€ 23,807	€ 632,933

Age	Wages (yearly)	AOW-offset	Capping limit	Pensionable salary	Accrual rate	Accrual per year	Interest	Interest per year	Pension assets
48	€ 135,000	€ 18,475	€ 137,800	€ 116,525	25%	€ 29,131	4%	€ 25,900	€ 687,964
49	€ 135,000	€ 18,475	€ 137,800	€ 116,525	25%	€ 29,131	4%	€ 28,101	€ 745,197
50	€ 135,000	€ 18,475	€ 137,800	€ 116,525	25%	€ 29,131	4%	€ 30,390	€ 804,719
51	€ 140,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 32,785	€ 867,335
52	€ 140,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 35,290	€ 932,456
53	€ 140,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 37,895	€ 1,000,183
54	€ 145,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 40,604	€ 1,070,618
55	€ 145,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 43,421	€ 1,143,870
56	€ 145,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 46,351	€ 1,220,053
57	€ 150,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 49,399	€ 1,299,283
58	€ 150,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 52,568	€ 1,381,682
59	€ 155,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 55,864	€ 1,467,377
60	€ 155,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 59,292	€ 1,556,500
61	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 62,857	€ 1,649,188
62	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 66,564	€ 1,745,584
63	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 70,420	€ 1,845,835
64	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 74,430	€ 1,950,096
65	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 78,600	€ 2,058,528
66	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 82,938	€ 2,171,297
67	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 87,449	€ 2,288,577
68	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 92,140	€ 2,410,548
69	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 97,019	€ 2,537,397
70	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 102,093	€ 2,669,321

Event 2 – after a € 72,500 advance withdrawal at age 34:

Age	Wages (yearly)	AOW-offset	Capping limit	Pensionable salary	Accrual rate	Accrual per year	Interest	Interest per year	Pension assets
34	€ 80,000	€ 18,475	€ 137,800	€ 61,525	25%	€ 15,381	4%	€ 5,344	€ 74,125 [1050]

[1050] Pension assets at age 33 (€ 125,901) plus accrual (€ 15,381) plus interest (€ 5,344) minus advance withdrawal (€ 72,500).

Age	Wages (yearly)	AOW-offset	Capping limit	Pensionable salary	Accrual rate	Accrual per year	Interest	Interest per year	Pension assets
35	€ 90,000	€ 18,475	€ 137,800	€ 71,525	25%	€ 17,881	4%	€ 3,323	€ 95,329
36	€ 90,000	€ 18,475	€ 137,800	€ 71,525	25%	€ 17,881	4%	€ 4,171	€ 117,381
37	€ 95,000	€ 18,475	€ 137,800	€ 76,525	25%	€ 19,131	4%	€ 5,078	€ 141,590
38	€ 95,000	€ 18,475	€ 137,800	€ 76,525	25%	€ 19,131	4%	€ 6,046	€ 166,768
39	€ 110,000	€ 18,475	€ 137,800	€ 91,525	25%	€ 22,881	4%	€ 7,128	€ 196,778
40	€ 110,000	€ 18,475	€ 137,800	€ 91,525	25%	€ 22,881	4%	€ 8,329	€ 227,988
41	€ 115,000	€ 18,475	€ 137,800	€ 96,525	25%	€ 24,131	4%	€ 9,602	€ 261,721
42	€ 115,000	€ 18,475	€ 137,800	€ 96,525	25%	€ 24,131	4%	€ 10,951	€ 296,804
43	€ 125,000	€ 18,475	€ 137,800	€ 106,525	25%	€ 26,631	4%	€ 12,405	€ 335,840
44	€ 125,000	€ 18,475	€ 137,800	€ 106,525	25%	€ 26,631	4%	€ 13,966	€ 376,437
45	€ 130,000	€ 18,475	€ 137,800	€ 111,525	25%	€ 27,881	4%	€ 15,615	€ 419,933
46	€ 130,000	€ 18,475	€ 137,800	€ 111,525	25%	€ 27,881	4%	€ 17,355	€ 465,170
47	€ 130,000	€ 18,475	€ 137,800	€ 111,525	25%	€ 27,881	4%	€ 19,164	€ 512,215
48	€ 135,000	€ 18,475	€ 137,800	€ 116,525	25%	€ 29,131	4%	€ 21,071	€ 562,418
49	€ 135,000	€ 18,475	€ 137,800	€ 116,525	25%	€ 29,131	4%	€ 23,079	€ 614,628
50	€ 135,000	€ 18,475	€ 137,800	€ 116,525	25%	€ 29,131	4%	€ 25,168	€ 668,927
51	€ 140,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 27,354	€ 726,112
52	€ 140,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 29,641	€ 785,585
53	€ 140,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 32,020	€ 847,436
54	€ 145,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 34,494	€ 911,761
55	€ 145,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 37,067	€ 978,660
56	€ 145,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 39,743	€ 1,048,234
57	€ 150,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 42,526	€ 1,120,591
58	€ 150,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 45,420	€ 1,195,843
59	€ 155,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 48,430	€ 1,274,104
60	€ 155,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 51,561	€ 1,355,496
61	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 54,816	€ 1,440,144
62	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 58,202	€ 1,528,178
63	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 61,724	€ 1,619,733
64	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 65,386	€ 1,714,950
65	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 69,195	€ 1,813,976

Age	Wages (yearly)	AOW-offset	Capping limit	Pensionable salary	Accrual rate	Accrual per year	Interest	Interest per year	Pension assets
66	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 73,156	€ 1,916,963
67	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 77,275	€ 2,024,069
68	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 81,559	€ 2,135,460
69	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 86,015	€ 2,251,306
70	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 90,649	€ 2,371,786

Event 3a – after a € 131,250 advance withdrawal at age 44:

Age	Wages (yearly)	AOW-offset	Capping limit	Pensionable salary	Accrual rate	Accrual per year	Interest	Interest per year	Pension assets
44	€ 125,000	€ 18,475	€ 137,800	€ 106,525	25%	€ 26,631	4%	€ 13,966	€ 245,187 [1051]
45	€ 130,000	€ 18,475	€ 137,800	€ 111,525	25%	€ 27,881	4%	€ 10,365	€ 283,433
46	€ 130,000	€ 18,475	€ 137,800	€ 111,525	25%	€ 27,881	4%	€ 11,895	€ 323,210
47	€ 130,000	€ 18,475	€ 137,800	€ 111,525	25%	€ 27,881	4%	€ 13,486	€ 364,577
48	€ 135,000	€ 18,475	€ 137,800	€ 116,525	25%	€ 29,131	4%	€ 15,166	€ 408,874
49	€ 135,000	€ 18,475	€ 137,800	€ 116,525	25%	€ 29,131	4%	€ 16,938	€ 454,943
50	€ 135,000	€ 18,475	€ 137,800	€ 116,525	25%	€ 29,131	4%	€ 18,780	€ 502,854
51	€ 140,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 20,711	€ 553,396
52	€ 140,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 22,732	€ 605,960
53	€ 140,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 24,835	€ 660,626
54	€ 145,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 27,022	€ 717,479
55	€ 145,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 29,296	€ 776,606
56	€ 145,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 31,661	€ 838,098
57	€ 150,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 34,121	€ 902,050
58	€ 150,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 36,679	€ 968,560
59	€ 155,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 39,339	€ 1,037,730
60	€ 155,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 42,106	€ 1,109,668
61	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 44,983	€ 1,184,482
62	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 47,976	€ 1,262,289
63	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 51,088	€ 1,343,209
64	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 54,325	€ 1,427,365
65	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 57,691	€ 1,514,887
66	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 61,192	€ 1,605,911
67	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 64,833	€ 1,700,575
68	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 68,620	€ 1,799,026
69	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 72,558	€ 1,901,415
70	€ 160,000	€ 18,475	€ 137,800	€ 119,325	25%	€ 29,831	4%	€ 76,653	€ 2,007,899

[1051] Pension assets at age 43 (€ 335,840) plus accrual (€ 26,631) plus interest (€ 13,966) minus advance withdrawal (€ 131,250).

E2: Regular savings

		Contribution					
Year	**Age**	**Monthly**	**Yearly**	**Interest**	**Interest per year**	**Savings**	**Extra (+)**	**Extra (-)**
1	24	€ 375	€ 4,500	1%	€ 23	€ 4,523		
2	25	€ 375	€ 4,500	1%	€ 68	€ 9,090		
3	26	€ 417	€ 5,000	1%	€ 116	€ 14,206		
4	27	€ 417	€ 5,000	1%	€ 167	€ 19,373		
5	28	€ 500	€ 6,000	1%	€ 224	€ 25,597		
6	29	€ 500	€ 6,000	1%	€ 286	€ 31,883		
7	30	€ 583	€ 7,000	1%	€ 354	€ 39,237		
8	31	€ 583	€ 7,000	1%	€ 427	€ 46,664		
9	32	€ 667	€ 8,000	1%	€ 507	€ 55,171		
10	33	€ 667	€ 8,000	1%	€ 592	€ 63,762		
11	34	€ 667	€ 8,000	1%	€ 678	€ 72,440		€ 15,000
12	35	€ 750	€ 9,000	1%	€ 619	€ 67,059		
13	36	€ 750	€ 9,000	1%	€ 716	€ 76,775		
14	37	€ 792	€ 9,500	1%	€ 815	€ 87,090		
15	38	€ 792	€ 9,500	1%	€ 918	€ 97,509		
16	39	€ 917	€ 11,000	1%	€ 1,030	€ 109,539		
17	40	€ 917	€ 11,000	1%	€ 1,150	€ 121,689		
18	41	€ 958	€ 11,500	1%	€ 1,274	€ 134,464		
19	42	€ 958	€ 11,500	1%	€ 1,402	€ 147,366		
20	43	€ 1,042	€ 12,500	1%	€ 1,536	€ 161,402		
21	44	€ 1,042	€ 12,500	1%	€ 1,677	€ 175,578		€ 81,000
22	45	€ 1,083	€ 13,000	1%	€ 1,011	€ 108,589		
23	46	€ 1,083	€ 13,000	1%	€ 1,151	€ 122,740		
24	47	€ 1,083	€ 13,000	1%	€ 1,292	€ 137,032		
25	48	€ 1,125	€ 13,500	1%	€ 1,438	€ 151,970		
26	49	€ 1,125	€ 13,500	1%	€ 1,587	€ 167,057		
27	50	€ 1,125	€ 13,500	1%	€ 1,738	€ 182,296		
28	51	€ 1,167	€ 14,000	1%	€ 1,893	€ 198,189		
29	52	€ 1,167	€ 14,000	1%	€ 2,052	€ 214,240		
30	53	€ 1,167	€ 14,000	1%	€ 2,212	€ 230,453		

		Contribution						
Year	**Age**	**Monthly**	**Yearly**	**Interest**	**Interest per year**	**Savings**	**Extra (+)**	**Extra (-)**
31	54	€ 1,208	€ 14,500	1%	€ 2,377	€ 247,330		
32	55	€ 1,208	€ 14,500	1%	€ 2,546	€ 264,376		
33	56	€ 1,208	€ 14,500	1%	€ 2,716	€ 281,592		
34	57	€ 1,250	€ 15,000	1%	€ 2,891	€ 299,483		
35	58	€ 1,250	€ 15,000	1%	€ 3,070	€ 317,553		
36	59	€ 1,292	€ 15,500	1%	€ 3,253	€ 336,306		
37	60	€ 1,292	€ 15,500	1%	€ 3,441	€ 355,246		
38	61	€ 1,333	€ 16,000	1%	€ 3,632	€ 374,879		
39	62	€ 1,333	€ 16,000	1%	€ 3,829	€ 394,707		
40	63	€ 1,333	€ 16,000	1%	€ 4,027	€ 414,735		
41	64	€ 1,333	€ 16,000	1%	€ 4,227	€ 434,962		
42	65	€ 1,333	€ 16,000	1%	€ 4,430	€ 455,392		
43	66	€ 1,333	€ 16,000	1%	€ 4,634	€ 476,025		
44	67	€ 1,333	€ 16,000	1%	€ 4,840	€ 496,866		
45	68	€ 1,333	€ 16,000	1%	€ 5,049	€ 517,914		
46	69	€ 1,333	€ 16,000	1%	€ 5,259	€ 539,173		
47	70	€ 1,333	€ 16,000	1%	€ 5,472	€ 560,645		
48	71	€ -	€ -	1%	€ 5,606	€ 566,252		
49	72	€ -	€ -	1%	€ 5,663	€ 571,914		
50	73	€ -	€ -	1%	€ 5,719	€ 577,633		
51	74	€ -	€ -	1%	€ 5,776	€ 583,410		
52	75	€ -	€ -	1%	€ 5,834	€ 589,244		
53	76	€ -	€ -	1%	€ 5,892	€ 595,136		
54	77	€ -	€ -	1%	€ 5,951	€ 601,088		
55	78	€ -	€ -	1%	€ 6,011	€ 607,098		
56	79	€ -	€ -	1%	€ 6,071	€ 613,169		
57	80	€ -	€ -	1%	€ 6,132	€ 619,301		
58	81	€ -	€ -	1%	€ 6,193	€ 625,494		
59	82	€ -	€ -	1%	€ 6,255	€ 631,749		
60	83	€ -	€ -	1%	€ 6,317	€ 638,067		
61	84	€ -	€ -	1%	€ 6,381	€ 644,447		

		Contribution						
Year	**Age**	**Monthly**	**Yearly**	**Interest**	**Interest per year**	**Savings**	**Extra (+)**	**Extra (-)**
62	85	€ -	€ -	1%	€ 6,444	€ 650,892		
63	86	€ -	€ -	1%	€ 6,509	€ 657,401		
64	87	€ -	€ -	1%	€ 6,574	€ 663,975		
65	88	€ -	€ -	1%	€ 6,640	€ 670,614		
66	89	€ -	€ -	1%	€ 6,706	€ 677,321		
67	90	€ -	€ -	1%	€ 6,773	€ 684,094		
68	91	€ -	€ -	1%	€ 6,841	€ 690,935	€ 113,000	
69	92	€ -	€ -	1%	€ 8,039	€ 811,974		
70	93	€ -	€ -	1%	€ 8,120	€ 820,094		
71	94	€ -	€ -	1%	€ 8,201	€ 828,295		
72	95	€ -	€ -	1%	€ 8,283	€ 836,578		
73	96	€ -	€ -	1%	€ 8,366	€ 844,943		
74	97	€ -	€ -	1%	€ 8,449	€ 853,393		
75	98	€ -	€ -	1%	€ 8,534	€ 861,927		
76	99	€ -	€ -	1%	€ 8,619	€ 870,546		
77	100	€ -	€ -	1%	€ 8,705	€ 879,251		
78	101	€ -	€ -	1%	€ 8,793	€ 888,044		
79	102	€ -	€ -	1%	€ 8,880	€ 896,924		
80	103	€ -	€ -	1%	€ 8,969	€ 905,894		
81	104	€ -	€ -	1%	€ 9,059	€ 914,953		
82	105	€ -	€ -	1%	€ 9,150	€ 924,102		
83	106	€ -	€ -	1%	€ 9,241	€ 933,343		
84	107	€ -	€ -	1%	€ 9,333	€ 942,677		
85	108	€ -	€ -	1%	€ 9,427	€ 952,103		
86	109	€ -	€ -	1%	€ 9,521	€ 961,624		
87	110	€ -	€ -	1%	€ 9,616	€ 971,241		
88	111	€ -	€ -	1%	€ 9,712	€ 980,953		
89	112	€ -	€ -	1%	€ 9,810	€ 990,763		
90	113	€ -	€ -	1%	€ 9,908	€ 1,000,670		
91	114	€ -	€ -	1%	€ 10,007	€ 1,010,677		
92	115	€ -	€ -	1%	€ 10,107	€ 1,020,784		
93	116	€ -	€ -	1%	€ 10,208	€ 1,030,992		

