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The Case of the Netherlands and Germany

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Abstract

When it comes to financial preparation for retirement, self-employed workers in many European countries face unique challenges not encountered by traditional wage earners. This is particularly true for self-employed workers who do not supervise subordinate personnel. This is the case because many self-employed individuals in nations such as the Netherlands and Germany do not have large-scale access to employer-sponsored pensions, which are a mainstay of pension support for most workers in those two countries. In this investigation, we explored the saving practices and perceived future pension adequacy of self-employed workers aged 15-65 in Germany ($N = 702$) and the Netherlands ($N = 655$). Of particular interest was whether respondents felt that they voluntarily chose to become self-employed, or whether they felt "forced" to enter self-employment due to economic or labor market pressures. Findings revealed that some 25 percent of workers were driven into self-employment out of necessity. Moreover, forced self-employed individuals were found to be less likely to save for retirement than their voluntary self-employed counterparts, and they envisioned a less optimistic future pension scenario for themselves. Additional analyses focused on the demographic and psychological dimensions that underlie saving practices and perceptions of pension adequacy. Discussion focuses on the need to change institutional practices and public policies that place self-employed individuals at a disadvantage—particularly those who are driven into self-employment based on economic pressures and a lack of opportunities in the traditional labor market.

*Keywords*: Self-employed, retirement, saving, pension, Netherlands, Germany, psychology

**Introduction**

Governments around the world are in the process of reforming their pension systems to adapt to aging populations and flexible labor markets (Whiteford and Whitehouse, 2006). Lifelong employment has become increasingly uncommon over the past two decades, and short-term contracts are becoming the dominant form of employment for younger cohorts of employees. One special category of workers is also on the rise, namely, self-employed individuals without personnel. Their position can be particularly precarious given that they have to deal with a variety of different risks on their own. One such risk for a large majority of self-employed individuals is the lack of access to an employer-sponsored pension support program (i.e., so-called "second-pillar" support; World Bank, 2008). They can be distinguished from self-employed individuals who supervise personnel as the latter often have the advantage of enrolling in a pension system organized for the benefit of their employees.

Of course, whether a self-employed individual will receive pension coverage or not depends, to a large extent, on how particular governments structure pension insurance policies for self-employed workers. In most European countries, wage-earning employees are covered on a mandatory basis by employer-based (second-pillar) supplementary pension schemes. Self-employed individuals, however, are often excluded from such schemes and have to rely on private pension savings (better known as the "third-pillar" support; World Bank, 2008).  Another major difference between employees and self-employed in most countries is that whereas employees share the burden of (second-pillar) pension contributions with their employer, self-employed individuals—who prepare for retirement without the benefit of a second-tier plan—pay the full (third-pillar) retirement saving contribution from their own income. In fact, among 21 OECD countries for which there exist comparative data, on average, employees pay 37 percent of the total contribution to their second-tier pension plan (with the remainder paid by their employer), whereas self-employed individuals pay virtually the entire pension premium themselves (see Choi, 2009). One can imagine that self-employed individuals who have the option to join a pension scheme are the ones most likely to remain 'uninsured' when their earnings are modest.

Knowledge about how self-employed individuals in different institutional settings prepare for their pension and perceive their retirement finances is scant, and much of the work that has appeared in the literature is thus far highly descriptive (Fachinger and Frankus, 2015).

This paper will attempt to fill this gap by examining the retirement preparation and perceived pension adequacy for two types of self-employed individuals in two countries, to determine whether one's motives for becoming self-employed and the institutional setting in which one works matters when it comes to saving practices and perceptions of future pension adequacy. The two types of workers we are referring to are those who are forced into self-employment and those who pursue a self-standing work arrangement on a voluntary basis. Most who enter the labor market as self-employed do so on a *voluntary* basis (hereafter referred to as "voluntary self-employed"). However, others are in one way or another forced to join the ranks of the self-employed (hereafter referred to as "forced self-employed"). This latter group is figuratively forced into self-employment in response to restrictive employment policies or economic conditions that drive them to work outside the realm of traditional paid employment. In the Netherlands, the Dutch government is of the opinion that saving for a pension should be the responsibility of self-employed individuals, and those savings can adequately be dealt with through third pillar opportunities. Furthermore, the government believes that self-employed individuals do not differ significantly from traditional wage earners in terms of retirement replacement rates—however, for self-employed individuals there is greater inequality in pension outcomes (Tweede Kamer, 2015a).

Approximately half self-employed individuals without personnel attain a replacement rate of 70 percent, a quarter of this group attain a replacement rate of 50-70 percent, and the remaining quarter attain a replacement rate of less than 50 percent. Furthermore, the government considers the problem of so-called forced self-employment a serious problem for a small number of individuals, but only a small problem in terms of the broader labor market (Tweede Kamer, 2015b). That is, they argue that this segment of the labor market is made up of only 2 percent of individuals who are forced by their employers to become self-employed, and 15 percent for whom self-employment was necessity driven (i.e., those who could not find a job as a traditional wage earner). Just seven years prior to releasing those two statistics (Tweede Kamer, 2008), the government painted a different picture, when they concluded that 1.2 percent of individuals were forced by their employers to become self-employed, and 3.6 percent of individuals entered self-employment for necessity-driven reasons. To the extent that the figures from 2008 and 2015 are correct, this suggests that the group of forced self-employed individuals has grown rapidly in a

relatively short period of time, and we would contend that the consequences of this growth is worthy of examination.

In light of the different reasons why self-employed individuals choose to work on an independent basis, differences could very well exist in the extent to which voluntary and forced self-employees save for the future. Furthermore, we speculate that differences might exist in how these two groups of individuals perceive the quality of their post-employment financial security. We also take the scope of this investigation one step further, by making comparisons between voluntary and forced self-employed individuals who work in the Netherlands and Germany—two countries that differ in the extent to which self-standing are covered by (second-pillar) pension schemes.

This paper makes three contributions to the literature. First, we use structural as well as psychological determinants to uncover the propensity to save and perceived pensions savings adequacy among self-employed individuals without personnel. By doing so, we hope to provide insights into a scantly investigated topic, namely, retirement preparation among the self-employed without personnel. Second, we focus attention on whether retirement preparedness differs across self-employed individuals who attained this status on a voluntary basis, compared to those who became self-employed by a forced route. Third, this study provides a broad, cross-national empirical base by analyzing data from 1,357 self-employed individuals in Germany and the Netherlands. This cross-national comparison should allow us to determine whether the institutional context in which self-employed individuals operate has an effect on their retirement preparedness.

The organization of the remainder of this paper is as follows. First we provide background information on the rise of self-employment in general, but more specifically, on the situation as it relates to Germany and the Netherlands. Next, we discuss the factors that play a role in leading individuals to engage in (forced or voluntary) self-employment and financial planning for retirement, which allows us to derive the central hypotheses of interest. After that we describe the methods, which is followed by presentation of the empirical results. Notably, in this section we describe the probability of pension savings and perceived pension adequacy scores as a function of various structural and psychological determinants. The paper concludes with a summary of findings, as well as a discussion of the theoretical and public policy implications of this study.

**Background regarding self-employment in Germany and the Netherland**

Over the past two decades there has been an increase in the number of self-employed without personnel in several European countries (Hatfield, 2015). While self-employment has long been associated with agriculture (e.g., farmers) and the retail trade (e.g., shopkeepers), the recent growth in self-employment now finds self-employed individuals working a variety of occupations and industry sectors. The "new" self-employed are coaches, public relations officers, clerical workers, interim managers, and consultants. Self-employed individuals can also be found among the ranks of bricklayers, carpenters, truck drivers and home care workers.

