

Tax-exempted intergenerational transfers: do they reduce household indebtedness?

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Preliminary version¹

Abstract

We study the effect of the extension of a tax benefit to intergenerational transfers that was into play in the aftermath of the credit crisis and aimed to reduced indebtedness, specifically for underwater mortgages. Using newly collected administrative micro data with high frequency, we are able to identify voluntary repayments on mortgage loans. We find that during the period of the introduction of the tax benefit, voluntary repayments have increased, but not only for the treated group. Also, when the tax incentive has motivated debt reduction, this did not happen for the group of highly indebted households specifically. This suggests that stimulating intergenerational transfers can be an effective tool to shorten household balances, but more targeting is needed if one wants to reduce high indebtedness of for instance underwater mortgage loans.

Keywords: indebtedness, voluntary repayments, intergenerational transfers

¹ Dear discussant, we will try our best to provide an improved version two weeks before the Netspar pension day. Thank you for your time and sorry for the inconvenience caused by the preliminary version.

1. Introduction

A substantial number of studies has highlighted that household debt aggravates the impact of a crisis. In a recent survey the IMF stated that increase in household debt is a good predictor of subsequent drops in consumption (IMF, Dealing with household debt, in World Economic Outlook: Growth Resuming, Dangers Remain, April 2012). Also Reinhart and Rogoff came to similar conclusions in their analysis of the “big five” banking crises. Oscar Jorda, Mortiz Schularick and Alan M. Taylor (“When credit bites back: Leverage, Business Cycles and Crises”, working paper number 17621, NBER, 2011) study 200 crises and noted that bank crises (in general more severe) are aggravated by debt run and that the resulting recession is more severe when the debt run preceding the crises was sharper. The housing crisis in the Netherlands, where prices started falling after the second quarter of 2008 until the last quarter of 2013, is an example of such crisis.

During this period consumption contributed negatively to economic growth and the government attempted a number of measure to reduce the negative consequences of excessive indebtedness. In the Netherlands one mostly speaks of indebtedness in relation to mortgage debt. Financial debt is less common, but the lack of a down-payment constraint, together with a generous mortgage interest deduction (MID) and high financial innovation (which made non-amortizing loans possible), has made the Netherlands one of the leading countries in the world in terms of LTV (loan to value) ratios. While before the crisis it was common to borrow up to 120% of the property value, the Dutch government has imposed lower LTV caps starting from 2013 (when the LTV cap was 106%) to be reduced to 100% in 2018. LTI caps were also sharpened and the MID has been sobered down and fully abolished for new interest-only loans (therefore stopping the production of such loans). After 5 years of decreasing prices however, also two measures were taken to directly reduce indebtedness, hoping that this would reduce residual debt (for instance for underwater loans when houses are sold). The first was to make residual debt ‘portable’. Those selling a house with negative equity (for instance in order to go rent somewhere else) were allowed to keep part of the old loan (because of the residual debt after selling) with negative equity, and to benefit of the related MID. The second measure was to increase the tax-free allowance for intergenerational transfers aimed at debt-repayment. In this paper we focus on this second measure and its effectiveness.

In the Netherlands inheritance taxes apply. As intergenerational transfers could be a way to elude these taxes, fiscal limits to these transfers apply. Should one receive more than the amount allowed (about 6000 euro per year), inheritance taxes apply to the excess amount. However during the 1990’s, when household indebtedness increased due to the rise of house prices, it was decided to make an exception to this threshold, and allow additional 46000 euro (thus 52000 in total) to be received tax-free from parents. This exception was valid only if the recipient would use the transfer to reduce mortgage debt, if the debt was larger or equal to the amount received, if the donor was a parent of the recipient, and if the recipient was below age 40. Between 2013q3 and 2014q4 the regulation was extended. The threshold was lifted from 52000 to 100000, the gift could be received by multiple donors and the age limit was dropped. Also a lot of publicity was given to this measure, and banks were requested to directly inform their customers with a letter. After 2015q1 the old rules were reinstated.

Did the extension of the tax-free threshold lead to an increase of intergenerational transfers aimed at debt repayment? Did the publicity of this possibility also give an incentive to voluntary repay below the new threshold? How much more was repaid due to this new tax facility, and who used it more often? Did this measure help in reducing the indebtedness of the most or of the least indebted households?