		Contribution							
Year	**Age**	**Monthly**		**Yearly**		**Interest**	**Interest per year**	**Savings**	**Extra (+)**	**Extra (-)**
94	117	€	-	€	-	1%	€ 10,310	€ 1,041,301		
95	118	€	-	€	-	1%	€ 10,413	€ 1,051,714		
96	119	€	-	€	-	1%	€ 10,517	€ 1,062,232		
97	120	€	-	€	-	1%	€ 10,622	€ 1,072,854		
98	121	€	-	€	-	1%	€ 10,729	€ 1,083,582		
99	122	€	-	€	-	1%	€ 10,836	€ 1,094,418		
100	123	€	-	€	-	1%	€ 10,944	€ 1,105,362		

E3: Annuity mortgage – event 2, scenario A

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
1	1	€ 1,909.66	€ 1,333.33	€ 576.33	€ 399,423.67
	2	€ 1,909.66	€ 1,331.41	€ 578.25	€ 398,845.42
	3	€ 1,909.66	€ 1,329.48	€ 580.18	€ 398,265.25
	4	€ 1,909.66	€ 1,327.55	€ 582.11	€ 397,683.14
	5	€ 1,909.66	€ 1,325.61	€ 584.05	€ 397,099.09
	6	€ 1,909.66	€ 1,323.66	€ 586.00	€ 396,513.09
	7	€ 1,909.66	€ 1,321.71	€ 587.95	€ 395,925.14
	8	€ 1,909.66	€ 1,319.75	€ 589.91	€ 395,335.23
	9	€ 1,909.66	€ 1,317.78	€ 591.88	€ 394,743.35
	10	€ 1,909.66	€ 1,315.81	€ 593.85	€ 394,149.50
	11	€ 1,909.66	€ 1,313.83	€ 595.83	€ 393,553.67
	12	€ 1,909.66	€ 1,311.85	€ 597.82	€ 392,955.85
2	13	€ 1,909.66	€ 1,309.85	€ 599.81	€ 392,356.05
	14	€ 1,909.66	€ 1,307.85	€ 601.81	€ 391,754.24
	15	€ 1,909.66	€ 1,305.85	€ 603.81	€ 391,150.42
	16	€ 1,909.66	€ 1,303.83	€ 605.83	€ 390,544.60
	17	€ 1,909.66	€ 1,301.82	€ 607.85	€ 389,936.75
	18	€ 1,909.66	€ 1,299.79	€ 609.87	€ 389,326.88
	19	€ 1,909.66	€ 1,297.76	€ 611.90	€ 388,714.98
	20	€ 1,909.66	€ 1,295.72	€ 613.94	€ 388,101.03
	21	€ 1,909.66	€ 1,293.67	€ 615.99	€ 387,485.04
	22	€ 1,909.66	€ 1,291.62	€ 618.04	€ 386,867.00
	23	€ 1,909.66	€ 1,289.56	€ 620.10	€ 386,246.89
	24	€ 1,909.66	€ 1,287.49	€ 622.17	€ 385,624.72
3	25	€ 1,909.66	€ 1,285.42	€ 624.25	€ 385,000.47
	26	€ 1,909.66	€ 1,283.33	€ 626.33	€ 384,374.15
	27	€ 1,909.66	€ 1,281.25	€ 628.41	€ 383,745.73
	28	€ 1,909.66	€ 1,279.15	€ 630.51	€ 383,115.22
	29	€ 1,909.66	€ 1,277.05	€ 632.61	€ 382,482.61
	30	€ 1,909.66	€ 1,274.94	€ 634.72	€ 381,847.90
	31	€ 1,909.66	€ 1,272.83	€ 636.83	€ 381,211.06
	32	€ 1,909.66	€ 1,270.70	€ 638.96	€ 380,572.10
	33	€ 1,909.66	€ 1,268.57	€ 641.09	€ 379,931.02
	34	€ 1,909.66	€ 1,266.44	€ 643.22	€ 379,287.79
	35	€ 1,909.66	€ 1,264.29	€ 645.37	€ 378,642.42
	36	€ 1,909.66	€ 1,262.14	€ 647.52	€ 377,994.90
4	37	€ 1,909.66	€ 1,259.98	€ 649.68	€ 377,345.22
	38	€ 1,909.66	€ 1,257.82	€ 651.84	€ 376,693.38
	39	€ 1,909.66	€ 1,255.64	€ 654.02	€ 376,039.36

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	40	€ 1,909.66	€ 1,253.46	€ 656.20	€ 375,383.17
	41	€ 1,909.66	€ 1,251.28	€ 658.38	€ 374,724.78
	42	€ 1,909.66	€ 1,249.08	€ 660.58	€ 374,064.20
	43	€ 1,909.66	€ 1,246.88	€ 662.78	€ 373,401.42
	44	€ 1,909.66	€ 1,244.67	€ 664.99	€ 372,736.43
	45	€ 1,909.66	€ 1,242.45	€ 667.21	€ 372,069.23
	46	€ 1,909.66	€ 1,240.23	€ 669.43	€ 371,399.80
	47	€ 1,909.66	€ 1,238.00	€ 671.66	€ 370,728.14
	48	€ 1,909.66	€ 1,235.76	€ 673.90	€ 370,054.23
5	49	€ 1,909.66	€ 1,233.51	€ 676.15	€ 369,378.09
	50	€ 1,909.66	€ 1,231.26	€ 678.40	€ 368,699.69
	51	€ 1,909.66	€ 1,229.00	€ 680.66	€ 368,019.02
	52	€ 1,909.66	€ 1,226.73	€ 682.93	€ 367,336.09
	53	€ 1,909.66	€ 1,224.45	€ 685.21	€ 366,650.89
	54	€ 1,909.66	€ 1,222.17	€ 687.49	€ 365,963.39
	55	€ 1,909.66	€ 1,219.88	€ 689.78	€ 365,273.61
	56	€ 1,909.66	€ 1,217.58	€ 692.08	€ 364,581.53
	57	€ 1,909.66	€ 1,215.27	€ 694.39	€ 363,887.14
	58	€ 1,909.66	€ 1,212.96	€ 696.70	€ 363,190.44
	59	€ 1,909.66	€ 1,210.63	€ 699.03	€ 362,491.41
	60	€ 1,909.66	€ 1,208.30	€ 701.36	€ 361,790.05
6	61	€ 1,909.66	€ 1,205.97	€ 703.69	€ 361,086.36
	62	€ 1,909.66	€ 1,203.62	€ 706.04	€ 360,380.32
	63	€ 1,909.66	€ 1,201.27	€ 708.39	€ 359,671.92
	64	€ 1,909.66	€ 1,198.91	€ 710.75	€ 358,961.17
	65	€ 1,909.66	€ 1,196.54	€ 713.12	€ 358,248.05
	66	€ 1,909.66	€ 1,194.16	€ 715.50	€ 357,532.55
	67	€ 1,909.66	€ 1,191.78	€ 717.89	€ 356,814.66
	68	€ 1,909.66	€ 1,189.38	€ 720.28	€ 356,094.38
	69	€ 1,909.66	€ 1,186.98	€ 722.68	€ 355,371.70
	70	€ 1,909.66	€ 1,184.57	€ 725.09	€ 354,646.61
	71	€ 1,909.66	€ 1,182.16	€ 727.51	€ 353,919.11
	72	€ 1,909.66	€ 1,179.73	€ 729.93	€ 353,189.17
7	73	€ 1,909.66	€ 1,177.30	€ 732.36	€ 352,456.81
	74	€ 1,909.66	€ 1,174.86	€ 734.81	€ 351,722.01
	75	€ 1,909.66	€ 1,172.41	€ 737.25	€ 350,984.75
	76	€ 1,909.66	€ 1,169.95	€ 739.71	€ 350,245.04
	77	€ 1,909.66	€ 1,167.48	€ 742.18	€ 349,502.86
	78	€ 1,909.66	€ 1,165.01	€ 744.65	€ 348,758.21
	79	€ 1,909.66	€ 1,162.53	€ 747.13	€ 348,011.08

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	80	€ 1,909.66	€ 1,160.04	€ 749.62	€ 347,261.45
	81	€ 1,909.66	€ 1,157.54	€ 752.12	€ 346,509.33
	82	€ 1,909.66	€ 1,155.03	€ 754.63	€ 345,754.70
	83	€ 1,909.66	€ 1,152.52	€ 757.15	€ 344,997.55
	84	€ 1,909.66	€ 1,149.99	€ 759.67	€ 344,237.88
8	85	€ 1,909.66	€ 1,147.46	€ 762.20	€ 343,475.68
	86	€ 1,909.66	€ 1,144.92	€ 764.74	€ 342,710.94
	87	€ 1,909.66	€ 1,142.37	€ 767.29	€ 341,943.65
	88	€ 1,909.66	€ 1,139.81	€ 769.85	€ 341,173.80
	89	€ 1,909.66	€ 1,137.25	€ 772.42	€ 340,401.38
	90	€ 1,909.66	€ 1,134.67	€ 774.99	€ 339,626.39
	91	€ 1,909.66	€ 1,132.09	€ 777.57	€ 338,848.82
	92	€ 1,909.66	€ 1,129.50	€ 780.17	€ 338,068.66
	93	€ 1,909.66	€ 1,126.90	€ 782.77	€ 337,285.89
	94	€ 1,909.66	€ 1,124.29	€ 785.37	€ 336,500.52
	95	€ 1,909.66	€ 1,121.67	€ 787.99	€ 335,712.52
	96	€ 1,909.66	€ 1,119.04	€ 790.62	€ 334,921.90
9	97	€ 1,909.66	€ 1,116.41	€ 793.25	€ 334,128.65
	98	€ 1,909.66	€ 1,113.76	€ 795.90	€ 333,332.75
	99	€ 1,909.66	€ 1,111.11	€ 798.55	€ 332,534.20
	100	€ 1,909.66	€ 1,108.45	€ 801.21	€ 331,732.98
	101	€ 1,909.66	€ 1,105.78	€ 803.88	€ 330,929.10
	102	€ 1,909.66	€ 1,103.10	€ 806.56	€ 330,122.53
	103	€ 1,909.66	€ 1,100.41	€ 809.25	€ 329,313.28
	104	€ 1,909.66	€ 1,097.71	€ 811.95	€ 328,501.33
	105	€ 1,909.66	€ 1,095.00	€ 814.66	€ 327,686.68
	106	€ 1,909.66	€ 1,092.29	€ 817.37	€ 326,869.30
	107	€ 1,909.66	€ 1,089.56	€ 820.10	€ 326,049.21
	108	€ 1,909.66	€ 1,086.83	€ 822.83	€ 325,226.38
10	109	€ 1,909.66	€ 1,084.09	€ 825.57	€ 324,400.80
	110	€ 1,909.66	€ 1,081.34	€ 828.33	€ 323,572.48
	111	€ 1,909.66	€ 1,078.57	€ 831.09	€ 322,741.39
	112	€ 1,909.66	€ 1,075.80	€ 833.86	€ 321,907.53
	113	€ 1,909.66	€ 1,073.03	€ 836.64	€ 321,070.90
	114	€ 1,909.66	€ 1,070.24	€ 839.42	€ 320,231.47
	115	€ 1,909.66	€ 1,067.44	€ 842.22	€ 319,389.25
	116	€ 1,909.66	€ 1,064.63	€ 845.03	€ 318,544.22
	117	€ 1,909.66	€ 1,061.81	€ 847.85	€ 317,696.37
	118	€ 1,909.66	€ 1,058.99	€ 850.67	€ 316,845.70
	119	€ 1,909.66	€ 1,056.15	€ 853.51	€ 315,992.19

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	120	€ 1,909.66	€ 1,053.31	€ 856.35	€ 315,135.84
11	121	€ 1,909.66	€ 1,050.45	€ 859.21	€ 314,276.63
	122	€ 1,909.66	€ 1,047.59	€ 862.07	€ 313,414.56
	123	€ 1,909.66	€ 1,044.72	€ 864.95	€ 312,549.61
	124	€ 1,909.66	€ 1,041.83	€ 867.83	€ 311,681.78
	125	€ 1,909.66	€ 1,038.94	€ 870.72	€ 310,811.06
	126	€ 1,909.66	€ 1,036.04	€ 873.62	€ 309,937.43
	127	€ 1,909.66	€ 1,033.12	€ 876.54	€ 309,060.90
	128	€ 1,909.66	€ 1,030.20	€ 879.46	€ 308,181.44
	129	€ 1,909.66	€ 1,027.27	€ 882.39	€ 307,299.05
	130	€ 1,909.66	€ 1,024.33	€ 885.33	€ 306,413.72
	131	€ 1,909.66	€ 1,021.38	€ 888.28	€ 305,525.44
	132	€ 1,909.66	€ 1,018.42	€ 891.24	€ 304,634.19
12	133	€ 1,909.66	€ 1,015.45	€ 894.21	€ 303,739.98
	134	€ 1,909.66	€ 1,012.47	€ 897.19	€ 302,842.79
	135	€ 1,909.66	€ 1,009.48	€ 900.19	€ 301,942.60
	136	€ 1,909.66	€ 1,006.48	€ 903.19	€ 301,039.41
	137	€ 1,909.66	€ 1,003.46	€ 906.20	€ 300,133.22
	138	€ 1,909.66	€ 1,000.44	€ 909.22	€ 299,224.00
	139	€ 1,909.66	€ 997.41	€ 912.25	€ 298,311.75
	140	€ 1,909.66	€ 994.37	€ 915.29	€ 297,396.46
	141	€ 1,909.66	€ 991.32	€ 918.34	€ 296,478.12
	142	€ 1,909.66	€ 988.26	€ 921.40	€ 295,556.72
	143	€ 1,909.66	€ 985.19	€ 924.47	€ 294,632.25
	144	€ 1,909.66	€ 982.11	€ 927.55	€ 293,704.70
13	145	€ 1,909.66	€ 979.02	€ 930.65	€ 292,774.05
	146	€ 1,909.66	€ 975.91	€ 933.75	€ 291,840.31
	147	€ 1,909.66	€ 972.80	€ 936.86	€ 290,903.45
	148	€ 1,909.66	€ 969.68	€ 939.98	€ 289,963.46
	149	€ 1,909.66	€ 966.54	€ 943.12	€ 289,020.35
	150	€ 1,909.66	€ 963.40	€ 946.26	€ 288,074.09
	151	€ 1,909.66	€ 960.25	€ 949.41	€ 287,124.67
	152	€ 1,909.66	€ 957.08	€ 952.58	€ 286,172.09
	153	€ 1,909.66	€ 953.91	€ 955.75	€ 285,216.34
	154	€ 1,909.66	€ 950.72	€ 958.94	€ 284,257.40
	155	€ 1,909.66	€ 947.52	€ 962.14	€ 283,295.26
	156	€ 1,909.66	€ 944.32	€ 965.34	€ 282,329.92
14	157	€ 1,909.66	€ 941.10	€ 968.56	€ 281,361.36
	158	€ 1,909.66	€ 937.87	€ 971.79	€ 280,389.57
	159	€ 1,909.66	€ 934.63	€ 975.03	€ 279,414.54