When it comes to the self-employed without personnel, the Netherlands constitutes an interesting case. No other European country has shown such a large increase in the number of self-employed without personnel over the past ten years (see Figure 1). Whereas the Netherlands has a relatively flexible labour market and an economy that is strongly orientated toward trade and commercial services, the German labour market faces similar tendencies (cf., Eichhorst & Marx, 2011), although it is still more oriented toward industrial sectors. Furthermore, the self-employed in the Netherlands are far more likely than their German counterparts to work on a part-time basis.

Germany has also shown an increase in the number of self-employed without personnel, but this increase has been much more moderate and short-lived than it has been in the Netherlands. The percentage of self-employed without personnel grew notably in Germany between the years 2002-2005, and then plateaued somewhat after that. Growth in self-employment in the Netherlands started around the same time (2002), but as seen in the figure, the growth pattern has yet to show an extended plateau or reversal.

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Insert Figure 1 about Here

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The reason why we compare German and Dutch individuals is based on differences in the way the two countries deal with pension insurance provisions for self-employed workers. In the Netherlands, both wage-earning employees and self-employed individuals are covered by the public pension system (referred to as "AOW"). In this system, both wage-earners and self-standing workers make equal contributions during their working lives, and both can expect to

receive equivalent benefits upon retiring. (As of January 2016, a gross benefit of 1,138 euros/month is received by single individuals, and 784 euros/month is received by each member of a couple.) There are some groups of Dutch self-employed individuals who have mandatory occupational pension schemes (e.g., doctors, lawyers, pharmacists), but in most instances, these self-employed workers oversee subordinate personnel. It is rarely the case that self-employed individuals *without personnel* within these specific professions participate in a collective pension arrangement.  The main argument why it is difficult to organize this at a collective level is that a clear categorization of professions or trades is difficult to make in order to force self-employed individuals to join collective pension arrangements (although there are some professions where this is possible, such as painters and plasterers). At the time of the survey, there did not exist any collective pension schemes in the Netherlands for the self-employed. The only way the self-employed can finance their pension is by purchasing individualized pension products from private insurance companies, banks, or investment companies, which leaves little in the way of room for collective risk sharing.

Germany is in some ways comparable to the Netherlands in terms of pension resources, inasmuch as there is no general second pillar coverage for self-employed German workers (Fachinger and Frankus, 2015). One difference between the two countries, however, involves first pillar support. In Germany, a large number of freelance workers are not covered by the mandatory insurance schemes sponsored by the state (Fachinger and Frankus, 2015, p. 137). When individuals are not entitled to a contribution-based pension or their entitlement is below a certain defined threshold of minimum income, they rely on safety-net benefits in the form of a means-tested social assistance program. These entitlements are arranged differently in the Netherlands, where all residents are covered by the first-pillar public pension scheme. However, Germany has more second pillar options available to self-employed individuals compared to the Netherlands. For quite a number of self-employed Germans, there exist collective pension schemes designed to help ensure late life financial security. For instance, craftsmen (who are entered in the register of artisans) and journalists are covered by a general pension fund for employees. Another example includes self-employed artists and members of the publishing professions (e.g., writers), who during their first five years in the profession pay contributions to the Artists Social Welfare Act. They only pay half of the contribution themselves, the remainder is paid by their client(s) (30%) and the government (the remaining 20 percent) (Fachinger and

Frankus, 2015). Finally, self-employed individuals who are members of professional chambers—such as doctors, lawyers and architects—are required to join the second tier pension schemes of their respective chambers.

In conclusion, whereas both countries share many similarities with respect to self-employment, the institutional arrangements and the policy stance toward self-employed individuals differ somewhat. In the Netherlands, the pension income of self-employed individuals is highly dependent on the extent to which self-standing workers take up the individual responsibility to save, whereas in Germany, pension provisions and legal rules are such that part of the self-employed are on a more equal footing with wage-earners. In the Netherlands, this inequality has a pronounced effect, with self-employed individuals experiencing reductions in replacement rates of up to 60 percent relative to the average Dutch employee (Choi, 2009). This retirement income gap is only closed in cases in which Dutch self-standing workers save substantial sums of money in private pension plans during their working years.

**Determinants of self-employment and retirement preparation**

The decision to enter the ranks of the self-employed is not one that is typically taken lightly, particularly in light of the large investment in time, energy, and other resources that are required to establish oneself in business. Individual determinants of entry into self-employment has been studied extensively (Blanchflower, 2000; Hamilton, 2000; Simoes, Crespo, & Moreira, 2015; Taylor, 1996).

A number of different microeconomic motives exist for becoming self-employed, including the desire to: (i) take on a new challenge, (ii) experience greater work autonomy, (iii) work for oneself as opposed to working for a boss, (iv) take advantage of a business opportunity, (v) earn a higher income than could be earned as a traditional wage earner, (vi) supplement one's income from regular employment, and (vii) have flexibility that would allow one to better balance work and family obligations. Collectively, these opportunity-based factors have been referred to as "pull factors" (Falco and Haywood, 2016), as they are enticements that serve to pull the individual into self-employment. Typically, those swayed by pull factors view their decision to enter self-employment as being of a voluntary nature.

Other individuals, in contrast, make the decision to become self-employed out of necessity (Kautonen et al., 2010). Some find it difficult to find a suitable job as an employee in paid employment. Others consider self-employment as a last resort in order to gain income. Still others make the transition to self-employment because they work for an organization that encourages them to provide services as an independent contractor. These three necessity-based factors (among others) have been described as "push factors," as they figuratively push the individual out of the traditional employment market and into a freelance arrangement  (Hofstede et al., 2004). In light of the economic and psychological pressures brought about by push factors, those who choose to work autonomously often feel forced into that particular employment status. In the present investigation, we make a distinction between those who voluntarily choose self-employment on the basis of pull factors, and those who are figuratively forced to become self-employed due to one or more push factors.

Furthermore, we assume that the push and pull factors described above are selective with respect to the skills and resources self-employed individuals have at their disposal. Those pulled into self-employment are (relatively) better situated to take on the responsibility of risks associated with running a private enterprise. Therefore, on that basis, they could be better prepared to assume the responsibilities associated with saving for their future. Moreover, among those pushed into self-employment, it is possible that some who were laid off might not be predisposed to save, because they have expectations of returning to their status of a wage earner with pension rights.

In light of the preceding discussion, we propose the following push/pull hypothesis: *Hypothesis 1*: Individuals who enter self-employment on voluntary basis will be more likely to save for retirement and evaluate their future pension as adequate relative to individuals who are forced into self-employment. No a priori hypotheses are made with respect to respondent country of origin in relation to saving and pension adequacy, due to the complex pattern of differences in retirement support systems in Germany and the Netherlands.

*Structural influences on saving and pension adequacy*
Of course, the extent of one's financial preparations for retirement is not solely dependent on self-employment status (voluntary/forced), but also on one's socio-demographic and psychological make-up.  In previous empirical investigations, the likelihood of saving for

retirement and the adequacy of those savings has been linked to individuals who are: older, more highly paid, male, more educated, those who work more hours per week, who are in a committed relationship, and whose spouses are engaged in paid work. Those who are older are presumably more likely to save because they recognize that the retirement transition is becoming increasingly near. Indeed, age represents a proxy for where one stands in life in relation to the normatively anticipated age-linked transition out of the workforce (Ekerdt et al., 2000). Income has also been demonstrated to be a powerful determinant of pension saving and retirement income adequacy (Hershey et al., 2007). This is because for most individuals, having discretionary resources to invest is a necessary enabling factor when it comes to making voluntary retirement saving contributions (which, as a result, increases one's pension adequacy).