We are able to answer these research questions thanks to the specific new data that we use, and thanks to the fact that the policy targeted different groups of individuals in different periods. The micro data we use have quarterly frequency and allow the identification of the treated group separately from the control. At the same time voluntary repayment can be identified, a unicum for Dutch micro data. Our strategy is to set up a quasi-natural experiment where we define different dependent variables that allow answering the questions above. We will therefore look at an identifier of voluntary repayment per quarter or over the whole period of 5 quarters when the regulation was into play. Also we will look at the amounts being re-paid, and compare them with the amounts being repaid before and after the measure was taken. Controlling for the background characteristics of the household, such as their LTV before and after the repayment, we will also be able to understand whether the tax measure decreased indebtedness of high-risk households, such as those with an underwater mortgage.

The study is organized as follows. Section 2 discusses the relevant literature, Section 3 describes the data and the summary statistics, Section 4 shows the setup of the quasi natural experiment and the results. Section 5 summarizes and concludes.

2. Literature review

This paper is related to different niches in the economic literature. Here we briefly survey the main ones, namely these related to household indebtedness and intergenerational transfers. Excessive debt could cause negative externalities. According to John Genakoplos² every 1% increase in foreclosures resulted in a 2% decline in prices.

Related to this, and specifically to the drop in house prices, it was noted that US household spending had dropped already in 2006, before the onset of a negative wealth effect. Because of large debt, spending on durables had dropped in counties with larger wealth reductions more than in counties that had not yet experienced a crisis in asset prices. The negative effect of house prices on spending was intensified by the fact that due to debt, the cycle of foreclosure/fire-sales becomes endogenous and leads to prices dropping. This is due to the fact the marginal propensity to consume (MPC) varies across the wealth distribution, as the lower quantiles have a larger MPC. One such study is that of Kren Dyan who has found that the MPC of the poor, who are more likely to own a house and no financial wealth, is 3 times larger than of rich³.

² The leverage cycle, in NBER Macroeconomic Annual Report 2009, vol. 24, ed. Daron Acemoglu, K. Rogoff, M Woodford , Chicago: University of Chicago Press, 2010

³ Is a Household debt overhang holding back consumption? Brookings Paper on Economic Activity, 2012, 299-344

3. Data and summary statistics

3.1 Data

In this study, we use the mortgage loan level data (LLD) collected by the Dutch National Bank (DNB) using the reporting template for Residential Mortgage-Backed Securities (RMBS) of the European Data Warehouse. In order to use a securitized mortgage as collateral, each lending institution must agree to the 100% transparency policy of the ECB and fill in the template. Although the LLD meets the reporting requirements of the ECB, it is to some extent not designed for analytical purposes. Mastrogiamomo and van der Molen (2015) describe some limitations and advantages of the LLD.

LLD is collected quarterly. The first wave was collected in 2012 Q4, and the latest currently available wave is 2016 Q1, which implies that we have 14 wave for analysis. The LLD covers approximately 80% of the total population. For each loan record in the LLD a large number of attributes is also reported (please refer to Table 1 for the variables used in this study). Each record includes a unique loan and borrower identifier, which allows tracking them over time if (and only if) the borrowers stay within the same bank.

3.2 Define dependent variable, voluntary mortgage repayments

The dependent variable is voluntary mortgage repayments. Since in the dataset there is no such variables which directly measure voluntary mortgage repayments, we derive the proxy of voluntary mortgage repayments based on the difference of the amount of loan outstanding⁴ at each wave. The detailed procedure is the following. First we calculate the first difference of the amount of loan outstanding. Then within each consecutive five waves, we identify the “irregular” (large) number among the first difference of the amount of loan outstanding as the voluntary mortgage repayments.⁵

Unfortunately, after identifying voluntary mortgage repayments, there are two cases that we cannot exclude. We cannot distinguish whether the money used for repayments is from intergenerational transfers or from personal savings or lottery winning . In addition, we cannot observe that one uses intergenerational transfers as down payment.

⁴ This include any amounts that are secured by the mortgage and will be classed as principal in the transaction. For example if fees have been added to the loan balance and are part of the principal in the transaction these should be added. Excluding any interest arrears or penalty amounts.

⁵ We first round the first difference of the amount of loan outstanding into its nearest number with hundred unit (e.g. 1456.78 into 1500). Then within each consecutive five waves, we find the mode of these five numbers. If the difference between first difference of the amount of loan outstanding and the corresponding mode is larger than 200euro, we identify it as a voluntary mortgage repayments.

3.3 Summary statistics

Figure 1 depicts the development of house price in different regions of the Netherlands. Figure 2 shows the development of voluntary mortgage repayments for each waves (statistics from 2015q3 to 2016q1 has not been updated yet). It also indicates the period when the regulation was extended (2013q3 and 2014q4).