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	160	€ 1,909.66	€ 931.38	€ 978.28	€ 278,436.26
	161	€ 1,909.66	€ 928.12	€ 981.54	€ 277,454.72
	162	€ 1,909.66	€ 924.85	€ 984.81	€ 276,469.91
	163	€ 1,909.66	€ 921.57	€ 988.09	€ 275,481.81
	164	€ 1,909.66	€ 918.27	€ 991.39	€ 274,490.42
	165	€ 1,909.66	€ 914.97	€ 994.69	€ 273,495.73
	166	€ 1,909.66	€ 911.65	€ 998.01	€ 272,497.72
	167	€ 1,909.66	€ 908.33	€ 1,001.34	€ 271,496.38
	168	€ 1,909.66	€ 904.99	€ 1,004.67	€ 270,491.71
15	169	€ 1,909.66	€ 901.64	€ 1,008.02	€ 269,483.69
	170	€ 1,909.66	€ 898.28	€ 1,011.38	€ 268,472.31
	171	€ 1,909.66	€ 894.91	€ 1,014.75	€ 267,457.55
	172	€ 1,909.66	€ 891.53	€ 1,018.14	€ 266,439.42
	173	€ 1,909.66	€ 888.13	€ 1,021.53	€ 265,417.89
	174	€ 1,909.66	€ 884.73	€ 1,024.93	€ 264,392.95
	175	€ 1,909.66	€ 881.31	€ 1,028.35	€ 263,364.60
	176	€ 1,909.66	€ 877.88	€ 1,031.78	€ 262,332.82
	177	€ 1,909.66	€ 874.44	€ 1,035.22	€ 261,297.60
	178	€ 1,909.66	€ 870.99	€ 1,038.67	€ 260,258.93
	179	€ 1,909.66	€ 867.53	€ 1,042.13	€ 259,216.80
	180	€ 1,909.66	€ 864.06	€ 1,045.61	€ 258,171.20
16	181	€ 1,909.66	€ 860.57	€ 1,049.09	€ 257,122.11
	182	€ 1,909.66	€ 857.07	€ 1,052.59	€ 256,069.52
	183	€ 1,909.66	€ 853.57	€ 1,056.10	€ 255,013.42
	184	€ 1,909.66	€ 850.04	€ 1,059.62	€ 253,953.81
	185	€ 1,909.66	€ 846.51	€ 1,063.15	€ 252,890.66
	186	€ 1,909.66	€ 842.97	€ 1,066.69	€ 251,823.97
	187	€ 1,909.66	€ 839.41	€ 1,070.25	€ 250,753.72
	188	€ 1,909.66	€ 835.85	€ 1,073.82	€ 249,679.90
	189	€ 1,909.66	€ 832.27	€ 1,077.39	€ 248,602.51
	190	€ 1,909.66	€ 828.68	€ 1,080.99	€ 247,521.52
	191	€ 1,909.66	€ 825.07	€ 1,084.59	€ 246,436.93
	192	€ 1,909.66	€ 821.46	€ 1,088.20	€ 245,348.73
17	193	€ 1,909.66	€ 817.83	€ 1,091.83	€ 244,256.90
	194	€ 1,909.66	€ 814.19	€ 1,095.47	€ 243,161.42
	195	€ 1,909.66	€ 810.54	€ 1,099.12	€ 242,062.30
	196	€ 1,909.66	€ 806.87	€ 1,102.79	€ 240,959.51
	197	€ 1,909.66	€ 803.20	€ 1,106.46	€ 239,853.05
	198	€ 1,909.66	€ 799.51	€ 1,110.15	€ 238,742.90
	199	€ 1,909.66	€ 795.81	€ 1,113.85	€ 237,629.05

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	200	€ 1,909.66	€ 792.10	€ 1,117.56	€ 236,511.49
	201	€ 1,909.66	€ 788.37	€ 1,121.29	€ 235,390.20
	202	€ 1,909.66	€ 784.63	€ 1,125.03	€ 234,265.17
	203	€ 1,909.66	€ 780.88	€ 1,128.78	€ 233,136.39
	204	€ 1,909.66	€ 777.12	€ 1,132.54	€ 232,003.85
18	205	€ 1,909.66	€ 773.35	€ 1,136.32	€ 230,867.54
	206	€ 1,909.66	€ 769.56	€ 1,140.10	€ 229,727.43
	207	€ 1,909.66	€ 765.76	€ 1,143.90	€ 228,583.53
	208	€ 1,909.66	€ 761.95	€ 1,147.72	€ 227,435.81
	209	€ 1,909.66	€ 758.12	€ 1,151.54	€ 226,284.27
	210	€ 1,909.66	€ 754.28	€ 1,155.38	€ 225,128.89
	211	€ 1,909.66	€ 750.43	€ 1,159.23	€ 223,969.66
	212	€ 1,909.66	€ 746.57	€ 1,163.10	€ 222,806.57
	213	€ 1,909.66	€ 742.69	€ 1,166.97	€ 221,639.59
	214	€ 1,909.66	€ 738.80	€ 1,170.86	€ 220,468.73
	215	€ 1,909.66	€ 734.90	€ 1,174.77	€ 219,293.96
	216	€ 1,909.66	€ 730.98	€ 1,178.68	€ 218,115.28
19	217	€ 1,909.66	€ 727.05	€ 1,182.61	€ 216,932.67
	218	€ 1,909.66	€ 723.11	€ 1,186.55	€ 215,746.12
	219	€ 1,909.66	€ 719.15	€ 1,190.51	€ 214,555.61
	220	€ 1,909.66	€ 715.19	€ 1,194.48	€ 213,361.14
	221	€ 1,909.66	€ 711.20	€ 1,198.46	€ 212,162.68
	222	€ 1,909.66	€ 707.21	€ 1,202.45	€ 210,960.23
	223	€ 1,909.66	€ 703.20	€ 1,206.46	€ 209,753.77
	224	€ 1,909.66	€ 699.18	€ 1,210.48	€ 208,543.29
	225	€ 1,909.66	€ 695.14	€ 1,214.52	€ 207,328.77
	226	€ 1,909.66	€ 691.10	€ 1,218.57	€ 206,110.20
	227	€ 1,909.66	€ 687.03	€ 1,222.63	€ 204,887.58
	228	€ 1,909.66	€ 682.96	€ 1,226.70	€ 203,660.87
20	229	€ 1,909.66	€ 678.87	€ 1,230.79	€ 202,430.08
	230	€ 1,909.66	€ 674.77	€ 1,234.89	€ 201,195.19
	231	€ 1,909.66	€ 670.65	€ 1,239.01	€ 199,956.18
	232	€ 1,909.66	€ 666.52	€ 1,243.14	€ 198,713.04
	233	€ 1,909.66	€ 662.38	€ 1,247.28	€ 197,465.75
	234	€ 1,909.66	€ 658.22	€ 1,251.44	€ 196,214.31
	235	€ 1,909.66	€ 654.05	€ 1,255.61	€ 194,958.70
	236	€ 1,909.66	€ 649.86	€ 1,259.80	€ 193,698.90
	237	€ 1,909.66	€ 645.66	€ 1,264.00	€ 192,434.90
	238	€ 1,909.66	€ 641.45	€ 1,268.21	€ 191,166.69
	239	€ 1,909.66	€ 637.22	€ 1,272.44	€ 189,894.25

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	240	€ 1,909.66	€ 632.98	€ 1,276.68	€ 188,617.57
21	241	€ 1,909.66	€ 628.73	€ 1,280.94	€ 187,336.63
	242	€ 1,909.66	€ 624.46	€ 1,285.21	€ 186,051.43
	243	€ 1,909.66	€ 620.17	€ 1,289.49	€ 184,761.94
	244	€ 1,909.66	€ 615.87	€ 1,293.79	€ 183,468.15
	245	€ 1,909.66	€ 611.56	€ 1,298.10	€ 182,170.05
	246	€ 1,909.66	€ 607.23	€ 1,302.43	€ 180,867.62
	247	€ 1,909.66	€ 602.89	€ 1,306.77	€ 179,560.85
	248	€ 1,909.66	€ 598.54	€ 1,311.13	€ 178,249.73
	249	€ 1,909.66	€ 594.17	€ 1,315.50	€ 176,934.23
	250	€ 1,909.66	€ 589.78	€ 1,319.88	€ 175,614.35
	251	€ 1,909.66	€ 585.38	€ 1,324.28	€ 174,290.07
	252	€ 1,909.66	€ 580.97	€ 1,328.69	€ 172,961.38
22	253	€ 1,909.66	€ 576.54	€ 1,333.12	€ 171,628.25
	254	€ 1,909.66	€ 572.09	€ 1,337.57	€ 170,290.69
	255	€ 1,909.66	€ 567.64	€ 1,342.03	€ 168,948.66
	256	€ 1,909.66	€ 563.16	€ 1,346.50	€ 167,602.16
	257	€ 1,909.66	€ 558.67	€ 1,350.99	€ 166,251.17
	258	€ 1,909.66	€ 554.17	€ 1,355.49	€ 164,895.68
	259	€ 1,909.66	€ 549.65	€ 1,360.01	€ 163,535.68
	260	€ 1,909.66	€ 545.12	€ 1,364.54	€ 162,171.13
	261	€ 1,909.66	€ 540.57	€ 1,369.09	€ 160,802.04
	262	€ 1,909.66	€ 536.01	€ 1,373.65	€ 159,428.39
	263	€ 1,909.66	€ 531.43	€ 1,378.23	€ 158,050.15
	264	€ 1,909.66	€ 526.83	€ 1,382.83	€ 156,667.33
23	265	€ 1,909.66	€ 522.22	€ 1,387.44	€ 155,279.89
	266	€ 1,909.66	€ 517.60	€ 1,392.06	€ 153,887.83
	267	€ 1,909.66	€ 512.96	€ 1,396.70	€ 152,491.13
	268	€ 1,909.66	€ 508.30	€ 1,401.36	€ 151,089.77
	269	€ 1,909.66	€ 503.63	€ 1,406.03	€ 149,683.74
	270	€ 1,909.66	€ 498.95	€ 1,410.72	€ 148,273.03
	271	€ 1,909.66	€ 494.24	€ 1,415.42	€ 146,857.61
	272	€ 1,909.66	€ 489.53	€ 1,420.14	€ 145,437.47
	273	€ 1,909.66	€ 484.79	€ 1,424.87	€ 144,012.60
	274	€ 1,909.66	€ 480.04	€ 1,429.62	€ 142,582.98
	275	€ 1,909.66	€ 475.28	€ 1,434.38	€ 141,148.60
	276	€ 1,909.66	€ 470.50	€ 1,439.17	€ 139,709.43
24	277	€ 1,909.66	€ 465.70	€ 1,443.96	€ 138,265.47
	278	€ 1,909.66	€ 460.88	€ 1,448.78	€ 136,816.69
	279	€ 1,909.66	€ 456.06	€ 1,453.61	€ 135,363.09

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	280	€ 1,909.66	€ 451.21	€ 1,458.45	€ 133,904.64
	281	€ 1,909.66	€ 446.35	€ 1,463.31	€ 132,441.32
	282	€ 1,909.66	€ 441.47	€ 1,468.19	€ 130,973.13
	283	€ 1,909.66	€ 436.58	€ 1,473.08	€ 129,500.05
	284	€ 1,909.66	€ 431.67	€ 1,477.99	€ 128,022.06
	285	€ 1,909.66	€ 426.74	€ 1,482.92	€ 126,539.14
	286	€ 1,909.66	€ 421.80	€ 1,487.86	€ 125,051.27
	287	€ 1,909.66	€ 416.84	€ 1,492.82	€ 123,558.45
	288	€ 1,909.66	€ 411.86	€ 1,497.80	€ 122,060.65
25	289	€ 1,909.66	€ 406.87	€ 1,502.79	€ 120,557.86
	290	€ 1,909.66	€ 401.86	€ 1,507.80	€ 119,050.05
	291	€ 1,909.66	€ 396.83	€ 1,512.83	€ 117,537.23
	292	€ 1,909.66	€ 391.79	€ 1,517.87	€ 116,019.36
	293	€ 1,909.66	€ 386.73	€ 1,522.93	€ 114,496.43
	294	€ 1,909.66	€ 381.65	€ 1,528.01	€ 112,968.42
	295	€ 1,909.66	€ 376.56	€ 1,533.10	€ 111,435.32
	296	€ 1,909.66	€ 371.45	€ 1,538.21	€ 109,897.11
	297	€ 1,909.66	€ 366.32	€ 1,543.34	€ 108,353.77
	298	€ 1,909.66	€ 361.18	€ 1,548.48	€ 106,805.29
	299	€ 1,909.66	€ 356.02	€ 1,553.64	€ 105,251.65
	300	€ 1,909.66	€ 350.84	€ 1,558.82	€ 103,692.82
26	301	€ 1,909.66	€ 345.64	€ 1,564.02	€ 102,128.81
	302	€ 1,909.66	€ 340.43	€ 1,569.23	€ 100,559.57
	303	€ 1,909.66	€ 335.20	€ 1,574.46	€ 98,985.11
	304	€ 1,909.66	€ 329.95	€ 1,579.71	€ 97,405.40
	305	€ 1,909.66	€ 324.68	€ 1,584.98	€ 95,820.42
	306	€ 1,909.66	€ 319.40	€ 1,590.26	€ 94,230.16
	307	€ 1,909.66	€ 314.10	€ 1,595.56	€ 92,634.60
	308	€ 1,909.66	€ 308.78	€ 1,600.88	€ 91,033.72
	309	€ 1,909.66	€ 303.45	€ 1,606.22	€ 89,427.51
	310	€ 1,909.66	€ 298.09	€ 1,611.57	€ 87,815.94
	311	€ 1,909.66	€ 292.72	€ 1,616.94	€ 86,199.00
	312	€ 1,909.66	€ 287.33	€ 1,622.33	€ 84,576.67
27	313	€ 1,909.66	€ 281.92	€ 1,627.74	€ 82,948.93
	314	€ 1,909.66	€ 276.50	€ 1,633.16	€ 81,315.76
	315	€ 1,909.66	€ 271.05	€ 1,638.61	€ 79,677.15
	316	€ 1,909.66	€ 265.59	€ 1,644.07	€ 78,033.08
	317	€ 1,909.66	€ 260.11	€ 1,649.55	€ 76,383.53
	318	€ 1,909.66	€ 254.61	€ 1,655.05	€ 74,728.48
	319	€ 1,909.66	€ 249.09	€ 1,660.57	€ 73,067.92