The literature also has shown that males save more for retirement than females (thereby leading to higher pension adequacies). Workplace-linked economic factors have most commonly been used to explain the gender gap in saving and pension adequacy—that is, women, on average, tend to earn lower wages than men, they are less likely to be eligible for workplace pension programs, and they are more likely to experience discontinuous work histories due to childbearing and family support obligations (Damman et al., 2016, Speelman et al., 2013, Quadagno, 1988, Ståhlberg et al., 2005). This combination of factors effectively limits the retirement savings and pension benefits women can expect to amass relative to men.

Educational attainment has also been shown to be linked to saving and pension adequacy, largely due to the fact that those who are more highly educated tend to earn higher salaries, and thus, are more likely to have discretionary resources to save and invest. Those who work more hours per week (i.e., full time versus part time) typically accumulate more retirement savings and have superior pension adequacies, because full-time employment is associated with higher annual incomes, and thus, more discretionary resources to invest. Being in a committed relationship and having a spouse who is engaged in paid employment have also been demonstrated to be associated with having more in the way of savings and a higher pension adequacy. This is because those who have a working partner are more likely to benefit from living in a dual-income household, which increases the likelihood of having discretionary resources that can be allocated to retirement savings.

On the basis of the preceding discussion we propose the following hypothesis set:

*Hypothesis 2*: Individuals who due to structural dimensions are economically better off (i.e., older, male, higher income, more highly educated, who hold supplementary pension rights, who are married or partnered, or who have a working spouse) will be more likely to save and consider their future pension income to be adequate.

*Psychological influences on saving and pension adequacy*

In addition to the set of demographic factors described above, a variety of psychological constructs have been shown to be related to saving and pension adequacy. Of relevance to the present investigation, we expect to find that individuals with higher levels of risk tolerance are more likely to save for retirement and have superior pension adequacies. This is because those with a higher risk tolerance level have been shown to be more likely to save (and invest more aggressively) for retirement relative to those who are risk averse (Fisher & Anong, 2012; Jacobs-Lawson & Hershey, 2005; Jamaludin & Gerrans, 2015; Yao, Gutter, & Hanna, 2005). On that basis, a risk tolerant individual can typically expect to amass a larger retirement savings nest egg. Knowledge of retirement finances and investing, as well as a related construct—financial literacy—have also been shown to be positively related to saving and pension adequacy (Dhaliwal & Chou, 2007; Howlett, Kees, & Kemp, 2008; Lusardi & Mitchell, 2011; Segel-Karpas & Werner, 2014). Presumably, this is because those with higher levels of domain-specific knowledge are more likely to possess saving and investment strategies that maximize long-range financial outcomes. Adaptive financial strategies include, for example, starting to save early in adulthood in order to take advantage of the power of compounding, selecting investments that are appropriately diversified in terms of risk and reward, and conducting regular retirement needs assessments over the course of one's working life to ensure that saving levels match anticipated future financial needs.

Having a set of clear retirement goals is a cognitive psychological dimension that has also been demonstrated to be linked to saving for retirement and future pension adequacy (Fisher & Anong, 2012; Stawski, Hershey, & Jacobs-Lawson, 2007). This is the case because high levels of retirement goal clarity help individuals formulate an appropriate retirement income replacement rate and how much income will be needed during the post-employment years, and on that basis, how much will need to be allocated to savings on an ongoing basis. According to Austin and Vancouver (1996), formulating clear and achievable (financial saving) goals is an

important precursor to goal striving activities (see also Hershey, Jacobs-Lawson, & Austin, 2012 on this point).

The last of the four psychological IVs we will examine as part of this investigation is future time perspective, which is a personality trait dimension (Mowen, 1999) that captures the extent to which an individual enjoys thinking about the future, as opposed to the present or past (Hershey & Mowen, 2000; Zimbardo & Boyd, 1999). Having a "long" future orientation to time is important in the retirement saving domain because it has been shown to facilitate the formulation of financial goals and the acquisition of financial knowledge (McCullough, 2012). Thus, consistent with findings from previous studies (e.g., Howlett, Kees, & Kemp, 2008; Jacobs-Lawson & Hershey, 2005), in this investigation we expect to find that individuals with a long future time perspectives will be more likely to have saved for retirement, and have superior perceived pension adequacy levels.

On the basis of the preceding discussion we propose the following hypothesis set:
*Hypothesis 3*: Individuals who are psychologically predisposed to anticipate their financial resource needs (e.g., high risk tolerance, high financial knowledge, high retirement goal clarity, long future time perspective) will be more likely to save for retirement and view their future pension as adequate.

The three hypothesis sets outlined above (push/pull; structural; psychological) were made on the basis of research findings drawn from studies of adults who work in traditional employment settings. It remains to be seen, however, whether comparable findings will be observed when comparable predictors of saving and pension adequacy are examined for a sample of self-employed adults. The psychological effects might actually turn out to be stronger among self-employed individuals relative to what has been observed among individuals in regular employment, because many self-employed workers lack occupational pensions, which places an increased responsibility for saving upon their shoulders.

**Analysis plan**
The analytic goals of this study are straightforward. First, we examine the reasons some respondents gave as to why they felt forced to be self-employed. Second, saving and perceived pension adequacy scores are examined as a function of both work status (voluntary/forced) and

country of origin (Germany/Netherlands). Similar work status and country comparisons are carried out for each of the demographic and psychological variables. Third, we test two regression models—a hierarchical binary logistic regression model in which retirement saving is the criterion, and a hierarchical multiple regression model in which perceived future pension adequacy is the dependent variable. In both models, a set of eight demographic indicators and four psychological variables serve as covariates (predictors).

**Method and Data Collection**

The data collection effort was carried out in 2014 by the TNS-NIPO research agency using computer-assisted web interviewing (see Conen & Schippers, 2016). At the country level, random samples were drawn from Dutch and German panelists who are registered as being solo self-employed (i.e., without the responsibilities of supervising subordinate personnel), with checks to approximate a 60-40 (male-female) distribution on gender, which is the prevalent distribution among self-employed in the Netherlands and Germany. A screening question was posed at the beginning of the interview that was designed to ensure that each respondent was still working in a self-employed capacity. Some 757 German and 793 Dutch respondents submitted completed questionnaires (total $N = 1,550$). The response rate was 19% in Germany and 40% in the Netherlands. Individuals who reported being over the age of 65, who were retired, or who reported holding a second job as a paid employee were eliminated from the dataset, which reduced the sample to 1,357 individuals. The final sample ranged in age from 15 to 65 years.

The difference in response rates is likely due to the fact that in the German data collection effort, the number of "bounced" emails was unknown. This means that the gross sample base in that country could not be corrected for ineligible non-responders (because contact with the randomly selected self-employed individual was never established). Therefore, the effective response rate among *eligible* German participants is likely to be closer to the Dutch response rate of 40 percent.