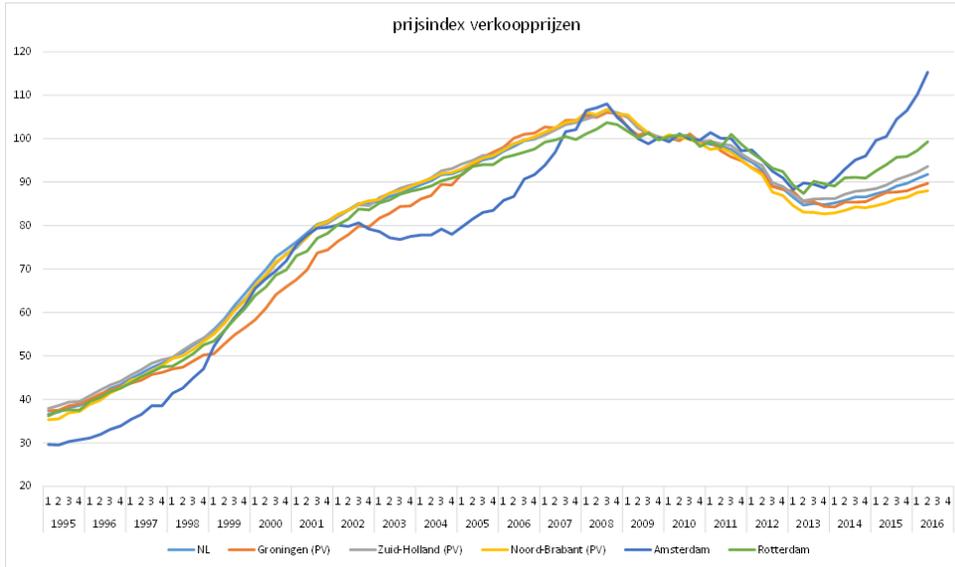


Figure 1, Development of house prices in the Netherlands

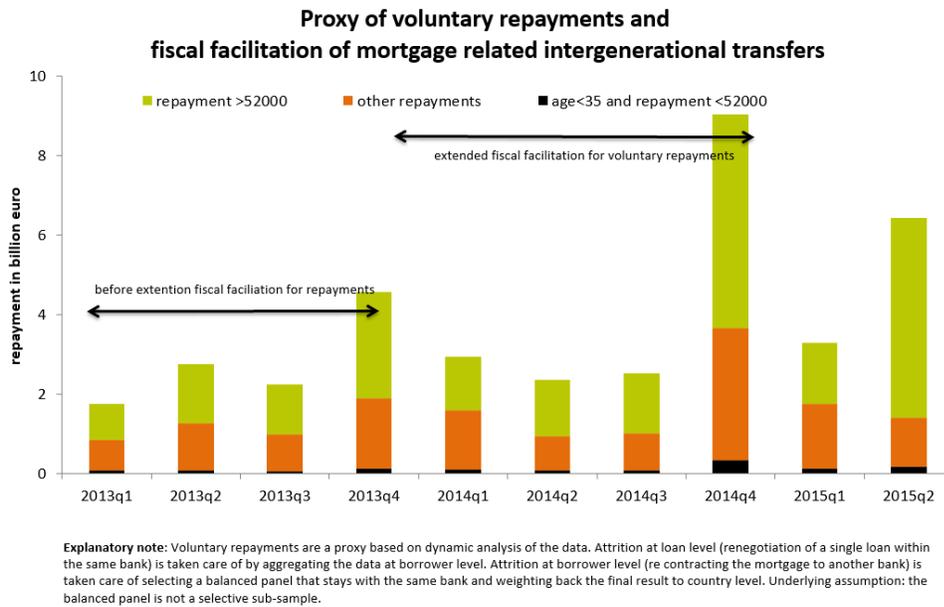


Figure 2, Development of voluntary repayments

4. Empirical Findings

Recall that between 2013q3 and 2014q4, the regulation was extended. The threshold was lifted from 52,000 to 100,000. After 2015q1 the old rules were reinstated. The recipient should be below age 40. Let $treatment_{it}$ denote the main variable of interest. $treatment_{it} = 1$ if time is between 2013q3 and 2014q4, and individual i is younger than 40 during that period. This is the main variable of interest in the following regression equation:

$$y_{it} = \beta_0 + \beta_1 treatment_{it} + \beta_2 D1_{(age < 40)} + \beta_3 D2_{(2013q3 \leq t \leq 2014q4)} + \beta_4 X_{it} + \varepsilon_{it}$$

where y_{it} is voluntary mortgage repayments, which is defined in Section 3.2. $D1_{(age < 40)}$ and $D2_{(2013q3 \leq t \leq 2014q4)}$ are the dummy variable for the control group and the dummy for the treatment period, respectively. X_{it} contains other a set of variables explanatory informative variables, please refer to Table A in the appendix for more information.