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	320	€ 1,909.66	€ 243.56	€ 1,666.10	€ 71,401.82
	321	€ 1,909.66	€ 238.01	€ 1,671.66	€ 69,730.16
	322	€ 1,909.66	€ 232.43	€ 1,677.23	€ 68,052.93
	323	€ 1,909.66	€ 226.84	€ 1,682.82	€ 66,370.12
	324	€ 1,909.66	€ 221.23	€ 1,688.43	€ 64,681.69
28	325	€ 1,909.66	€ 215.61	€ 1,694.06	€ 62,987.63
	326	€ 1,909.66	€ 209.96	€ 1,699.70	€ 61,287.93
	327	€ 1,909.66	€ 204.29	€ 1,705.37	€ 59,582.56
	328	€ 1,909.66	€ 198.61	€ 1,711.05	€ 57,871.51
	329	€ 1,909.66	€ 192.91	€ 1,716.76	€ 56,154.75
	330	€ 1,909.66	€ 187.18	€ 1,722.48	€ 54,432.27
	331	€ 1,909.66	€ 181.44	€ 1,728.22	€ 52,704.05
	332	€ 1,909.66	€ 175.68	€ 1,733.98	€ 50,970.07
	333	€ 1,909.66	€ 169.90	€ 1,739.76	€ 49,230.31
	334	€ 1,909.66	€ 164.10	€ 1,745.56	€ 47,484.75
	335	€ 1,909.66	€ 158.28	€ 1,751.38	€ 45,733.37
	336	€ 1,909.66	€ 152.44	€ 1,757.22	€ 43,976.16
29	337	€ 1,909.66	€ 146.59	€ 1,763.07	€ 42,213.08
	338	€ 1,909.66	€ 140.71	€ 1,768.95	€ 40,444.13
	339	€ 1,909.66	€ 134.81	€ 1,774.85	€ 38,669.28
	340	€ 1,909.66	€ 128.90	€ 1,780.76	€ 36,888.52
	341	€ 1,909.66	€ 122.96	€ 1,786.70	€ 35,101.82
	342	€ 1,909.66	€ 117.01	€ 1,792.66	€ 33,309.17
	343	€ 1,909.66	€ 111.03	€ 1,798.63	€ 31,510.54
	344	€ 1,909.66	€ 105.04	€ 1,804.63	€ 29,705.91
	345	€ 1,909.66	€ 99.02	€ 1,810.64	€ 27,895.27
	346	€ 1,909.66	€ 92.98	€ 1,816.68	€ 26,078.59
	347	€ 1,909.66	€ 86.93	€ 1,822.73	€ 24,255.86
	348	€ 1,909.66	€ 80.85	€ 1,828.81	€ 22,427.05
30	349	€ 1,909.66	€ 74.76	€ 1,834.90	€ 20,592.15
	350	€ 1,909.66	€ 68.64	€ 1,841.02	€ 18,751.13
	351	€ 1,909.66	€ 62.50	€ 1,847.16	€ 16,903.97
	352	€ 1,909.66	€ 56.35	€ 1,853.31	€ 15,050.65
	353	€ 1,909.66	€ 50.17	€ 1,859.49	€ 13,191.16
	354	€ 1,909.66	€ 43.97	€ 1,865.69	€ 11,325.47
	355	€ 1,909.66	€ 37.75	€ 1,871.91	€ 9,453.56
	356	€ 1,909.66	€ 31.51	€ 1,878.15	€ 7,575.41
	357	€ 1,909.66	€ 25.25	€ 1,884.41	€ 5,691.00
	358	€ 1,909.66	€ 18.97	€ 1,890.69	€ 3,800.31
	359	€ 1,909.66	€ 12.67	€ 1,896.99	€ 1,903.32

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	360	€ 1,909.66	€ 6.34	€ 1,903.32	€ -0.00

E4: Annuity mortgage – event 2, scenario B

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
1	1	€ 1,563.54	€ 1,091.67	€ 471.87	€ 327,028.13
	2	€ 1,563.54	€ 1,090.09	€ 473.44	€ 326,554.69
	3	€ 1,563.54	€ 1,088.52	€ 475.02	€ 326,079.67
	4	€ 1,563.54	€ 1,086.93	€ 476.60	€ 325,603.07
	5	€ 1,563.54	€ 1,085.34	€ 478.19	€ 325,124.88
	6	€ 1,563.54	€ 1,083.75	€ 479.79	€ 324,645.09
	7	€ 1,563.54	€ 1,082.15	€ 481.38	€ 324,163.71
	8	€ 1,563.54	€ 1,080.55	€ 482.99	€ 323,680.72
	9	€ 1,563.54	€ 1,078.94	€ 484.60	€ 323,196.12
	10	€ 1,563.54	€ 1,077.32	€ 486.21	€ 322,709.90
	11	€ 1,563.54	€ 1,075.70	€ 487.84	€ 322,222.07
	12	€ 1,563.54	€ 1,074.07	€ 489.46	€ 321,732.61
2	13	€ 1,563.54	€ 1,072.44	€ 491.09	€ 321,241.51
	14	€ 1,563.54	€ 1,070.81	€ 492.73	€ 320,748.78
	15	€ 1,563.54	€ 1,069.16	€ 494.37	€ 320,254.41
	16	€ 1,563.54	€ 1,067.51	€ 496.02	€ 319,758.39
	17	€ 1,563.54	€ 1,065.86	€ 497.67	€ 319,260.72
	18	€ 1,563.54	€ 1,064.20	€ 499.33	€ 318,761.38
	19	€ 1,563.54	€ 1,062.54	€ 501.00	€ 318,260.39
	20	€ 1,563.54	€ 1,060.87	€ 502.67	€ 317,757.72
	21	€ 1,563.54	€ 1,059.19	€ 504.34	€ 317,253.38
	22	€ 1,563.54	€ 1,057.51	€ 506.02	€ 316,747.35
	23	€ 1,563.54	€ 1,055.82	€ 507.71	€ 316,239.64
	24	€ 1,563.54	€ 1,054.13	€ 509.40	€ 315,730.24
3	25	€ 1,563.54	€ 1,052.43	€ 511.10	€ 315,219.14
	26	€ 1,563.54	€ 1,050.73	€ 512.80	€ 314,706.33
	27	€ 1,563.54	€ 1,049.02	€ 514.51	€ 314,191.82
	28	€ 1,563.54	€ 1,047.31	€ 516.23	€ 313,675.59
	29	€ 1,563.54	€ 1,045.59	€ 517.95	€ 313,157.64
	30	€ 1,563.54	€ 1,043.86	€ 519.68	€ 312,637.96
	31	€ 1,563.54	€ 1,042.13	€ 521.41	€ 312,116.56
	32	€ 1,563.54	€ 1,040.39	€ 523.15	€ 311,593.41
	33	€ 1,563.54	€ 1,038.64	€ 524.89	€ 311,068.52
	34	€ 1,563.54	€ 1,036.90	€ 526.64	€ 310,541.88
	35	€ 1,563.54	€ 1,035.14	€ 528.40	€ 310,013.48
	36	€ 1,563.54	€ 1,033.38	€ 530.16	€ 309,483.33
4	37	€ 1,563.54	€ 1,031.61	€ 531.92	€ 308,951.40
	38	€ 1,563.54	€ 1,029.84	€ 533.70	€ 308,417.71
	39	€ 1,563.54	€ 1,028.06	€ 535.48	€ 307,882.23

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	40	€ 1,563.54	€ 1,026.27	€ 537.26	€ 307,344.97
	41	€ 1,563.54	€ 1,024.48	€ 539.05	€ 306,805.92
	42	€ 1,563.54	€ 1,022.69	€ 540.85	€ 306,265.07
	43	€ 1,563.54	€ 1,020.88	€ 542.65	€ 305,722.42
	44	€ 1,563.54	€ 1,019.07	€ 544.46	€ 305,177.96
	45	€ 1,563.54	€ 1,017.26	€ 546.28	€ 304,631.68
	46	€ 1,563.54	€ 1,015.44	€ 548.10	€ 304,083.58
	47	€ 1,563.54	€ 1,013.61	€ 549.92	€ 303,533.66
	48	€ 1,563.54	€ 1,011.78	€ 551.76	€ 302,981.90
5	49	€ 1,563.54	€ 1,009.94	€ 553.60	€ 302,428.31
	50	€ 1,563.54	€ 1,008.09	€ 555.44	€ 301,872.87
	51	€ 1,563.54	€ 1,006.24	€ 557.29	€ 301,315.58
	52	€ 1,563.54	€ 1,004.39	€ 559.15	€ 300,756.43
	53	€ 1,563.54	€ 1,002.52	€ 561.01	€ 300,195.41
	54	€ 1,563.54	€ 1,000.65	€ 562.88	€ 299,632.53
	55	€ 1,563.54	€ 998.78	€ 564.76	€ 299,067.77
	56	€ 1,563.54	€ 996.89	€ 566.64	€ 298,501.13
	57	€ 1,563.54	€ 995.00	€ 568.53	€ 297,932.60
	58	€ 1,563.54	€ 993.11	€ 570.43	€ 297,362.17
	59	€ 1,563.54	€ 991.21	€ 572.33	€ 296,789.84
	60	€ 1,563.54	€ 989.30	€ 574.24	€ 296,215.61
6	61	€ 1,563.54	€ 987.39	€ 576.15	€ 295,639.46
	62	€ 1,563.54	€ 985.46	€ 578.07	€ 295,061.39
	63	€ 1,563.54	€ 983.54	€ 580.00	€ 294,481.39
	64	€ 1,563.54	€ 981.60	€ 581.93	€ 293,899.46
	65	€ 1,563.54	€ 979.66	€ 583.87	€ 293,315.59
	66	€ 1,563.54	€ 977.72	€ 585.82	€ 292,729.77
	67	€ 1,563.54	€ 975.77	€ 587.77	€ 292,142.00
	68	€ 1,563.54	€ 973.81	€ 589.73	€ 291,552.27
	69	€ 1,563.54	€ 971.84	€ 591.69	€ 290,960.58
	70	€ 1,563.54	€ 969.87	€ 593.67	€ 290,366.91
	71	€ 1,563.54	€ 967.89	€ 595.65	€ 289,771.27
	72	€ 1,563.54	€ 965.90	€ 597.63	€ 289,173.64
7	73	€ 1,563.54	€ 963.91	€ 599.62	€ 288,574.01
	74	€ 1,563.54	€ 961.91	€ 601.62	€ 287,972.39
	75	€ 1,563.54	€ 959.91	€ 603.63	€ 287,368.76
	76	€ 1,563.54	€ 957.90	€ 605.64	€ 286,763.13
	77	€ 1,563.54	€ 955.88	€ 607.66	€ 286,155.47
	78	€ 1,563.54	€ 953.85	€ 609.68	€ 285,545.78
	79	€ 1,563.54	€ 951.82	€ 611.72	€ 284,934.07

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	80	€ 1,563.54	€ 949.78	€ 613.75	€ 284,320.31
	81	€ 1,563.54	€ 947.73	€ 615.80	€ 283,704.51
	82	€ 1,563.54	€ 945.68	€ 617.85	€ 283,086.66
	83	€ 1,563.54	€ 943.62	€ 619.91	€ 282,466.75
	84	€ 1,563.54	€ 941.56	€ 621.98	€ 281,844.77
8	85	€ 1,563.54	€ 939.48	€ 624.05	€ 281,220.71
	86	€ 1,563.54	€ 937.40	€ 626.13	€ 280,594.58
	87	€ 1,563.54	€ 935.32	€ 628.22	€ 279,966.36
	88	€ 1,563.54	€ 933.22	€ 630.31	€ 279,336.05
	89	€ 1,563.54	€ 931.12	€ 632.41	€ 278,703.63
	90	€ 1,563.54	€ 929.01	€ 634.52	€ 278,069.11
	91	€ 1,563.54	€ 926.90	€ 636.64	€ 277,432.47
	92	€ 1,563.54	€ 924.77	€ 638.76	€ 276,793.71
	93	€ 1,563.54	€ 922.65	€ 640.89	€ 276,152.82
	94	€ 1,563.54	€ 920.51	€ 643.03	€ 275,509.80
	95	€ 1,563.54	€ 918.37	€ 645.17	€ 274,864.63
	96	€ 1,563.54	€ 916.22	€ 647.32	€ 274,217.31
9	97	€ 1,563.54	€ 914.06	€ 649.48	€ 273,567.83
	98	€ 1,563.54	€ 911.89	€ 651.64	€ 272,916.19
	99	€ 1,563.54	€ 909.72	€ 653.81	€ 272,262.37
	100	€ 1,563.54	€ 907.54	€ 655.99	€ 271,606.38
	101	€ 1,563.54	€ 905.35	€ 658.18	€ 270,948.20
	102	€ 1,563.54	€ 903.16	€ 660.37	€ 270,287.83
	103	€ 1,563.54	€ 900.96	€ 662.58	€ 269,625.25
	104	€ 1,563.54	€ 898.75	€ 664.78	€ 268,960.47
	105	€ 1,563.54	€ 896.53	€ 667.00	€ 268,293.47
	106	€ 1,563.54	€ 894.31	€ 669.22	€ 267,624.24
	107	€ 1,563.54	€ 892.08	€ 671.45	€ 266,952.79
	108	€ 1,563.54	€ 889.84	€ 673.69	€ 266,279.09
10	109	€ 1,563.54	€ 887.60	€ 675.94	€ 265,603.16
	110	€ 1,563.54	€ 885.34	€ 678.19	€ 264,924.97
	111	€ 1,563.54	€ 883.08	€ 680.45	€ 264,244.51
	112	€ 1,563.54	€ 880.82	€ 682.72	€ 263,561.79
	113	€ 1,563.54	€ 878.54	€ 685.00	€ 262,876.80
	114	€ 1,563.54	€ 876.26	€ 687.28	€ 262,189.52
	115	€ 1,563.54	€ 873.97	€ 689.57	€ 261,499.95
	116	€ 1,563.54	€ 871.67	€ 691.87	€ 260,808.08
	117	€ 1,563.54	€ 869.36	€ 694.17	€ 260,113.91
	118	€ 1,563.54	€ 867.05	€ 696.49	€ 259,417.42
	119	€ 1,563.54	€ 864.72	€ 698.81	€ 258,718.61