A series of questions queried respondents as to their motives for working in a self-employed capacity. Toward this end, they were asked the three following questions: *"I could not find a suitable job as an employee in paid employment," "self-employment was my last resort to gain income,"* and *"My employer wanted me to work as self-employed."* Response options were as follows: (1 = *did not play a role*, 2 = *played a role to a small extent*, 3 = *played a role to some*

*extent*, 4 = *played a role to a large extent*). If an individual chose a value of 4 for one or more of the three statements they were classified as being "forced" into self-employment. Some 341 individuals (25.1% of the sample) endorsed at least one of the three statements. The remainder of the sample (*n* = 1,016, 74.9%) were classified as voluntary self-employed. The full sample was subsequently divided into the following four subgroups: (1) German voluntary self-employed (*n* = 492), (2) German forced self-employed (*n* = 210), (3) Dutch voluntary self-employed (*n* = 524), and (4) Dutch forced self-employed (*n* = 131). Detailed demographic characteristics for each of these four groups, as well as country-level data collapsed over work status, are reported in Table 1. The table also reports mean scores and standard deviations for the four psychological variables collected as part of the investigation: general risk tolerance, self-reported financial knowledge, retirement goal clarity, and future time perspective. Descriptions for each of these measures is provided below.

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Insert Table 1 about Here

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**Measures**

*Dependent Variables.* The first dependent variable is an indicator of whether individuals had taken steps to save for old age. Specifically, respondents were asked to provide a yes, no, or don't know response to the following statement: "*I have taken additional measures (e.g., savings, life insurance or other investments) to generate more income in old age in order to supplement my pension income.*" Responses were coded dichotomously (0 = *no* or *don't know*; 1 = *yes*).

The second dependent variable assessed perceptions of future pension adequacy. Specifically, participants were asked to respond to the following statement: "*My pension savings and other sources of income are sufficient to live comfortably after retirement.*" Responses to this item were made using a 5-point Likert-type scale (1 = *completely disagree*; 3 = *neither agree nor disagree*; 5 = *completely agree*).

*Classification Variables.* Two indicators were used to classify individuals based on their country of origin and work status. The former (i.e., country of origin) was coded dichotomously

(0 = *Germans*; 1 = *Dutch*). Work status was designed to capture whether individuals felt that they voluntarily chose to become self-employed or whether they were forced to engage in self-employment, with the latter determined on the basis of the three screening questions described in the Data Collection section. For analysis purposes, those who were voluntarily self-employed were assigned a work status score of "0"; those who reported being forced into self-employment were assigned a score of "1." Additional information regarding the classification of work status is reported in the first section of the results.

*Demographic indicators.* Eight demographic variables were assessed including respondents': age, gender (0 = female; 1 = male), number of years of formal education, household gross income (measured in 1000s of euros), number of hours worked per week, whether they held supplementary pension rights from previous paid employment (0 = no; 1 = yes), marital status (0 = single, divorced, widowed; 1 = married or with partner), and whether one's spouse or partner was engaged in paid employment (0 = no [including those without a partner]; 1 = yes).

Household gross income was measured in seven income bands from low (<12.5K euros/year) to high (>78.5K euros/year). These seven values were subsequently recoded into euro amounts based on the midpoint of each band. Item non-response was negligible among the set of demographic indicators, except for the household income variable (missing = 13.3%). To maintain the sample size in the regression analyses reported below, missing values for income (*n* = 195) were set to the mean of the distribution and a dummy indicator was created for use in the regression models to reflect 'income is missing' (0 = valid response; 1 = missing). Use of this variable allowed us to maintain full ranks in the multiple and logistic regressions.

*Psychological Indicators.* General risk tolerance was assessed using a single-item indicator that involved a response to the following statement: *"How do you see yourself: Are you generally willing to take risks (risk-prone), or do you try to avoid risks (risk-averse)?"* Answers were recorded using a 10-point response scale (1= *risk-averse*; 10 = *risk-prone*) (Dohmen, Falk, Huffman, Sunde, Schupp, & Wagner, 2011). Due to data panel limitations, a subset of items were drawn from existing published scales to measure financial knowledge, retirement goal clarity, and future time perspective. Self-assessed financial knowledge was measured using three statements that employed a 5-point (1 = *strongly disagree*; 3 = *neither agree nor disagree*, 5 = *strongly agree*) Likert-type response format. The items drawn from the Hershey et al. (2007)

self-rated financial knowledge scale included: *"I am very knowledgeable about financial planning for retirement," "When I have a need for financial services, I know exactly where to obtain information on what to do,"* and *"I know more than most people about retirement planning"* (Cronbach's alpha = .72).

Continuing with the psychological variables, retirement goal clarity was assessed using the following three items drawn from the 5-item goal clarity measure by Hershey et al. (2007): *"I have thought a great deal about life after retirement," "I have a clear vision of how life will be in retirement,"* and *"I have set specific goals for how much will need to be saved for my retirement"* (alpha = .73). The response scale for these items was the same as the 5-point scale described in the preceding paragraph. Finally, future time perspective was measured using two items drawn from the 6-item time perspective measure employed by Hershey et al. (2007):*"The distant future seems very vague and uncertain to me"* and *"I pretty much live on a day-to-day basis,"* (both items reverse coded; *r* = .36). These items also used the 5-point (*strongly disagree/strongly agree*) Likert-type response format.

## Results

The results are divided into four sections. We begin by examining the reasons behind why it is that some individuals feel forced into self-employment. Next, mean saving and perceived pension adequacy scores are examined as a function of work status and respondents' country of origin. After that, the various demographic and psychological indicators are examined as a function of the two classification indicators. Finally, regression analyses are reported that are designed to determine whether the classification, demographic, and psychological indicators account for appreciable variation in the two dependent variables—retirement saving and perceived future pension adequacy. Prior to conducting the analyses, all data distributions were checked for skew, kurtosis, outliers, and other possible distorting conditions that may violate the basic assumptions of general linear model statistics. In this regard, no unusual distributional properties were identified.

### Motives behind forced self-employment

Recall that each respondent was asked to indicate the reason(s) why he or she chose to engage in self-employment. Of the possible reasons provided, three items suggested the individual felt

"forced" to work in a self-standing capacity. These items were: (1) *I could not find suitable employment in paid work;* (2) *Self-employment was my last resort to gain income;* and (3) *My employer wanted me to work in a self-employed capacity*. Incidence rates for endorsement of these items are shown in Table 2, summarized both as a function of respondents' country and for the full sample. The top half of the table (first three rows) contains summary data on these three questions for all study participants; the bottom panel summarizes data only for those who were classified as being forced into self-employment.

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Insert Table 2 about Here

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Examination of the reasons individuals gave for engaging in self-employment (see top panel, Table 2), revealed that some 18 percent of all study participants indicated they could not find suitable employment in paid work and nearly 17 percent reported self-employment was their last resort to gain income. Only a small percentage of all study respondents (1.7 percent) indicated they worked in a self-standing capacity based on pressure from their employer. Three separate two-tailed tests of independent proportions revealed that the percentage of the full sample that endorsed each of these three items differed as a function of country of origin. Specifically, a larger proportion of Germans endorsed each of the three items more frequently than Dutch (all three tests $p \leq .01$).

The bottom panel of Table 2 summarizes item-level data only for those respondents who were classified as being forced self-employed. Perusal of the far right column (bottom panel) reveals that nearly three-quarters (73 percent) of those who felt forced into self-employment indicated they were unable to find suitable employment in paid work. Some two-thirds (67.2 percent) of respondents reported that self-employment was their last resort to gain income. Fewer than five percent of respondents indicated they transitioned into self-employment at the behest of their employer. Three additional tests of independent proportions (one for each item) were calculated that compared the reasons endorsed by German and Dutch forced self-employed. However, none of the three comparisons indicated a statistically significant country-level effect. Furthermore, the summary data for those forced into self-employment (bottom panel) mirrored

the percentages reported for all study participants (top panel), with the first two motives (could not find suitable employment; last resort to gain income) being much more frequently endorsed than the third (i.e., for the convenience of one's employer).