Table 1 shows that there is significant treatment effect in both OLS and FE estimation. As reference, the average of voluntary mortgage repayments for the control group is 0.07. This implies that the tax measure stimulate the of voluntary mortgage repayments by $0.014/0.07=20\%$.

Table 1: Estimates of the treatment effect over the period 2012q4 to 2016q1

	<i>OLS</i>	<i>FE</i>
Treatment effect	0.014*** (0.001)	0.012*** (0.001)
<i>Other controls</i>	Yes	Yes
<i>N</i>	1,323,771	1,323,771

Appendix

Table A. Other explanatory variables in the regression.

Dummies for Originator	Dummies for lender that advanced the original loan
Dummies for Second Applicant	Dummies for Second Applicant
Primary Income	Primary borrower underwritten gross annual income (not rent).
Dummies for Borrower's Employment Status	<p>Employment status of the primary applicant:</p> <p>Employed or full loan is guaranteed (1)</p> <p>Employed with partial support (company subsidy) (2)</p> <p>Protected life-time employment (Civil/government servant) (3)</p> <p>Unemployed (4)</p> <p>Self-employed (5)</p> <p>No employment, borrower is legal entity (6)</p> <p>Student (7)</p> <p>Pensioner (8)</p> <p>Other (9)</p> <p>No Data (ND)</p>
Loan Maturity	The remaining years of loan.
Dummies for Repayment Method	<p>Type of principal repayment:</p> <p>Interest Only (1)</p> <p>Repayment (2)</p> <p>Endowment (3)</p> <p>Pension (4)</p> <p>ISA (individual saving account) /PEP (personal equity plan) (5)</p> <p>Index-Linked (6)</p> <p>Part & Part (7)</p> <p>Savings Mortgage (8)</p> <p>Other (9)</p> <p>No Data (ND)</p>
Dummies for Payment Frequency	<p>Frequency of payments due, i.e. number of months between payments:</p> <p>Monthly (1)</p> <p>Quarterly (2)</p> <p>Semiannually (3)</p> <p>Annual (4)</p> <p>Bullet (5)</p> <p>Other (6)</p> <p>No Data (ND)</p>
Dummies for Guarantee Provider	Dummies for Guarantee Provider.

Dummies for Payment Type	<p>Principal payment type:</p> <p>Annuity (1)</p> <p>Linear (2)</p> <p>Increasing instalments (3)</p> <p>Fixed instalments (changing maturity) with structural protection (4)</p> <p>Fixed instalments (changing maturity) without structural protection (5)</p> <p>Bullet (6)</p> <p>Bullet + Savings deposit (7)</p> <p>Bullet + Life insurance (8)</p> <p>Bullet + Investment portfolio (9)</p> <p>Bi-annual (10)</p> <p>Tri-annual (11)</p> <p>Offset mortgage (12)</p> <p>Other (13)</p> <p>No Data (ND)</p>
Debt to Income	<p>Debt to Income (DTI) ratio with definition and calculation. For combined income.</p> <p>Debt defined as the Amount of loan outstanding as of pool cutoff date, This should include any amounts that are secured by the mortgage and will be classed as principal in the transaction. For example if fees have been added to the loan balance and are part of the principal in the transaction these should be added. Excluding any interest arrears or penalty amounts.</p> <p>Income defined as combined income, sum of primary and secondary income fields (field numbers 34 and 35). If no data available use the following input ND</p>
Dummies for Interest Rate Type	<p>Interest rate type:</p> <p>Floating rate loan (for life) (1)</p> <p>Floating rate loan linked to Libor, Euribor, BoE reverting to the Bank's standard variable rate (SVR), ECB reverting to Bank's SVR (2)</p> <p>Fixed rate loan (for life) (3)</p> <p>Fixed with future periodic resets (4)</p> <p>Fixed rate loan with compulsory future switch to floating (5)</p> <p>Capped (6)</p> <p>Discount (7)</p> <p>Other (8)</p> <p>No Data (ND)</p>
Current Interest Rate	Current interest rate (%).
Original Loan to Value	Originator's original underwritten Loan To Value ratio (LTV). For 2nd lien loans this should be the combined or total LTV. If no data available use the following input ND
Valuation Amount	Property value as of date of latest loan advance prior to a securitization. Valuation amounts should be in the same currency as the loan (field AR65). If no data available use the following input ND
Dummies for Cohort	Dummies for Cohort
Provence dummies	Province dummies indicate one of the 12 Dutch provinces.
Time dummies	Time dummies
Age	Borrower's age