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	120	€ 1,563.54	€ 862.40	€ 701.14	€ 258,017.47
11	121	€ 1,563.54	€ 860.06	€ 703.48	€ 257,313.99
	122	€ 1,563.54	€ 857.71	€ 705.82	€ 256,608.17
	123	€ 1,563.54	€ 855.36	€ 708.17	€ 255,899.99
	124	€ 1,563.54	€ 853.00	€ 710.54	€ 255,189.46
	125	€ 1,563.54	€ 850.63	€ 712.90	€ 254,476.55
	126	€ 1,563.54	€ 848.26	€ 715.28	€ 253,761.27
	127	€ 1,563.54	€ 845.87	€ 717.66	€ 253,043.61
	128	€ 1,563.54	€ 843.48	€ 720.06	€ 252,323.55
	129	€ 1,563.54	€ 841.08	€ 722.46	€ 251,601.10
	130	€ 1,563.54	€ 838.67	€ 724.86	€ 250,876.23
	131	€ 1,563.54	€ 836.25	€ 727.28	€ 250,148.95
	132	€ 1,563.54	€ 833.83	€ 729.71	€ 249,419.25
12	133	€ 1,563.54	€ 831.40	€ 732.14	€ 248,687.11
	134	€ 1,563.54	€ 828.96	€ 734.58	€ 247,952.53
	135	€ 1,563.54	€ 826.51	€ 737.03	€ 247,215.50
	136	€ 1,563.54	€ 824.05	€ 739.48	€ 246,476.02
	137	€ 1,563.54	€ 821.59	€ 741.95	€ 245,734.07
	138	€ 1,563.54	€ 819.11	€ 744.42	€ 244,989.65
	139	€ 1,563.54	€ 816.63	€ 746.90	€ 244,242.75
	140	€ 1,563.54	€ 814.14	€ 749.39	€ 243,493.36
	141	€ 1,563.54	€ 811.64	€ 751.89	€ 242,741.46
	142	€ 1,563.54	€ 809.14	€ 754.40	€ 241,987.07
	143	€ 1,563.54	€ 806.62	€ 756.91	€ 241,230.16
	144	€ 1,563.54	€ 804.10	€ 759.43	€ 240,470.72
13	145	€ 1,563.54	€ 801.57	€ 761.97	€ 239,708.76
	146	€ 1,563.54	€ 799.03	€ 764.51	€ 238,944.25
	147	€ 1,563.54	€ 796.48	€ 767.05	€ 238,177.20
	148	€ 1,563.54	€ 793.92	€ 769.61	€ 237,407.58
	149	€ 1,563.54	€ 791.36	€ 772.18	€ 236,635.41
	150	€ 1,563.54	€ 788.78	€ 774.75	€ 235,860.66
	151	€ 1,563.54	€ 786.20	€ 777.33	€ 235,083.32
	152	€ 1,563.54	€ 783.61	€ 779.92	€ 234,303.40
	153	€ 1,563.54	€ 781.01	€ 782.52	€ 233,520.88
	154	€ 1,563.54	€ 778.40	€ 785.13	€ 232,735.74
	155	€ 1,563.54	€ 775.79	€ 787.75	€ 231,948.00
	156	€ 1,563.54	€ 773.16	€ 790.38	€ 231,157.62
14	157	€ 1,563.54	€ 770.53	€ 793.01	€ 230,364.61
	158	€ 1,563.54	€ 767.88	€ 795.65	€ 229,568.96
	159	€ 1,563.54	€ 765.23	€ 798.31	€ 228,770.65

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	160	€ 1,563.54	€ 762.57	€ 800.97	€ 227,969.69
	161	€ 1,563.54	€ 759.90	€ 803.64	€ 227,166.05
	162	€ 1,563.54	€ 757.22	€ 806.31	€ 226,359.74
	163	€ 1,563.54	€ 754.53	€ 809.00	€ 225,550.73
	164	€ 1,563.54	€ 751.84	€ 811.70	€ 224,739.03
	165	€ 1,563.54	€ 749.13	€ 814.40	€ 223,924.63
	166	€ 1,563.54	€ 746.42	€ 817.12	€ 223,107.51
	167	€ 1,563.54	€ 743.69	€ 819.84	€ 222,287.67
	168	€ 1,563.54	€ 740.96	€ 822.58	€ 221,465.09
15	169	€ 1,563.54	€ 738.22	€ 825.32	€ 220,639.77
	170	€ 1,563.54	€ 735.47	€ 828.07	€ 219,811.70
	171	€ 1,563.54	€ 732.71	€ 830.83	€ 218,980.87
	172	€ 1,563.54	€ 729.94	€ 833.60	€ 218,147.27
	173	€ 1,563.54	€ 727.16	€ 836.38	€ 217,310.90
	174	€ 1,563.54	€ 724.37	€ 839.17	€ 216,471.73
	175	€ 1,563.54	€ 721.57	€ 841.96	€ 215,629.77
	176	€ 1,563.54	€ 718.77	€ 844.77	€ 214,785.00
	177	€ 1,563.54	€ 715.95	€ 847.59	€ 213,937.41
	178	€ 1,563.54	€ 713.12	€ 850.41	€ 213,087.00
	179	€ 1,563.54	€ 710.29	€ 853.25	€ 212,233.76
	180	€ 1,563.54	€ 707.45	€ 856.09	€ 211,377.67
16	181	€ 1,563.54	€ 704.59	€ 858.94	€ 210,518.73
	182	€ 1,563.54	€ 701.73	€ 861.81	€ 209,656.92
	183	€ 1,563.54	€ 698.86	€ 864.68	€ 208,792.24
	184	€ 1,563.54	€ 695.97	€ 867.56	€ 207,924.68
	185	€ 1,563.54	€ 693.08	€ 870.45	€ 207,054.23
	186	€ 1,563.54	€ 690.18	€ 873.35	€ 206,180.87
	187	€ 1,563.54	€ 687.27	€ 876.27	€ 205,304.61
	188	€ 1,563.54	€ 684.35	€ 879.19	€ 204,425.42
	189	€ 1,563.54	€ 681.42	€ 882.12	€ 203,543.30
	190	€ 1,563.54	€ 678.48	€ 885.06	€ 202,658.25
	191	€ 1,563.54	€ 675.53	€ 888.01	€ 201,770.24
	192	€ 1,563.54	€ 672.57	€ 890.97	€ 200,879.27
17	193	€ 1,563.54	€ 669.60	€ 893.94	€ 199,985.33
	194	€ 1,563.54	€ 666.62	€ 896.92	€ 199,088.42
	195	€ 1,563.54	€ 663.63	€ 899.91	€ 198,188.51
	196	€ 1,563.54	€ 660.63	€ 902.91	€ 197,285.60
	197	€ 1,563.54	€ 657.62	€ 905.92	€ 196,379.69
	198	€ 1,563.54	€ 654.60	€ 908.94	€ 195,470.75
	199	€ 1,563.54	€ 651.57	€ 911.97	€ 194,558.78

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	200	€ 1,563.54	€ 648.53	€ 915.01	€ 193,643.78
	201	€ 1,563.54	€ 645.48	€ 918.06	€ 192,725.72
	202	€ 1,563.54	€ 642.42	€ 921.12	€ 191,804.61
	203	€ 1,563.54	€ 639.35	€ 924.19	€ 190,880.42
	204	€ 1,563.54	€ 636.27	€ 927.27	€ 189,953.15
18	205	€ 1,563.54	€ 633.18	€ 930.36	€ 189,022.80
	206	€ 1,563.54	€ 630.08	€ 933.46	€ 188,089.34
	207	€ 1,563.54	€ 626.96	€ 936.57	€ 187,152.77
	208	€ 1,563.54	€ 623.84	€ 939.69	€ 186,213.07
	209	€ 1,563.54	€ 620.71	€ 942.82	€ 185,270.25
	210	€ 1,563.54	€ 617.57	€ 945.97	€ 184,324.28
	211	€ 1,563.54	€ 614.41	€ 949.12	€ 183,375.16
	212	€ 1,563.54	€ 611.25	€ 952.28	€ 182,422.88
	213	€ 1,563.54	€ 608.08	€ 955.46	€ 181,467.42
	214	€ 1,563.54	€ 604.89	€ 958.64	€ 180,508.77
	215	€ 1,563.54	€ 601.70	€ 961.84	€ 179,546.93
	216	€ 1,563.54	€ 598.49	€ 965.05	€ 178,581.89
19	217	€ 1,563.54	€ 595.27	€ 968.26	€ 177,613.63
	218	€ 1,563.54	€ 592.05	€ 971.49	€ 176,642.14
	219	€ 1,563.54	€ 588.81	€ 974.73	€ 175,667.41
	220	€ 1,563.54	€ 585.56	€ 977.98	€ 174,689.43
	221	€ 1,563.54	€ 582.30	€ 981.24	€ 173,708.19
	222	€ 1,563.54	€ 579.03	€ 984.51	€ 172,723.69
	223	€ 1,563.54	€ 575.75	€ 987.79	€ 171,735.90
	224	€ 1,563.54	€ 572.45	€ 991.08	€ 170,744.81
	225	€ 1,563.54	€ 569.15	€ 994.39	€ 169,750.43
	226	€ 1,563.54	€ 565.83	€ 997.70	€ 168,752.73
	227	€ 1,563.54	€ 562.51	€ 1,001.03	€ 167,751.70
	228	€ 1,563.54	€ 559.17	€ 1,004.36	€ 166,747.34
20	229	€ 1,563.54	€ 555.82	€ 1,007.71	€ 165,739.63
	230	€ 1,563.54	€ 552.47	€ 1,011.07	€ 164,728.56
	231	€ 1,563.54	€ 549.10	€ 1,014.44	€ 163,714.12
	232	€ 1,563.54	€ 545.71	€ 1,017.82	€ 162,696.30
	233	€ 1,563.54	€ 542.32	€ 1,021.21	€ 161,675.08
	234	€ 1,563.54	€ 538.92	€ 1,024.62	€ 160,650.47
	235	€ 1,563.54	€ 535.50	€ 1,028.03	€ 159,622.43
	236	€ 1,563.54	€ 532.07	€ 1,031.46	€ 158,590.97
	237	€ 1,563.54	€ 528.64	€ 1,034.90	€ 157,556.07
	238	€ 1,563.54	€ 525.19	€ 1,038.35	€ 156,517.73
	239	€ 1,563.54	€ 521.73	€ 1,041.81	€ 155,475.92

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	240	€ 1,563.54	€ 518.25	€ 1,045.28	€ 154,430.63
21	241	€ 1,563.54	€ 514.77	€ 1,048.77	€ 153,381.87
	242	€ 1,563.54	€ 511.27	€ 1,052.26	€ 152,329.61
	243	€ 1,563.54	€ 507.77	€ 1,055.77	€ 151,273.84
	244	€ 1,563.54	€ 504.25	€ 1,059.29	€ 150,214.55
	245	€ 1,563.54	€ 500.72	€ 1,062.82	€ 149,151.73
	246	€ 1,563.54	€ 497.17	€ 1,066.36	€ 148,085.36
	247	€ 1,563.54	€ 493.62	€ 1,069.92	€ 147,015.45
	248	€ 1,563.54	€ 490.05	€ 1,073.48	€ 145,941.96
	249	€ 1,563.54	€ 486.47	€ 1,077.06	€ 144,864.90
	250	€ 1,563.54	€ 482.88	€ 1,080.65	€ 143,784.25
	251	€ 1,563.54	€ 479.28	€ 1,084.25	€ 142,700.00
	252	€ 1,563.54	€ 475.67	€ 1,087.87	€ 141,612.13
22	253	€ 1,563.54	€ 472.04	€ 1,091.49	€ 140,520.63
	254	€ 1,563.54	€ 468.40	€ 1,095.13	€ 139,425.50
	255	€ 1,563.54	€ 464.75	€ 1,098.78	€ 138,326.72
	256	€ 1,563.54	€ 461.09	€ 1,102.45	€ 137,224.27
	257	€ 1,563.54	€ 457.41	€ 1,106.12	€ 136,118.15
	258	€ 1,563.54	€ 453.73	€ 1,109.81	€ 135,008.34
	259	€ 1,563.54	€ 450.03	€ 1,113.51	€ 133,894.83
	260	€ 1,563.54	€ 446.32	€ 1,117.22	€ 132,777.62
	261	€ 1,563.54	€ 442.59	€ 1,120.94	€ 131,656.67
	262	€ 1,563.54	€ 438.86	€ 1,124.68	€ 130,531.99
	263	€ 1,563.54	€ 435.11	€ 1,128.43	€ 129,403.56
	264	€ 1,563.54	€ 431.35	€ 1,132.19	€ 128,271.37
23	265	€ 1,563.54	€ 427.57	€ 1,135.96	€ 127,135.41
	266	€ 1,563.54	€ 423.78	€ 1,139.75	€ 125,995.66
	267	€ 1,563.54	€ 419.99	€ 1,143.55	€ 124,852.11
	268	€ 1,563.54	€ 416.17	€ 1,147.36	€ 123,704.75
	269	€ 1,563.54	€ 412.35	€ 1,151.19	€ 122,553.56
	270	€ 1,563.54	€ 408.51	€ 1,155.02	€ 121,398.54
	271	€ 1,563.54	€ 404.66	€ 1,158.87	€ 120,239.67
	272	€ 1,563.54	€ 400.80	€ 1,162.74	€ 119,076.93
	273	€ 1,563.54	€ 396.92	€ 1,166.61	€ 117,910.32
	274	€ 1,563.54	€ 393.03	€ 1,170.50	€ 116,739.82
	275	€ 1,563.54	€ 389.13	€ 1,174.40	€ 115,565.42
	276	€ 1,563.54	€ 385.22	€ 1,178.32	€ 114,387.10
24	277	€ 1,563.54	€ 381.29	€ 1,182.24	€ 113,204.85
	278	€ 1,563.54	€ 377.35	€ 1,186.19	€ 112,018.67
	279	€ 1,563.54	€ 373.40	€ 1,190.14	€ 110,828.53

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	280	€ 1,563.54	€ 369.43	€ 1,194.11	€ 109,634.42
	281	€ 1,563.54	€ 365.45	€ 1,198.09	€ 108,436.33
	282	€ 1,563.54	€ 361.45	€ 1,202.08	€ 107,234.25
	283	€ 1,563.54	€ 357.45	€ 1,206.09	€ 106,028.17
	284	€ 1,563.54	€ 353.43	€ 1,210.11	€ 104,818.06
	285	€ 1,563.54	€ 349.39	€ 1,214.14	€ 103,603.92
	286	€ 1,563.54	€ 345.35	€ 1,218.19	€ 102,385.73
	287	€ 1,563.54	€ 341.29	€ 1,222.25	€ 101,163.48
	288	€ 1,563.54	€ 337.21	€ 1,226.32	€ 99,937.16
25	289	€ 1,563.54	€ 333.12	€ 1,230.41	€ 98,706.74
	290	€ 1,563.54	€ 329.02	€ 1,234.51	€ 97,472.23
	291	€ 1,563.54	€ 324.91	€ 1,238.63	€ 96,233.60
	292	€ 1,563.54	€ 320.78	€ 1,242.76	€ 94,990.85
	293	€ 1,563.54	€ 316.64	€ 1,246.90	€ 93,743.95
	294	€ 1,563.54	€ 312.48	€ 1,251.06	€ 92,492.89
	295	€ 1,563.54	€ 308.31	€ 1,255.23	€ 91,237.67
	296	€ 1,563.54	€ 304.13	€ 1,259.41	€ 89,978.26
	297	€ 1,563.54	€ 299.93	€ 1,263.61	€ 88,714.65
	298	€ 1,563.54	€ 295.72	€ 1,267.82	€ 87,446.83
	299	€ 1,563.54	€ 291.49	€ 1,272.05	€ 86,174.79
	300	€ 1,563.54	€ 287.25	€ 1,276.29	€ 84,898.50
26	301	€ 1,563.54	€ 282.99	€ 1,280.54	€ 83,617.96
	302	€ 1,563.54	€ 278.73	€ 1,284.81	€ 82,333.15
	303	€ 1,563.54	€ 274.44	€ 1,289.09	€ 81,044.06
	304	€ 1,563.54	€ 270.15	€ 1,293.39	€ 79,750.67
	305	€ 1,563.54	€ 265.84	€ 1,297.70	€ 78,452.97
	306	€ 1,563.54	€ 261.51	€ 1,302.03	€ 77,150.95
	307	€ 1,563.54	€ 257.17	€ 1,306.37	€ 75,844.58
	308	€ 1,563.54	€ 252.82	€ 1,310.72	€ 74,533.86
	309	€ 1,563.54	€ 248.45	€ 1,315.09	€ 73,218.77
	310	€ 1,563.54	€ 244.06	€ 1,319.47	€ 71,899.30
	311	€ 1,563.54	€ 239.66	€ 1,323.87	€ 70,575.43
	312	€ 1,563.54	€ 235.25	€ 1,328.28	€ 69,247.15
27	313	€ 1,563.54	€ 230.82	€ 1,332.71	€ 67,914.43
	314	€ 1,563.54	€ 226.38	€ 1,337.15	€ 66,577.28
	315	€ 1,563.54	€ 221.92	€ 1,341.61	€ 65,235.67
	316	€ 1,563.54	€ 217.45	€ 1,346.08	€ 63,889.59
	317	€ 1,563.54	€ 212.97	€ 1,350.57	€ 62,539.02
	318	€ 1,563.54	€ 208.46	€ 1,355.07	€ 61,183.95
	319	€ 1,563.54	€ 203.95	€ 1,359.59	€ 59,824.36