**Saving and perceived pension adequacy**

A 2 (Country: German/Dutch) x 2 (work status: voluntary/forced) analysis of variance (ANOVA) was computed to probe for mean differences in saving for old age. Given the dichotomous coding of the dependent variable, the mean scores shown reduce to the proportion of individuals in each group that indicated they are saving (or have saved). The main effect of country failed to exceed the significance threshold ($F < 1.0$, ns), but the effect of work status was statistically significant, $F(1, 1353) = 24.82$, $p < .01$. The two-way interaction failed to obtain, $F < 1$, *ns*. Mean scores for the retirement saving question (see Figure 2) revealed that 68.9 percent of voluntary self-employed in Germany indicated they were saving (or had saved), compared to 52.4 percent of forced German self-employed. Comparable figures for the Netherlands revealed similar differences—69.3 percent of voluntary Dutch self-employed indicated they were saving, compared to 55.7 percent of forced Dutch self-employed.

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Insert Figure 2 about Here

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A second 2 (Country: German/Dutch) x 2 (work status: voluntary/forced) ANOVA was carried out, to probe for mean differences in perceived pension adequacy at the subgroup level (see Figure 3). Unlike the first analysis, in this computation the main effect of country did emerge, $F(1, 1,353) = 5.98$, $p = .02$, which revealed that Dutch participants' mean saving adequacy score ($M = 3.00$; $SD = 1.07$) was significantly larger than that of Germans' ($M = 2.78$; $SD = 1.17$). The main effect for work status also proved to be significant, $F(1, 1,353) = 58.86$, $p < .01$, with the mean for voluntary workers ($M = 3.03$; $SD = 1.07$) being larger than the mean for forced self-employed ($M = 2.48$, $SD = 1.20$). The two-way interaction effect for this dependent variable failed to reach the significance threshold, $F < 1.0$.

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Insert Figure 3 about Here

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An inspection of the frequency distribution for the pension adequacy question revealed that 31.7 percent of voluntary self-employed in Germany perceived their pensions as adequate (by "agreeing" or "strongly agreeing" with the "able to live comfortably in retirement" question), compared to 20.0 percent of forced German self-employed. Comparable figures for the Netherlands revealed similar differences—38.2 percent of voluntary Dutch self-employed perceived their pensions to be adequate, compared to 24.4 percent of forced Dutch self-employed.

**Group differences in demographic and psychological indicators**

Planned comparisons (*t*-tests and tests of independent proportions, not tabulated) for the twelve demographic and psychological indicators were made between voluntary and forced self-employed individuals within each country (see Table 1). Tests for German respondents (columns 1 and 2) revealed that compared to voluntary self-employed, forced self-employed were more likely to: be older, have a lower income, be less likely to be married or have a partner, have a lower level of risk tolerance, and have a shorter future time perspective. Comparable comparisons for Dutch respondents (columns 3 and 4) revealed that relative to voluntary self-employed, forced self-employed were more likely to: be older, be more likely to be male, have a lower household income, have a lower risk tolerance level, have lower level of financial knowledge, and a shorter future time perspective.

Next, country-level comparisons (*t*-tests and tests of independent proportions; not tabulated) were carried out for the twelve indicators shown columns 5 and 6 of Table 1. The results revealed that relative to German respondents, Dutch participants were: older, more likely to be male, more highly educated, have a higher household income, work fewer hours per week, more likely to have previous supplemental pension rights, more likely to be married or have a partner, more likely to have a spouse engaged in paid employment, have a lower risk tolerance level, lower retirement goal clarity, and a shorter future time perspective. Each of the above tests

were significant at the .05 level. Of the twelve (demographic and psychological) variables, only financial knowledge failed to reveal a significant cross-national effect.

In sum, the cross-national differences reported above were striking, with eleven of the twelve demographic and psychological indicator variables showing significant effects. Moreover, the pattern of effects observed for voluntary and forced workers was fairly consistent across countries, with forced self-employed from both nations: being younger, having a lower household income, having a lower risk tolerance threshold, and a shorter future time perspective.

**Regression analyses**

The final set of analyses sought to determine the extent to which the classification, demographic, and psychological variables could account for variation in reported saving levels and perceived future pension adequacy. For the former dependent measure, a three-level binary logistic regression model was estimated. Specifically, country of origin and work status were entered as predictors in the first block, followed by demographic measures in the second block, and psychological indicators in block three. The same three sets of predictors were also used to model pension adequacy scores, however, given the continuous nature of the criterion, a hierarchical linear multiple regression approach was employed.

*Retirement saving.* The binary logistic regression analysis predicting retirement savings revealed that the omnibus test for the first block of covariates was significant at the .01 level, $\chi^2(2) = 26.30$, with 65.2 percent of cases correctly classified (see Table 3). The Wald coefficient for work status —but not country of origin—revealed a significant effect ($p < .01$). The odds ratio for work status suggested that forced self-employed were 47.1 percent less likely to indicate they had saved for retirement compared to voluntary self-employed. The second block of covariates was also significant, $\chi^2(9) = 182.29$, $p < .01$, with 71.1 percent of cases correctly classified and four of the nine demographic covariates surpassing the .01 threshold. The likelihood of saving for retirement was shown to be associated with: being older, being more highly educated, having a larger household income, and having supplementary pension rights (all $p < .01$).

As seen in Table 3, once the demographic predictors were entered into the model, the effects for work status and country were both robust, which suggests that both classification indicators were capturing unique variance in the criterion not otherwise accounted for by the

demographic covariates. In the third level of the analysis, the four psychological predictors were also added to the logistic regression model. This step was also significant, $\chi^2(4) = 82.86$, $p < .01$, with 72.7 percent of cases correctly classified. When the full model was tested, three of the four psychological indicators—financial knowledge, retirement goal clarity, and future time perspective—produced statistically reliable effects. Odds ratios revealed that a one unit increase in financial knowledge resulted in a 50 percent increase in the likelihood of having saved for retirement, a one unit increase in retirement goal clarity resulted in a 20 percent increase in the likelihood of saving, and a comparable increase in time perspective was linked to a 54 percent increase in the likelihood of saving. It is also worthy of mention that in the third block, of the classification variables only work status remained significant at the .05 level, which suggests that cross-national covariation among the psychological indicators and the criterion effectively diminished the impact of the country-level effect observed in the second model shown in Table 3. Furthermore, three of the four demographic predictors that were identified in the second block as being statistically significant (educational level, household income, and supplemental pension rights) remained significant, with little or no reduction in explanatory power. Taken together, the Nagelkerke $R^2$ for the full model was over 26 percent.

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Insert Table 3 about Here

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To test the significance of indirect effects in the relationship between work status and saving (shown in in Table 3), a mediation analysis was computed using the procedure described in Kenny (2008). This analysis, conducted using the Stata SUREG command, revealed indirect paths from work status to saving for two of the fourteen independent variables shown in Table 3. In sum, 47 percent of the variability in work status to saving scores followed indirect paths. Twenty-five percent of the variability flowed through household income and 22 percent flowed through future time perspective.