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	320	€ 1,563.54	€ 199.41	€ 1,364.12	€ 58,460.24
	321	€ 1,563.54	€ 194.87	€ 1,368.67	€ 57,091.57
	322	€ 1,563.54	€ 190.31	€ 1,373.23	€ 55,718.34
	323	€ 1,563.54	€ 185.73	€ 1,377.81	€ 54,340.53
	324	€ 1,563.54	€ 181.14	€ 1,382.40	€ 52,958.13
28	325	€ 1,563.54	€ 176.53	€ 1,387.01	€ 51,571.12
	326	€ 1,563.54	€ 171.90	€ 1,391.63	€ 50,179.49
	327	€ 1,563.54	€ 167.26	€ 1,396.27	€ 48,783.22
	328	€ 1,563.54	€ 162.61	€ 1,400.92	€ 47,382.30
	329	€ 1,563.54	€ 157.94	€ 1,405.59	€ 45,976.70
	330	€ 1,563.54	€ 153.26	€ 1,410.28	€ 44,566.42
	331	€ 1,563.54	€ 148.55	€ 1,414.98	€ 43,151.44
	332	€ 1,563.54	€ 143.84	€ 1,419.70	€ 41,731.75
	333	€ 1,563.54	€ 139.11	€ 1,424.43	€ 40,307.32
	334	€ 1,563.54	€ 134.36	€ 1,429.18	€ 38,878.14
	335	€ 1,563.54	€ 129.59	€ 1,433.94	€ 37,444.20
	336	€ 1,563.54	€ 124.81	€ 1,438.72	€ 36,005.48
29	337	€ 1,563.54	€ 120.02	€ 1,443.52	€ 34,561.96
	338	€ 1,563.54	€ 115.21	€ 1,448.33	€ 33,113.63
	339	€ 1,563.54	€ 110.38	€ 1,453.16	€ 31,660.48
	340	€ 1,563.54	€ 105.53	€ 1,458.00	€ 30,202.48
	341	€ 1,563.54	€ 100.67	€ 1,462.86	€ 28,739.62
	342	€ 1,563.54	€ 95.80	€ 1,467.74	€ 27,271.88
	343	€ 1,563.54	€ 90.91	€ 1,472.63	€ 25,799.25
	344	€ 1,563.54	€ 86.00	€ 1,477.54	€ 24,321.71
	345	€ 1,563.54	€ 81.07	€ 1,482.46	€ 22,839.25
	346	€ 1,563.54	€ 76.13	€ 1,487.40	€ 21,351.85
	347	€ 1,563.54	€ 71.17	€ 1,492.36	€ 19,859.48
	348	€ 1,563.54	€ 66.20	€ 1,497.34	€ 18,362.15
30	349	€ 1,563.54	€ 61.21	€ 1,502.33	€ 16,859.82
	350	€ 1,563.54	€ 56.20	€ 1,507.34	€ 15,352.48
	351	€ 1,563.54	€ 51.17	€ 1,512.36	€ 13,840.12
	352	€ 1,563.54	€ 46.13	€ 1,517.40	€ 12,322.72
	353	€ 1,563.54	€ 41.08	€ 1,522.46	€ 10,800.26
	354	€ 1,563.54	€ 36.00	€ 1,527.53	€ 9,272.73
	355	€ 1,563.54	€ 30.91	€ 1,532.63	€ 7,740.10
	356	€ 1,563.54	€ 25.80	€ 1,537.73	€ 6,202.37
	357	€ 1,563.54	€ 20.67	€ 1,542.86	€ 4,659.51
	358	€ 1,563.54	€ 15.53	€ 1,548.00	€ 3,111.50
	359	€ 1,563.54	€ 10.37	€ 1,553.16	€ 1,558.34

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	360	€ 1,563.54	€ 5.19	€ 1,558.34	€ 0.00

E5: Annuity mortgage – event 3, scenario A

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
1	1	€ 2,019.59	€ 1,110.92	€ 908.67	€ 332,367.96
	2	€ 2,019.59	€ 1,107.89	€ 911.70	€ 331,456.26
	3	€ 2,019.59	€ 1,104.85	€ 914.74	€ 330,541.53
	4	€ 2,019.59	€ 1,101.81	€ 917.79	€ 329,623.74
	5	€ 2,019.59	€ 1,098.75	€ 920.85	€ 328,702.89
	6	€ 2,019.59	€ 1,095.68	€ 923.91	€ 327,778.98
	7	€ 2,019.59	€ 1,092.60	€ 926.99	€ 326,851.99
	8	€ 2,019.59	€ 1,089.51	€ 930.08	€ 325,921.90
	9	€ 2,019.59	€ 1,086.41	€ 933.18	€ 324,988.72
	10	€ 2,019.59	€ 1,083.30	€ 936.30	€ 324,052.42
	11	€ 2,019.59	€ 1,080.17	€ 939.42	€ 323,113.01
	12	€ 2,019.59	€ 1,077.04	€ 942.55	€ 322,170.46
2	13	€ 2,019.59	€ 1,073.90	€ 945.69	€ 321,224.77
	14	€ 2,019.59	€ 1,070.75	€ 948.84	€ 320,275.93
	15	€ 2,019.59	€ 1,067.59	€ 952.00	€ 319,323.92
	16	€ 2,019.59	€ 1,064.41	€ 955.18	€ 318,368.75
	17	€ 2,019.59	€ 1,061.23	€ 958.36	€ 317,410.38
	18	€ 2,019.59	€ 1,058.03	€ 961.56	€ 316,448.83
	19	€ 2,019.59	€ 1,054.83	€ 964.76	€ 315,484.07
	20	€ 2,019.59	€ 1,051.61	€ 967.98	€ 314,516.09
	21	€ 2,019.59	€ 1,048.39	€ 971.20	€ 313,544.89
	22	€ 2,019.59	€ 1,045.15	€ 974.44	€ 312,570.44
	23	€ 2,019.59	€ 1,041.90	€ 977.69	€ 311,592.75
	24	€ 2,019.59	€ 1,038.64	€ 980.95	€ 310,611.81
3	25	€ 2,019.59	€ 1,035.37	€ 984.22	€ 309,627.59
	26	€ 2,019.59	€ 1,032.09	€ 987.50	€ 308,640.09
	27	€ 2,019.59	€ 1,028.80	€ 990.79	€ 307,649.30
	28	€ 2,019.59	€ 1,025.50	€ 994.09	€ 306,655.21
	29	€ 2,019.59	€ 1,022.18	€ 997.41	€ 305,657.80
	30	€ 2,019.59	€ 1,018.86	€ 1,000.73	€ 304,657.07
	31	€ 2,019.59	€ 1,015.52	€ 1,004.07	€ 303,653.00
	32	€ 2,019.59	€ 1,012.18	€ 1,007.41	€ 302,645.59
	33	€ 2,019.59	€ 1,008.82	€ 1,010.77	€ 301,634.81
	34	€ 2,019.59	€ 1,005.45	€ 1,014.14	€ 300,620.67
	35	€ 2,019.59	€ 1,002.07	€ 1,017.52	€ 299,603.15
	36	€ 2,019.59	€ 998.68	€ 1,020.91	€ 298,582.24
4	37	€ 2,019.59	€ 995.27	€ 1,024.32	€ 297,557.92
	38	€ 2,019.59	€ 991.86	€ 1,027.73	€ 296,530.19
	39	€ 2,019.59	€ 988.43	€ 1,031.16	€ 295,499.03

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	40	€ 2,019.59	€ 985.00	€ 1,034.59	€ 294,464.44
	41	€ 2,019.59	€ 981.55	€ 1,038.04	€ 293,426.40
	42	€ 2,019.59	€ 978.09	€ 1,041.50	€ 292,384.89
	43	€ 2,019.59	€ 974.62	€ 1,044.97	€ 291,339.92
	44	€ 2,019.59	€ 971.13	€ 1,048.46	€ 290,291.46
	45	€ 2,019.59	€ 967.64	€ 1,051.95	€ 289,239.51
	46	€ 2,019.59	€ 964.13	€ 1,055.46	€ 288,184.05
	47	€ 2,019.59	€ 960.61	€ 1,058.98	€ 287,125.07
	48	€ 2,019.59	€ 957.08	€ 1,062.51	€ 286,062.56
5	49	€ 2,019.59	€ 953.54	€ 1,066.05	€ 284,996.52
	50	€ 2,019.59	€ 949.99	€ 1,069.60	€ 283,926.91
	51	€ 2,019.59	€ 946.42	€ 1,073.17	€ 282,853.75
	52	€ 2,019.59	€ 942.85	€ 1,076.74	€ 281,777.00
	53	€ 2,019.59	€ 939.26	€ 1,080.33	€ 280,696.67
	54	€ 2,019.59	€ 935.66	€ 1,083.94	€ 279,612.73
	55	€ 2,019.59	€ 932.04	€ 1,087.55	€ 278,525.18
	56	€ 2,019.59	€ 928.42	€ 1,091.17	€ 277,434.01
	57	€ 2,019.59	€ 924.78	€ 1,094.81	€ 276,339.20
	58	€ 2,019.59	€ 921.13	€ 1,098.46	€ 275,240.74
	59	€ 2,019.59	€ 917.47	€ 1,102.12	€ 274,138.62
	60	€ 2,019.59	€ 913.80	€ 1,105.80	€ 273,032.82
6	61	€ 2,019.59	€ 910.11	€ 1,109.48	€ 271,923.34
	62	€ 2,019.59	€ 906.41	€ 1,113.18	€ 270,810.16
	63	€ 2,019.59	€ 902.70	€ 1,116.89	€ 269,693.27
	64	€ 2,019.59	€ 898.98	€ 1,120.61	€ 268,572.66
	65	€ 2,019.59	€ 895.24	€ 1,124.35	€ 267,448.31
	66	€ 2,019.59	€ 891.49	€ 1,128.10	€ 266,320.21
	67	€ 2,019.59	€ 887.73	€ 1,131.86	€ 265,188.35
	68	€ 2,019.59	€ 883.96	€ 1,135.63	€ 264,052.73
	69	€ 2,019.59	€ 880.18	€ 1,139.42	€ 262,913.31
	70	€ 2,019.59	€ 876.38	€ 1,143.21	€ 261,770.10
	71	€ 2,019.59	€ 872.57	€ 1,147.02	€ 260,623.07
	72	€ 2,019.59	€ 868.74	€ 1,150.85	€ 259,472.23
7	73	€ 2,019.59	€ 864.91	€ 1,154.68	€ 258,317.54
	74	€ 2,019.59	€ 861.06	€ 1,158.53	€ 257,159.01
	75	€ 2,019.59	€ 857.20	€ 1,162.39	€ 255,996.62
	76	€ 2,019.59	€ 853.32	€ 1,166.27	€ 254,830.35
	77	€ 2,019.59	€ 849.43	€ 1,170.16	€ 253,660.19
	78	€ 2,019.59	€ 845.53	€ 1,174.06	€ 252,486.13
	79	€ 2,019.59	€ 841.62	€ 1,177.97	€ 251,308.16

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	80	€ 2,019.59	€ 837.69	€ 1,181.90	€ 250,126.27
	81	€ 2,019.59	€ 833.75	€ 1,185.84	€ 248,940.43
	82	€ 2,019.59	€ 829.80	€ 1,189.79	€ 247,750.64
	83	€ 2,019.59	€ 825.84	€ 1,193.76	€ 246,556.89
	84	€ 2,019.59	€ 821.86	€ 1,197.73	€ 245,359.15
8	85	€ 2,019.59	€ 817.86	€ 1,201.73	€ 244,157.42
	86	€ 2,019.59	€ 813.86	€ 1,205.73	€ 242,951.69
	87	€ 2,019.59	€ 809.84	€ 1,209.75	€ 241,741.94
	88	€ 2,019.59	€ 805.81	€ 1,213.78	€ 240,528.16
	89	€ 2,019.59	€ 801.76	€ 1,217.83	€ 239,310.32
	90	€ 2,019.59	€ 797.70	€ 1,221.89	€ 238,088.43
	91	€ 2,019.59	€ 793.63	€ 1,225.96	€ 236,862.47
	92	€ 2,019.59	€ 789.54	€ 1,230.05	€ 235,632.42
	93	€ 2,019.59	€ 785.44	€ 1,234.15	€ 234,398.27
	94	€ 2,019.59	€ 781.33	€ 1,238.26	€ 233,160.01
	95	€ 2,019.59	€ 777.20	€ 1,242.39	€ 231,917.62
	96	€ 2,019.59	€ 773.06	€ 1,246.53	€ 230,671.09
9	97	€ 2,019.59	€ 768.90	€ 1,250.69	€ 229,420.40
	98	€ 2,019.59	€ 764.73	€ 1,254.86	€ 228,165.54
	99	€ 2,019.59	€ 760.55	€ 1,259.04	€ 226,906.51
	100	€ 2,019.59	€ 756.36	€ 1,263.24	€ 225,643.27
	101	€ 2,019.59	€ 752.14	€ 1,267.45	€ 224,375.82
	102	€ 2,019.59	€ 747.92	€ 1,271.67	€ 223,104.15
	103	€ 2,019.59	€ 743.68	€ 1,275.91	€ 221,828.24
	104	€ 2,019.59	€ 739.43	€ 1,280.16	€ 220,548.08
	105	€ 2,019.59	€ 735.16	€ 1,284.43	€ 219,263.65
	106	€ 2,019.59	€ 730.88	€ 1,288.71	€ 217,974.94
	107	€ 2,019.59	€ 726.58	€ 1,293.01	€ 216,681.93
	108	€ 2,019.59	€ 722.27	€ 1,297.32	€ 215,384.61
10	109	€ 2,019.59	€ 717.95	€ 1,301.64	€ 214,082.97
	110	€ 2,019.59	€ 713.61	€ 1,305.98	€ 212,776.99
	111	€ 2,019.59	€ 709.26	€ 1,310.33	€ 211,466.65
	112	€ 2,019.59	€ 704.89	€ 1,314.70	€ 210,151.95
	113	€ 2,019.59	€ 700.51	€ 1,319.08	€ 208,832.87
	114	€ 2,019.59	€ 696.11	€ 1,323.48	€ 207,509.39
	115	€ 2,019.59	€ 691.70	€ 1,327.89	€ 206,181.49
	116	€ 2,019.59	€ 687.27	€ 1,332.32	€ 204,849.17
	117	€ 2,019.59	€ 682.83	€ 1,336.76	€ 203,512.41
	118	€ 2,019.59	€ 678.37	€ 1,341.22	€ 202,171.20
	119	€ 2,019.59	€ 673.90	€ 1,345.69	€ 200,825.51