*Perceived pension adequacy.* Future pension adequacy served as the criterion in the hierarchical multiple regression analysis shown in Table 4. The first level in this model was significant at the .01 level, $F(2, 1354) = 36.19$, with work status revealing a statistically reliable

effect. Specifically, voluntary self-employed envisioned a more adequate pension outcome for themselves than forced self-employed. The second hierarchical level also reached the significance threshold, $F(11, 1345) = 30.74$, $p < .01$, with six of the nine demographic predictors surpassing the .05 level. Specifically, higher perceived pension adequacy was indicated by those who were older, male, those with a higher household income, respondents who worked fewer hours per week, and those with supplemental pension rights from previous paid employment. Furthermore, those who had a spouse in paid employment envisioned a superior future pension for themselves relative to those without a partner. It is also worth noting that the effect for work status remained statistically significant once the set of demographic indicators had been added to the model; the country effect in the second level failed to obtain. The omnibus test for the third hierarchical level also surpassed the significance threshold, $F(15, 1341) = 36.49$, $p < .01$, with three of the four psychological predictors demonstrating reliable effects. Significantly larger future pension adequacy ratings were made by those who had higher levels of financial knowledge, clearer retirement goals, and a longer future time perspective. Notably, the work status predictor remained robust after having added both demographic and psychological predictors to the third model, and the country effect that was below threshold in the second model re-emerged as statistically significant in model three. Taken together, the full model accounted for just over 30 percent of the variability in pension adequacy ratings.

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Insert Table 4 about Here

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To further probe the nature of the effects reported in Table 4, a mediation analysis was carried out to test the significance of possible mediators on the direct relationship between work status and perceived pension adequacy. For this set of tests, the recommendations of Preacher and Hayes (2008) were followed. This analysis revealed indirect paths from work status to pension adequacy for three of the fourteen independent variables shown in Table 4. In sum, 38 percent of the variability captured in pension adequacy from work status flowed through household income (14 percent), supplemental pension rights (4 percent), and future time perspective (20 percent).

*Ancillary analyses.* To probe for the possibility of interaction effects in predicting saving and pension adequacy, two other regression models were estimated that were modeled after those reported above. Specifically, a set of two-way interactions were examined between work status and each of the predictors reported to be statistically significant in Tables 3 and 4. All two-way interaction effects were entered into two new logistic (saving) and multiple regression (pension adequacy) models in a fourth hierarchical step. However, the results of this analysis failed to shed light on the antecedents of saving and pension adequacy over and above what was previously found and reported in Tables 3 and 4.

Four additional regression models—which reflect the general format of those reported above—are shown in Appendices A and B. These analyses—which were carried out *separately* for respondents from each country—describe saving and perceived pension adequacy scores for self-employed individuals from the Netherlands and Germany.

**Discussion**

The purpose of this investigation was to explore the pension adequacy and saving practices of Dutch and German self-employed workers. A central focus of the research was to examine whether differences in these two dependent measures exist as a function of whether respondents voluntarily entered the ranks of the self-employed, or whether they felt forced to work in a self-standing capacity. One major finding from the study was that an appreciable number of self-employed individuals in both countries felt forced to work for themselves. Moreover, those who voluntarily choose to work in self-employment were not only found to be more likely to save, but they also had more favorable perceptions of their pension adequacy than those forced into that work status. Analyses also revealed that a core set of demographic and psychological variables were able to account for appreciable variation in saving practices and pension adequacy. Taken together, the results of this study paint a rich picture of the retirement preparedness challenges faced by self-standing workers, and how some workers are more likely to face a brighter future than others in terms of financial security in old age.

Perhaps one of the more striking findings from this research was that some 25.1 percent of study respondents felt forced to work in a self-employed capacity. Importantly, this percentage differed appreciably as a function of country of origin, with the forced self-

employment rate being some 50 percent higher in Germany (29.9 percent) than it is in the Netherlands (20.0 percent). Necessity-based motives for working in self-employment included the inability to find suitable employment as a wage-earner and the feeling that self-employment was a "last resort" to gain income. Only a small number of workers in either country (0.8 percent in the Netherlands and 2.6 percent in Germany) indicated that they were forced into self-employment at the behest of their (former) employer. These findings suggest that those who feel driven into that employment sector might not be the best qualified candidates, in light of the fact that many were unsuccessful at finding work as traditional wage earners. Perhaps more important is the fact that these percentages—relative to the figures previously released by the Dutch government (Tweede Kamer, 2008; 2015b)—suggest the government may be underestimating the forced self-employment phenomenon, as this group seems to be growing.

The second major set of findings involved retirement saving rates and expectations of future pension adequacy. Specifically, those who voluntarily chose to enter the ranks of the self-employed were more likely to report having saved for retirement, and they envisioned a more comfortable pension situation for themselves. These effects can clearly be seen in Figures 2 and 3. As a group, voluntary self-employed individuals exhibited a saving rate that was over 15 percentage points higher than those forced into self-employment. In this analysis, no country-level differences were observed. A similar advantage of voluntary self-employment was seen among the data for perceived future pension adequacy, with the mean score for forced workers being one-half of a standard deviation lower than the mean for voluntary workers. A main effect for country of origin emerged in this analysis, with Dutch self-employed workers perceiving their future pension adequacy to be superior to that of Germans. Taken together, these two sets of findings indicate that the factors that motivate individuals to engage in self-standing work covary with financial aspects of retirement preparedness. It also suggests that perhaps more could be done in terms of developing informational campaigns and policy initiatives that would help forced self-employees increase their involvement in the saving process during their working years.

The pair of regression analyses that were carried out helped shed light on the reasons why self-employed individuals save for retirement, as well as the factors that underlie individual differences in perceived pension adequacy. In terms of the former, retirement saving practices were demonstrated to be more common among those who voluntarily chose to enter self-

employment. Saving was also shown to be linked to higher levels of educational attainment, higher household incomes, and having supplemental pension rights from previous engagement as a wage earner. Three psychological variables were also found to be linked to saving. Specifically, the likelihood of saving was higher among those with a lower level of risk tolerance, a higher level of financial knowledge, and a longer future time perspective.

The regression analyses designed to predict future pension adequacy revealed that both work status and country of origin had bearing on respondents' expectations of the future. In this regard, Dutch voluntary self-employed individuals fared better than German forced workers. Superior pension expectations were also observed among those who: higher annual incomes, worked more hours per week, had supplemental pension rights from previous employment, and who had a working partner. Pension adequacy ratings were also higher for those who possessed higher levels of financial knowledge, greater retirement goal clarity, and a longer future time perspective. Taken together, the effects described in both this and the preceding paragraph reveal that a combination of demographic and psychological variables are implicated in financial preparedness for retirement among the self-employed. Moreover, the conditions under which one enters self-standing work—whether it is driven by necessity or choice—also shapes the extent to which one is likely to be financially prepared to transition out of the workforce in late life.

This study is not without its limitations. First, participants were sampled from two Northern European countries that arguably shared more similarities than differences when it comes to pension provisions and regulations. And although certain country-level effects were identified, it would be informative to explore saving practices and perceived pension adequacy among individuals from other nations that have dissimilar pension provisions for self-employed workers. Doing so would allow for a test of the generalizability of findings from this investigation. A second limitation involved the fact that one of the two dependent variables— saving—was measured in a binary fashion and the indicator other—pension adequacy—was assessed based on participants' perceptions. Perhaps a more fine-grained analysis is warranted, in which assessments are made regarding the specific nature of individuals' savings investments, as well as their actual anticipated pension adequacy using econometric indicators. Reliance on more objective indices could serve to reduce the likelihood of error stemming from various forms of individual response bias.