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	120	€ 2,019.59	€ 669.42	€ 1,350.17	€ 199,475.34
11	121	€ 2,019.59	€ 664.92	€ 1,354.67	€ 198,120.66
	122	€ 2,019.59	€ 660.40	€ 1,359.19	€ 196,761.48
	123	€ 2,019.59	€ 655.87	€ 1,363.72	€ 195,397.76
	124	€ 2,019.59	€ 651.33	€ 1,368.26	€ 194,029.49
	125	€ 2,019.59	€ 646.76	€ 1,372.83	€ 192,656.67
	126	€ 2,019.59	€ 642.19	€ 1,377.40	€ 191,279.26
	127	€ 2,019.59	€ 637.60	€ 1,381.99	€ 189,897.27
	128	€ 2,019.59	€ 632.99	€ 1,386.60	€ 188,510.67
	129	€ 2,019.59	€ 628.37	€ 1,391.22	€ 187,119.45
	130	€ 2,019.59	€ 623.73	€ 1,395.86	€ 185,723.59
	131	€ 2,019.59	€ 619.08	€ 1,400.51	€ 184,323.08
	132	€ 2,019.59	€ 614.41	€ 1,405.18	€ 182,917.90
12	133	€ 2,019.59	€ 609.73	€ 1,409.86	€ 181,508.03
	134	€ 2,019.59	€ 605.03	€ 1,414.56	€ 180,093.47
	135	€ 2,019.59	€ 600.31	€ 1,419.28	€ 178,674.19
	136	€ 2,019.59	€ 595.58	€ 1,424.01	€ 177,250.18
	137	€ 2,019.59	€ 590.83	€ 1,428.76	€ 175,821.42
	138	€ 2,019.59	€ 586.07	€ 1,433.52	€ 174,387.90
	139	€ 2,019.59	€ 581.29	€ 1,438.30	€ 172,949.60
	140	€ 2,019.59	€ 576.50	€ 1,443.09	€ 171,506.51
	141	€ 2,019.59	€ 571.69	€ 1,447.90	€ 170,058.61
	142	€ 2,019.59	€ 566.86	€ 1,452.73	€ 168,605.88
	143	€ 2,019.59	€ 562.02	€ 1,457.57	€ 167,148.31
	144	€ 2,019.59	€ 557.16	€ 1,462.43	€ 165,685.88
13	145	€ 2,019.59	€ 552.29	€ 1,467.30	€ 164,218.58
	146	€ 2,019.59	€ 547.40	€ 1,472.20	€ 162,746.38
	147	€ 2,019.59	€ 542.49	€ 1,477.10	€ 161,269.28
	148	€ 2,019.59	€ 537.56	€ 1,482.03	€ 159,787.25
	149	€ 2,019.59	€ 532.62	€ 1,486.97	€ 158,300.28
	150	€ 2,019.59	€ 527.67	€ 1,491.92	€ 156,808.36
	151	€ 2,019.59	€ 522.69	€ 1,496.90	€ 155,311.46
	152	€ 2,019.59	€ 517.70	€ 1,501.89	€ 153,809.58
	153	€ 2,019.59	€ 512.70	€ 1,506.89	€ 152,302.69
	154	€ 2,019.59	€ 507.68	€ 1,511.92	€ 150,790.77
	155	€ 2,019.59	€ 502.64	€ 1,516.95	€ 149,273.82
	156	€ 2,019.59	€ 497.58	€ 1,522.01	€ 147,751.81
14	157	€ 2,019.59	€ 492.51	€ 1,527.08	€ 146,224.72
	158	€ 2,019.59	€ 487.42	€ 1,532.18	€ 144,692.55
	159	€ 2,019.59	€ 482.31	€ 1,537.28	€ 143,155.26

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	160	€ 2,019.59	€ 477.18	€ 1,542.41	€ 141,612.86
	161	€ 2,019.59	€ 472.04	€ 1,547.55	€ 140,065.31
	162	€ 2,019.59	€ 466.88	€ 1,552.71	€ 138,512.60
	163	€ 2,019.59	€ 461.71	€ 1,557.88	€ 136,954.72
	164	€ 2,019.59	€ 456.52	€ 1,563.08	€ 135,391.64
	165	€ 2,019.59	€ 451.31	€ 1,568.29	€ 133,823.36
	166	€ 2,019.59	€ 446.08	€ 1,573.51	€ 132,249.85
	167	€ 2,019.59	€ 440.83	€ 1,578.76	€ 130,671.09
	168	€ 2,019.59	€ 435.57	€ 1,584.02	€ 129,087.07
15	169	€ 2,019.59	€ 430.29	€ 1,589.30	€ 127,497.77
	170	€ 2,019.59	€ 424.99	€ 1,594.60	€ 125,903.17
	171	€ 2,019.59	€ 419.68	€ 1,599.91	€ 124,303.26
	172	€ 2,019.59	€ 414.34	€ 1,605.25	€ 122,698.01
	173	€ 2,019.59	€ 408.99	€ 1,610.60	€ 121,087.41
	174	€ 2,019.59	€ 403.62	€ 1,615.97	€ 119,471.45
	175	€ 2,019.59	€ 398.24	€ 1,621.35	€ 117,850.09
	176	€ 2,019.59	€ 392.83	€ 1,626.76	€ 116,223.34
	177	€ 2,019.59	€ 387.41	€ 1,632.18	€ 114,591.16
	178	€ 2,019.59	€ 381.97	€ 1,637.62	€ 112,953.54
	179	€ 2,019.59	€ 376.51	€ 1,643.08	€ 111,310.46
	180	€ 2,019.59	€ 371.03	€ 1,648.56	€ 109,661.90
16	181	€ 2,019.59	€ 365.54	€ 1,654.05	€ 108,007.85
	182	€ 2,019.59	€ 360.03	€ 1,659.56	€ 106,348.28
	183	€ 2,019.59	€ 354.49	€ 1,665.10	€ 104,683.19
	184	€ 2,019.59	€ 348.94	€ 1,670.65	€ 103,012.54
	185	€ 2,019.59	€ 343.38	€ 1,676.22	€ 101,336.33
	186	€ 2,019.59	€ 337.79	€ 1,681.80	€ 99,654.52
	187	€ 2,019.59	€ 332.18	€ 1,687.41	€ 97,967.11
	188	€ 2,019.59	€ 326.56	€ 1,693.03	€ 96,274.08
	189	€ 2,019.59	€ 320.91	€ 1,698.68	€ 94,575.40
	190	€ 2,019.59	€ 315.25	€ 1,704.34	€ 92,871.06
	191	€ 2,019.59	€ 309.57	€ 1,710.02	€ 91,161.04
	192	€ 2,019.59	€ 303.87	€ 1,715.72	€ 89,445.32
17	193	€ 2,019.59	€ 298.15	€ 1,721.44	€ 87,723.88
	194	€ 2,019.59	€ 292.41	€ 1,727.18	€ 85,996.70
	195	€ 2,019.59	€ 286.66	€ 1,732.94	€ 84,263.77
	196	€ 2,019.59	€ 280.88	€ 1,738.71	€ 82,525.06
	197	€ 2,019.59	€ 275.08	€ 1,744.51	€ 80,780.55
	198	€ 2,019.59	€ 269.27	€ 1,750.32	€ 79,030.23
	199	€ 2,019.59	€ 263.43	€ 1,756.16	€ 77,274.07

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	200	€ 2,019.59	€ 257.58	€ 1,762.01	€ 75,512.06
	201	€ 2,019.59	€ 251.71	€ 1,767.88	€ 73,744.18
	202	€ 2,019.59	€ 245.81	€ 1,773.78	€ 71,970.40
	203	€ 2,019.59	€ 239.90	€ 1,779.69	€ 70,190.71
	204	€ 2,019.59	€ 233.97	€ 1,785.62	€ 68,405.09
18	205	€ 2,019.59	€ 228.02	€ 1,791.57	€ 66,613.51
	206	€ 2,019.59	€ 222.05	€ 1,797.55	€ 64,815.97
	207	€ 2,019.59	€ 216.05	€ 1,803.54	€ 63,012.43
	208	€ 2,019.59	€ 210.04	€ 1,809.55	€ 61,202.88
	209	€ 2,019.59	€ 204.01	€ 1,815.58	€ 59,387.30
	210	€ 2,019.59	€ 197.96	€ 1,821.63	€ 57,565.67
	211	€ 2,019.59	€ 191.89	€ 1,827.71	€ 55,737.96
	212	€ 2,019.59	€ 185.79	€ 1,833.80	€ 53,904.16
	213	€ 2,019.59	€ 179.68	€ 1,839.91	€ 52,064.25
	214	€ 2,019.59	€ 173.55	€ 1,846.04	€ 50,218.21
	215	€ 2,019.59	€ 167.39	€ 1,852.20	€ 48,366.01
	216	€ 2,019.59	€ 161.22	€ 1,858.37	€ 46,507.64
19	217	€ 2,019.59	€ 155.03	€ 1,864.57	€ 44,643.08
	218	€ 2,019.59	€ 148.81	€ 1,870.78	€ 42,772.30
	219	€ 2,019.59	€ 142.57	€ 1,877.02	€ 40,895.28
	220	€ 2,019.59	€ 136.32	€ 1,883.27	€ 39,012.01
	221	€ 2,019.59	€ 130.04	€ 1,889.55	€ 37,122.46
	222	€ 2,019.59	€ 123.74	€ 1,895.85	€ 35,226.61
	223	€ 2,019.59	€ 117.42	€ 1,902.17	€ 33,324.44
	224	€ 2,019.59	€ 111.08	€ 1,908.51	€ 31,415.93
	225	€ 2,019.59	€ 104.72	€ 1,914.87	€ 29,501.06
	226	€ 2,019.59	€ 98.34	€ 1,921.25	€ 27,579.80
	227	€ 2,019.59	€ 91.93	€ 1,927.66	€ 25,652.15
	228	€ 2,019.59	€ 85.51	€ 1,934.08	€ 23,718.06
20	229	€ 2,019.59	€ 79.06	€ 1,940.53	€ 21,777.53
	230	€ 2,019.59	€ 72.59	€ 1,947.00	€ 19,830.53
	231	€ 2,019.59	€ 66.10	€ 1,953.49	€ 17,877.04
	232	€ 2,019.59	€ 59.59	€ 1,960.00	€ 15,917.04
	233	€ 2,019.59	€ 53.06	€ 1,966.53	€ 13,950.51
	234	€ 2,019.59	€ 46.50	€ 1,973.09	€ 11,977.42
	235	€ 2,019.59	€ 39.92	€ 1,979.67	€ 9,997.75
	236	€ 2,019.59	€ 33.33	€ 1,986.26	€ 8,011.49
	237	€ 2,019.59	€ 26.70	€ 1,992.89	€ 6,018.60
	238	€ 2,019.59	€ 20.06	€ 1,999.53	€ 4,019.08
	239	€ 2,019.59	€ 13.40	€ 2,006.19	€ 2,012.88

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	240	€ 2,019.59	€ 6.71	€ 2,012.88	€ 0.00

E6: Annuity mortgage – event 3, scenario B

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
1	1	€ 879.06	€ 483.55	€ 395.51	€ 144,668.48
	2	€ 879.06	€ 482.23	€ 396.83	€ 144,271.65
	3	€ 879.06	€ 480.91	€ 398.15	€ 143,873.49
	4	€ 879.06	€ 479.58	€ 399.48	€ 143,474.01
	5	€ 879.06	€ 478.25	€ 400.81	€ 143,073.20
	6	€ 879.06	€ 476.91	€ 402.15	€ 142,671.05
	7	€ 879.06	€ 475.57	€ 403.49	€ 142,267.56
	8	€ 879.06	€ 474.23	€ 404.83	€ 141,862.73
	9	€ 879.06	€ 472.88	€ 406.18	€ 141,456.54
	10	€ 879.06	€ 471.52	€ 407.54	€ 141,049.01
	11	€ 879.06	€ 470.16	€ 408.90	€ 140,640.11
	12	€ 879.06	€ 468.80	€ 410.26	€ 140,229.85
2	13	€ 879.06	€ 467.43	€ 411.63	€ 139,818.22
	14	€ 879.06	€ 466.06	€ 413.00	€ 139,405.23
	15	€ 879.06	€ 464.68	€ 414.38	€ 138,990.85
	16	€ 879.06	€ 463.30	€ 415.76	€ 138,575.09
	17	€ 879.06	€ 461.92	€ 417.14	€ 138,157.95
	18	€ 879.06	€ 460.53	€ 418.53	€ 137,739.42
	19	€ 879.06	€ 459.13	€ 419.93	€ 137,319.49
	20	€ 879.06	€ 457.73	€ 421.33	€ 136,898.16
	21	€ 879.06	€ 456.33	€ 422.73	€ 136,475.43
	22	€ 879.06	€ 454.92	€ 424.14	€ 136,051.29
	23	€ 879.06	€ 453.50	€ 425.55	€ 135,625.74
	24	€ 879.06	€ 452.09	€ 426.97	€ 135,198.76
3	25	€ 879.06	€ 450.66	€ 428.40	€ 134,770.37
	26	€ 879.06	€ 449.23	€ 429.82	€ 134,340.54
	27	€ 879.06	€ 447.80	€ 431.26	€ 133,909.28
	28	€ 879.06	€ 446.36	€ 432.69	€ 133,476.59
	29	€ 879.06	€ 444.92	€ 434.14	€ 133,042.45
	30	€ 879.06	€ 443.47	€ 435.58	€ 132,606.87
	31	€ 879.06	€ 442.02	€ 437.04	€ 132,169.83
	32	€ 879.06	€ 440.57	€ 438.49	€ 131,731.34
	33	€ 879.06	€ 439.10	€ 439.95	€ 131,291.38
	34	€ 879.06	€ 437.64	€ 441.42	€ 130,849.96
	35	€ 879.06	€ 436.17	€ 442.89	€ 130,407.07
	36	€ 879.06	€ 434.69	€ 444.37	€ 129,962.70
4	37	€ 879.06	€ 433.21	€ 445.85	€ 129,516.85
	38	€ 879.06	€ 431.72	€ 447.34	€ 129,069.51