Many countries in Europe have witnessed a marked increase in self-employment rates over the past thirty-five years. This is especially true in the Netherlands, where the percentage of self-employed workers has more than doubled during that time frame. During that same period, workers in many European nations have witnessed pension-related changes in public policies, institutional practices, and state-based levels of support. For many, these changes have resulted the promise of smaller pension incomes and an increase in the number of years they can expect to spend in the workforce. Those challenges are compounded for self-employed workers— particularly those without personnel—who lack access to the types of second-tier pension mechanisms that have traditionally been a mainstay for European workers over the past six decades. Undoubtedly, the way in which countries like the Netherlands and Germany respond to this situation in the coming decades will have significant quality of life implications for a large segment of the workforce. Toward that end, changes in institutional policies and practices would seem warranted as a way to help ensure the financial security of future cohorts of retirees.

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Appendix A

Logistic Regression Models (Shown By Country) Predicting Retirement Savings

| Covariate | GERMANS | | DUTCH | |
|---|---|---|---|---|
| | OR | *p*-value | OR | *p*-value |
| *Classification Variables* | | | | |
| Work Status (0=Vol; 1=Forced) | .63* | .02 | .70 | .13 |
| *Demographic Variables* | | | | |
| Age (years) | .98 | .03 | 1.05** | .01 |
| Gender (0 = female) | 1.13 | .52 | 1.02 | .93 |
| Education (years) | 1.13** | .01 | 1.12** | .01 |
| Household Income (x1000) | 1.03** | .01 | 1.03** | .01 |
| Household Income (missing) | 1.27 | .37 | .62† | .07 |
| Hours Worked/Week | .99 | .31 | 1.01* | .02 |
| Supplementary Pension Rights (0 = none) | 2.08** | .01 | .99 | .97 |
| Marital/Partner Status (Ref. = no partner) | 1.15 | .65 | 1.96* | .03 |
| Partner Working (Ref. = non-working) | 1.12 | .70 | 1.45 | .13 |
| *Psychological Variables* | | | | |
| Risk Tolerance | .94 | .17 | .95 | .32 |
| Financial Knowledge | 1.32* | .05 | 1.89** | .01 |
| Retirement Goal Clarity | 1.33* | .01 | 1.06 | .69 |
| Future Time Perspective | 1.46** | .01 | 1.68** | .01 |
| Constant: | -3.60** | | -8.56** | |
| Nagelkerke $R^2$: | .296 | | .302 | |

*Note:* **$p < .01$; *$p < .05$; †$p < .10$. OR = odds ratio.

Appendix B

Hierarchical OLS Regression Models (Shown By Country) Predicting Future Pension Adequacy

| | GERMANS | DUTCH |
|---|---|---|
| Predictor | Standardized β | Standardized β |
| *Classification Variables* | | |
| Work Status (0 = Vol.; 1 = Forced) | -.13** | -.12** |
| *Demographic Variables* | | |
| Age (years) | .02 | .05 |
| Gender (0 = female) | .04 | .01 |
| Education (years) | -.03 | -.03 |
| Household Income (x1000) | .21** | .18** |
| Household Income (missing) | .08** | .01 |
| Hours Worked per Week | -.07* | -.07* |
| Supplementary Pension Rights (0 = none) | .13* | .09* |
| Marital Status (Ref = no partner) | -.06 | -.03 |
| Partner Working (Ref = non-working) | -.13* | -.04 |
| *Psychological Variables* | | |
| Risk Tolerance | .03 | .01 |
| Financial Knowledge | .17** | .18** |
| Retirement Goal Clarity | .12** | .09* |
| Future Time Perspective | .23** | .18** |
| Adjusted $R^2$: | .334 | .261 |

*Note:* \*\*$p < .01$, \*$p < .05$, †$p < .10$

Table 1

*Demographic and Psychological Characteristics of Respondents (Percentages and Means w/Standard Deviations in Parentheses)*

|  | German Voluntary (*n*=492) | German Forced (*n*=210) | Dutch Voluntary (*n*=524) | Dutch Forced (*n*=131) | All Germans (*n*=702) | All Dutch (*n*=655) |
|---|---|---|---|---|---|---|
| *Demographic Variables* | | | | | | |
| Age | 49.48 (9.99) | 51.58 (8.76) | 50.85 (8.86) | 53.06 (9.29) | 50.11 (9.68) | 51.29 (8.98) |
| Percent Male | 56.90 | 52.90 | 61.60 | 71.80 | 55.70 | 63.70 |
| Years of Education | 15.21 (2.84) | 14.97 (2.91) | 16.48 (2.54) | 16.48 (2.43) | 15.14 (2.87) | 16.48 (2.52) |
| H.H. Income (Euros x1K) | 44.70 (22.46) | 39.04 (23.96) | 48.91 (21.74) | 37.78 (19.40) | 43.01 (23.04) | 46.69 (21.74) |
| Hrs. Wrkd/Week (Actual) | 40.59 (15.73) | 38.77 (16.20) | 37.95 (15.73) | 39.14 (17.02) | 40.05 (15.88) | 38.19 (15.99) |
| Sup. Pension Rights (Pct.) | 38.20 | 30.50 | 66.40 | 67.90 | 35.90 | 66.70 |
| Married or w/Partner (Pct.) | 66.70 | 56.20 | 83.00 | 80.90 | 63.50 | 82.60 |
| Spouse Employed (Pct.)* | 83.80 | 78.80 | 74.70 | 70.80 | 52.40 | 61.10 |
| *Psychological Variables* | | | | | | |
| General Risk Tolerance | 6.76 (2.11) | 6.32 (2.48) | 7.30 (1.87) | 6.51 (2.14) | 6.63 (2.34) | 7.14 (1.95) |
| Financial Knowledge | 3.32 (0.77) | 3.27 (0.90) | 3.28 (0.71) | 3.13 (0.72) | 3.31 (0.81) | 3.25 (0.72) |
| Retirement Goal Clarity | 2.74 (0.91) | 2.82 (1.02) | 2.55 (0.79) | 2.60 (0.85) | 2.77 (0.94) | 2.56 (0.80) |
| Future Time Perspective | 3.35 (0.91) | 2.87 (1.03) | 3.09 (0.77) | 2.72 (0.86) | 3.20 (0.97) | 3.02 (0.80) |

*N* = 1,357.  *Valid percentage of those with a spouse/partner.

Table 2

*Percentage of Respondents Who Endorsed One or More Items to Indicate They Were Forced into*

*Self-employment. All Participants (Top Panel) and Those Classified as Forced Self-Employed*

*(Bottom Panel).*

|  | German Respondents | Dutch Respondents | All Respondents |
|---|---|---|---|
| Item |  |  |  |
| *All Participants* |  |  |  |
| I could not find suitable employment in paid work. | 21.5 | 15.0 | 18.3 |
| Self-employment was my last resort to gain income. | 20.2 | 13.3 | 16.9 |
| My employer wanted me to work in a self-employed capacity. | 2.6 | 0.8 | 1.7 |
| *Only Participants Classified as Forced Self-Employed\** |  |  |  |
| I could not find suitable employment in paid work. | 71.9 | 74.8 | 73.0 |
| Self-employment was my last resort to gain income. | 67.6 | 66.4 | 67.2 |
| My employer wanted me to work in a self-employed capacity. | 5.2 | 3.1 | 4.4 |

*Items in columns do not sum to 100% because individuals could endorse more than one reason
   for engaging in forced self-employment.