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	39	€ 879.06	€ 430.23	€ 448.83	€ 128,620.69
	40	€ 879.06	€ 428.74	€ 450.32	€ 128,170.36
	41	€ 879.06	€ 427.23	€ 451.82	€ 127,718.54
	42	€ 879.06	€ 425.73	€ 453.33	€ 127,265.21
	43	€ 879.06	€ 424.22	€ 454.84	€ 126,810.37
	44	€ 879.06	€ 422.70	€ 456.36	€ 126,354.01
	45	€ 879.06	€ 421.18	€ 457.88	€ 125,896.13
	46	€ 879.06	€ 419.65	€ 459.41	€ 125,436.72
	47	€ 879.06	€ 418.12	€ 460.94	€ 124,975.79
	48	€ 879.06	€ 416.59	€ 462.47	€ 124,513.31
5	49	€ 879.06	€ 415.04	€ 464.01	€ 124,049.30
	50	€ 879.06	€ 413.50	€ 465.56	€ 123,583.74
	51	€ 879.06	€ 411.95	€ 467.11	€ 123,116.62
	52	€ 879.06	€ 410.39	€ 468.67	€ 122,647.95
	53	€ 879.06	€ 408.83	€ 470.23	€ 122,177.72
	54	€ 879.06	€ 407.26	€ 471.80	€ 121,705.92
	55	€ 879.06	€ 405.69	€ 473.37	€ 121,232.55
	56	€ 879.06	€ 404.11	€ 474.95	€ 120,757.60
	57	€ 879.06	€ 402.53	€ 476.53	€ 120,281.06
	58	€ 879.06	€ 400.94	€ 478.12	€ 119,802.94
	59	€ 879.06	€ 399.34	€ 479.72	€ 119,323.22
	60	€ 879.06	€ 397.74	€ 481.32	€ 118,841.91
6	61	€ 879.06	€ 396.14	€ 482.92	€ 118,358.99
	62	€ 879.06	€ 394.53	€ 484.53	€ 117,874.46
	63	€ 879.06	€ 392.91	€ 486.14	€ 117,388.31
	64	€ 879.06	€ 391.29	€ 487.76	€ 116,900.55
	65	€ 879.06	€ 389.67	€ 489.39	€ 116,411.16
	66	€ 879.06	€ 388.04	€ 491.02	€ 115,920.14
	67	€ 879.06	€ 386.40	€ 492.66	€ 115,427.48
	68	€ 879.06	€ 384.76	€ 494.30	€ 114,933.18
	69	€ 879.06	€ 383.11	€ 495.95	€ 114,437.23
	70	€ 879.06	€ 381.46	€ 497.60	€ 113,939.63
	71	€ 879.06	€ 379.80	€ 499.26	€ 113,440.37
	72	€ 879.06	€ 378.13	€ 500.92	€ 112,939.44
7	73	€ 879.06	€ 376.46	€ 502.59	€ 112,436.85
	74	€ 879.06	€ 374.79	€ 504.27	€ 111,932.58
	75	€ 879.06	€ 373.11	€ 505.95	€ 111,426.63
	76	€ 879.06	€ 371.42	€ 507.64	€ 110,918.99
	77	€ 879.06	€ 369.73	€ 509.33	€ 110,409.66
	78	€ 879.06	€ 368.03	€ 511.03	€ 109,898.63

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	79	€ 879.06	€ 366.33	€ 512.73	€ 109,385.90
	80	€ 879.06	€ 364.62	€ 514.44	€ 108,871.46
	81	€ 879.06	€ 362.90	€ 516.15	€ 108,355.31
	82	€ 879.06	€ 361.18	€ 517.87	€ 107,837.43
	83	€ 879.06	€ 359.46	€ 519.60	€ 107,317.83
	84	€ 879.06	€ 357.73	€ 521.33	€ 106,796.50
8	85	€ 879.06	€ 355.99	€ 523.07	€ 106,273.43
	86	€ 879.06	€ 354.24	€ 524.81	€ 105,748.61
	87	€ 879.06	€ 352.50	€ 526.56	€ 105,222.05
	88	€ 879.06	€ 350.74	€ 528.32	€ 104,693.73
	89	€ 879.06	€ 348.98	€ 530.08	€ 104,163.65
	90	€ 879.06	€ 347.21	€ 531.85	€ 103,631.80
	91	€ 879.06	€ 345.44	€ 533.62	€ 103,098.18
	92	€ 879.06	€ 343.66	€ 535.40	€ 102,562.79
	93	€ 879.06	€ 341.88	€ 537.18	€ 102,025.60
	94	€ 879.06	€ 340.09	€ 538.97	€ 101,486.63
	95	€ 879.06	€ 338.29	€ 540.77	€ 100,945.86
	96	€ 879.06	€ 336.49	€ 542.57	€ 100,403.28
9	97	€ 879.06	€ 334.68	€ 544.38	€ 99,858.90
	98	€ 879.06	€ 332.86	€ 546.20	€ 99,312.71
	99	€ 879.06	€ 331.04	€ 548.02	€ 98,764.69
	100	€ 879.06	€ 329.22	€ 549.84	€ 98,214.85
	101	€ 879.06	€ 327.38	€ 551.68	€ 97,663.17
	102	€ 879.06	€ 325.54	€ 553.52	€ 97,109.65
	103	€ 879.06	€ 323.70	€ 555.36	€ 96,554.29
	104	€ 879.06	€ 321.85	€ 557.21	€ 95,997.08
	105	€ 879.06	€ 319.99	€ 559.07	€ 95,438.01
	106	€ 879.06	€ 318.13	€ 560.93	€ 94,877.08
	107	€ 879.06	€ 316.26	€ 562.80	€ 94,314.28
	108	€ 879.06	€ 314.38	€ 564.68	€ 93,749.60
10	109	€ 879.06	€ 312.50	€ 566.56	€ 93,183.04
	110	€ 879.06	€ 310.61	€ 568.45	€ 92,614.59
	111	€ 879.06	€ 308.72	€ 570.34	€ 92,044.25
	112	€ 879.06	€ 306.81	€ 572.25	€ 91,472.00
	113	€ 879.06	€ 304.91	€ 574.15	€ 90,897.85
	114	€ 879.06	€ 302.99	€ 576.07	€ 90,321.78
	115	€ 879.06	€ 301.07	€ 577.99	€ 89,743.80
	116	€ 879.06	€ 299.15	€ 579.91	€ 89,163.88
	117	€ 879.06	€ 297.21	€ 581.85	€ 88,582.04
	118	€ 879.06	€ 295.27	€ 583.79	€ 87,998.25

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	119	€ 879.06	€ 293.33	€ 585.73	€ 87,412.52
	120	€ 879.06	€ 291.38	€ 587.68	€ 86,824.83
11	121	€ 879.06	€ 289.42	€ 589.64	€ 86,235.19
	122	€ 879.06	€ 287.45	€ 591.61	€ 85,643.58
	123	€ 879.06	€ 285.48	€ 593.58	€ 85,050.00
	124	€ 879.06	€ 283.50	€ 595.56	€ 84,454.44
	125	€ 879.06	€ 281.51	€ 597.54	€ 83,856.90
	126	€ 879.06	€ 279.52	€ 599.54	€ 83,257.36
	127	€ 879.06	€ 277.52	€ 601.53	€ 82,655.83
	128	€ 879.06	€ 275.52	€ 603.54	€ 82,052.29
	129	€ 879.06	€ 273.51	€ 605.55	€ 81,446.74
	130	€ 879.06	€ 271.49	€ 607.57	€ 80,839.17
	131	€ 879.06	€ 269.46	€ 609.60	€ 80,229.57
	132	€ 879.06	€ 267.43	€ 611.63	€ 79,617.94
12	133	€ 879.06	€ 265.39	€ 613.67	€ 79,004.28
	134	€ 879.06	€ 263.35	€ 615.71	€ 78,388.57
	135	€ 879.06	€ 261.30	€ 617.76	€ 77,770.80
	136	€ 879.06	€ 259.24	€ 619.82	€ 77,150.98
	137	€ 879.06	€ 257.17	€ 621.89	€ 76,529.09
	138	€ 879.06	€ 255.10	€ 623.96	€ 75,905.13
	139	€ 879.06	€ 253.02	€ 626.04	€ 75,279.09
	140	€ 879.06	€ 250.93	€ 628.13	€ 74,650.96
	141	€ 879.06	€ 248.84	€ 630.22	€ 74,020.73
	142	€ 879.06	€ 246.74	€ 632.32	€ 73,388.41
	143	€ 879.06	€ 244.63	€ 634.43	€ 72,753.98
	144	€ 879.06	€ 242.51	€ 636.55	€ 72,117.43
13	145	€ 879.06	€ 240.39	€ 638.67	€ 71,478.76
	146	€ 879.06	€ 238.26	€ 640.80	€ 70,837.97
	147	€ 879.06	€ 236.13	€ 642.93	€ 70,195.04
	148	€ 879.06	€ 233.98	€ 645.08	€ 69,549.96
	149	€ 879.06	€ 231.83	€ 647.23	€ 68,902.73
	150	€ 879.06	€ 229.68	€ 649.38	€ 68,253.35
	151	€ 879.06	€ 227.51	€ 651.55	€ 67,601.80
	152	€ 879.06	€ 225.34	€ 653.72	€ 66,948.08
	153	€ 879.06	€ 223.16	€ 655.90	€ 66,292.18
	154	€ 879.06	€ 220.97	€ 658.09	€ 65,634.10
	155	€ 879.06	€ 218.78	€ 660.28	€ 64,973.82
	156	€ 879.06	€ 216.58	€ 662.48	€ 64,311.34
14	157	€ 879.06	€ 214.37	€ 664.69	€ 63,646.65
	158	€ 879.06	€ 212.16	€ 666.90	€ 62,979.75

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	159	€ 879.06	€ 209.93	€ 669.13	€ 62,310.62
	160	€ 879.06	€ 207.70	€ 671.36	€ 61,639.26
	161	€ 879.06	€ 205.46	€ 673.60	€ 60,965.67
	162	€ 879.06	€ 203.22	€ 675.84	€ 60,289.83
	163	€ 879.06	€ 200.97	€ 678.09	€ 59,611.73
	164	€ 879.06	€ 198.71	€ 680.35	€ 58,931.38
	165	€ 879.06	€ 196.44	€ 682.62	€ 58,248.76
	166	€ 879.06	€ 194.16	€ 684.90	€ 57,563.86
	167	€ 879.06	€ 191.88	€ 687.18	€ 56,876.68
	168	€ 879.06	€ 189.59	€ 689.47	€ 56,187.21
15	169	€ 879.06	€ 187.29	€ 691.77	€ 55,495.44
	170	€ 879.06	€ 184.98	€ 694.07	€ 54,801.37
	171	€ 879.06	€ 182.67	€ 696.39	€ 54,104.98
	172	€ 879.06	€ 180.35	€ 698.71	€ 53,406.27
	173	€ 879.06	€ 178.02	€ 701.04	€ 52,705.23
	174	€ 879.06	€ 175.68	€ 703.38	€ 52,001.86
	175	€ 879.06	€ 173.34	€ 705.72	€ 51,296.14
	176	€ 879.06	€ 170.99	€ 708.07	€ 50,588.07
	177	€ 879.06	€ 168.63	€ 710.43	€ 49,877.64
	178	€ 879.06	€ 166.26	€ 712.80	€ 49,164.84
	179	€ 879.06	€ 163.88	€ 715.18	€ 48,449.66
	180	€ 879.06	€ 161.50	€ 717.56	€ 47,732.10
16	181	€ 879.06	€ 159.11	€ 719.95	€ 47,012.15
	182	€ 879.06	€ 156.71	€ 722.35	€ 46,289.79
	183	€ 879.06	€ 154.30	€ 724.76	€ 45,565.03
	184	€ 879.06	€ 151.88	€ 727.18	€ 44,837.86
	185	€ 879.06	€ 149.46	€ 729.60	€ 44,108.26
	186	€ 879.06	€ 147.03	€ 732.03	€ 43,376.23
	187	€ 879.06	€ 144.59	€ 734.47	€ 42,641.76
	188	€ 879.06	€ 142.14	€ 736.92	€ 41,904.83
	189	€ 879.06	€ 139.68	€ 739.38	€ 41,165.46
	190	€ 879.06	€ 137.22	€ 741.84	€ 40,423.62
	191	€ 879.06	€ 134.75	€ 744.31	€ 39,679.30
	192	€ 879.06	€ 132.26	€ 746.79	€ 38,932.51
17	193	€ 879.06	€ 129.78	€ 749.28	€ 38,183.22
	194	€ 879.06	€ 127.28	€ 751.78	€ 37,431.44
	195	€ 879.06	€ 124.77	€ 754.29	€ 36,677.15
	196	€ 879.06	€ 122.26	€ 756.80	€ 35,920.35
	197	€ 879.06	€ 119.73	€ 759.32	€ 35,161.03
	198	€ 879.06	€ 117.20	€ 761.86	€ 34,399.17

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	199	€ 879.06	€ 114.66	€ 764.40	€ 33,634.78
	200	€ 879.06	€ 112.12	€ 766.94	€ 32,867.83
	201	€ 879.06	€ 109.56	€ 769.50	€ 32,098.33
	202	€ 879.06	€ 106.99	€ 772.06	€ 31,326.27
	203	€ 879.06	€ 104.42	€ 774.64	€ 30,551.63
	204	€ 879.06	€ 101.84	€ 777.22	€ 29,774.41
18	205	€ 879.06	€ 99.25	€ 779.81	€ 28,994.60
	206	€ 879.06	€ 96.65	€ 782.41	€ 28,212.19
	207	€ 879.06	€ 94.04	€ 785.02	€ 27,427.17
	208	€ 879.06	€ 91.42	€ 787.64	€ 26,639.53
	209	€ 879.06	€ 88.80	€ 790.26	€ 25,849.27
	210	€ 879.06	€ 86.16	€ 792.89	€ 25,056.38
	211	€ 879.06	€ 83.52	€ 795.54	€ 24,260.84
	212	€ 879.06	€ 80.87	€ 798.19	€ 23,462.65
	213	€ 879.06	€ 78.21	€ 800.85	€ 22,661.80
	214	€ 879.06	€ 75.54	€ 803.52	€ 21,858.28
	215	€ 879.06	€ 72.86	€ 806.20	€ 21,052.08
	216	€ 879.06	€ 70.17	€ 808.89	€ 20,243.20
19	217	€ 879.06	€ 67.48	€ 811.58	€ 19,431.61
	218	€ 879.06	€ 64.77	€ 814.29	€ 18,617.33
	219	€ 879.06	€ 62.06	€ 817.00	€ 17,800.33
	220	€ 879.06	€ 59.33	€ 819.72	€ 16,980.60
	221	€ 879.06	€ 56.60	€ 822.46	€ 16,158.14
	222	€ 879.06	€ 53.86	€ 825.20	€ 15,332.95
	223	€ 879.06	€ 51.11	€ 827.95	€ 14,505.00
	224	€ 879.06	€ 48.35	€ 830.71	€ 13,674.29
	225	€ 879.06	€ 45.58	€ 833.48	€ 12,840.81
	226	€ 879.06	€ 42.80	€ 836.26	€ 12,004.55
	227	€ 879.06	€ 40.02	€ 839.04	€ 11,165.51
	228	€ 879.06	€ 37.22	€ 841.84	€ 10,323.67
20	229	€ 879.06	€ 34.41	€ 844.65	€ 9,479.02
	230	€ 879.06	€ 31.60	€ 847.46	€ 8,631.56
	231	€ 879.06	€ 28.77	€ 850.29	€ 7,781.27
	232	€ 879.06	€ 25.94	€ 853.12	€ 6,928.15
	233	€ 879.06	€ 23.09	€ 855.97	€ 6,072.18
	234	€ 879.06	€ 20.24	€ 858.82	€ 5,213.36
	235	€ 879.06	€ 17.38	€ 861.68	€ 4,351.68
	236	€ 879.06	€ 14.51	€ 864.55	€ 3,487.13
	237	€ 879.06	€ 11.62	€ 867.44	€ 2,619.69
	238	€ 879.06	€ 8.73	€ 870.33	€ 1,749.37

Year	Month	Gross monthly payment	Interest	Repayment	Residual debt
	239	€ 879.06	€ 5.83	€ 873.23	€ 876.14
	240	€ 879.06	€ 2.92	€ 876.14	€ 0.00

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