Table 3

*Three Logistic Regression Models Predicting Retirement Savings*

| Covariate | Classification Variables Only | | Classification & Demographic Variables | | Full Model (All Predictors) | |
|---|---|---|---|---|---|---|
| | OR | *p*-value | OR | *p*-value | OR | *p*-value |
| *Classification Variables* | | | | | | |
| Work Status (0=Vol; 1=Forced) | .52** | .01 | .59** | .01 | | |
| | .65** | .01 | | | | |
| Country (0=Germany; 1=Neth.) | 1.05 | .67 | .72* | .02 | .95 | .51 |
| *Demographic Variables* | | | | | | |
| Age (years) | | | 1.02** | .01 | 1.01 | .25 |
| Gender (0 = female) | | | 1.13 | .37 | 1.04 | .76 |
| Education (years) | | | 1.11** | .01 | 1.11** | .01 |
| Household Income (x1000) | | | 1.03** | .01 | 1.02** | .01 |
| Household Income (missing) | | | .89 | .52 | .90 | .55 |
| Hours Worked/Week | | | 1.00 | .41 | 1.00 | .33 |
| Supplementary Pension Rights | | | 1.66** | .01 | 1.40** | .01 |
| Marital/Partner Status (Ref. = no partner) | | | 1.27 | .23 | 1.38 | .12 |
| Partner Working (Ref. = non-working) | | | 1.15 | .43 | 1.21 | .30 |
| *Psychological Variables* | | | | | | |
| Risk Tolerance | | | | | .95 | .10 |
| Financial Knowledge | | | | | 1.50** | .01 |
| Retirement Goal Clarity | | | | | 1.20* | .03 |
| Future Time Perspective | | | | | 1.54** | .01 |
| Constant: | 0.78** | | -3.43** | | 5.63** | |
| Nagelkerke $R^2$: | .026 | | .196 | | .266 | |

*Note:* **$p < .01$; *$p < .05$. OR = odds ratio.

Table 4

*Three Hierarchical OLS Regression Models Predicting Perceived Future Pension Adequacy*

| Predictor | Classification Variables Only | Classification & Demographic Variables | Full Model (All Predictors) |
|---|---|---|---|
|  | Standardized β | Standardized β | Standardized β |
| *Classification Variables* | | | |
| Work Status (0 = Vol.; 1 = Forced) | -.21** | -.17** | -.13** |
| Country (0 = Germany; 1 = Neth.) | .07** | -.01 | .07** |
| *Demographic Variables* | | | |
| Age (years) | | .09** | .03 |
| Gender (0 = female) | | .06* | .03 |
| Education (years) | | -.01 | -.03 |
| Household Income (x1000) | | .29** | .19** |
| Household Income (missing) | | .05† | .05* |
| Hours Worked per Week | | -.06* | -.07** |
| Supplementary Pension Rights (0 = none) | | .18** | .11** |
| Marital Status (Ref = no partner) | | -.04 | -.03 |
| Partner Working (Ref = non-working) | | -.09* | -.07* |
| *Psychological Variables* | | | |
| Risk Tolerance | | | .02 |
| Financial Knowledge | | | .18** |
| Retirement Goal Clarity | | | .11** |
| Future Time Perspective | | | .21** |
| Adjusted $R^2$: | .049 | .194 | .311 |

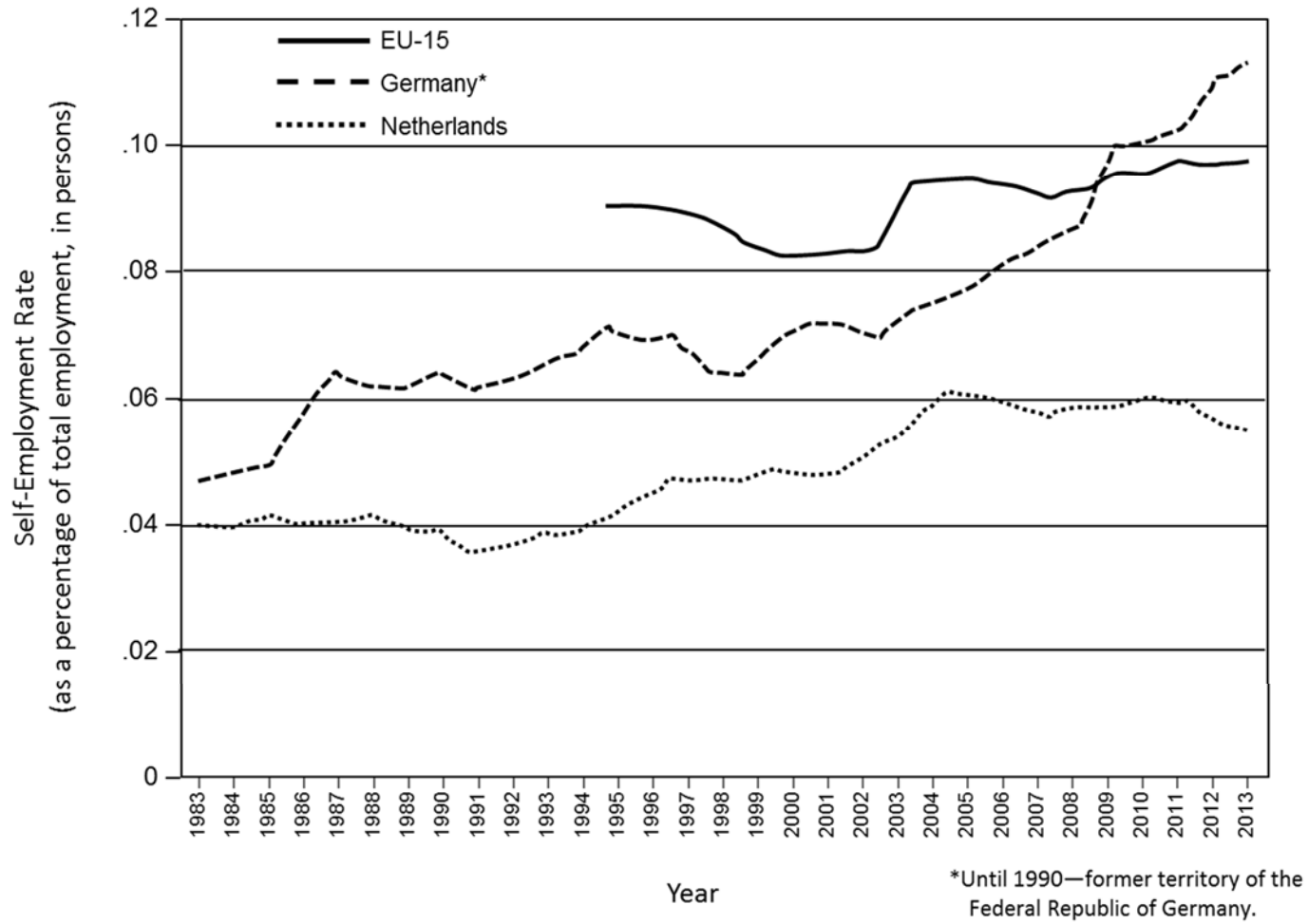*Note:* \*\*$p < .01$, \*$p < .05$, †$p < .10$

*Figure 1.* Development of self-employed (with no personnel) 1983-2014 for Germany, the Netherlands, and the EU-15 (as percentage of total employment, in persons). Source: Eurostat (2015).
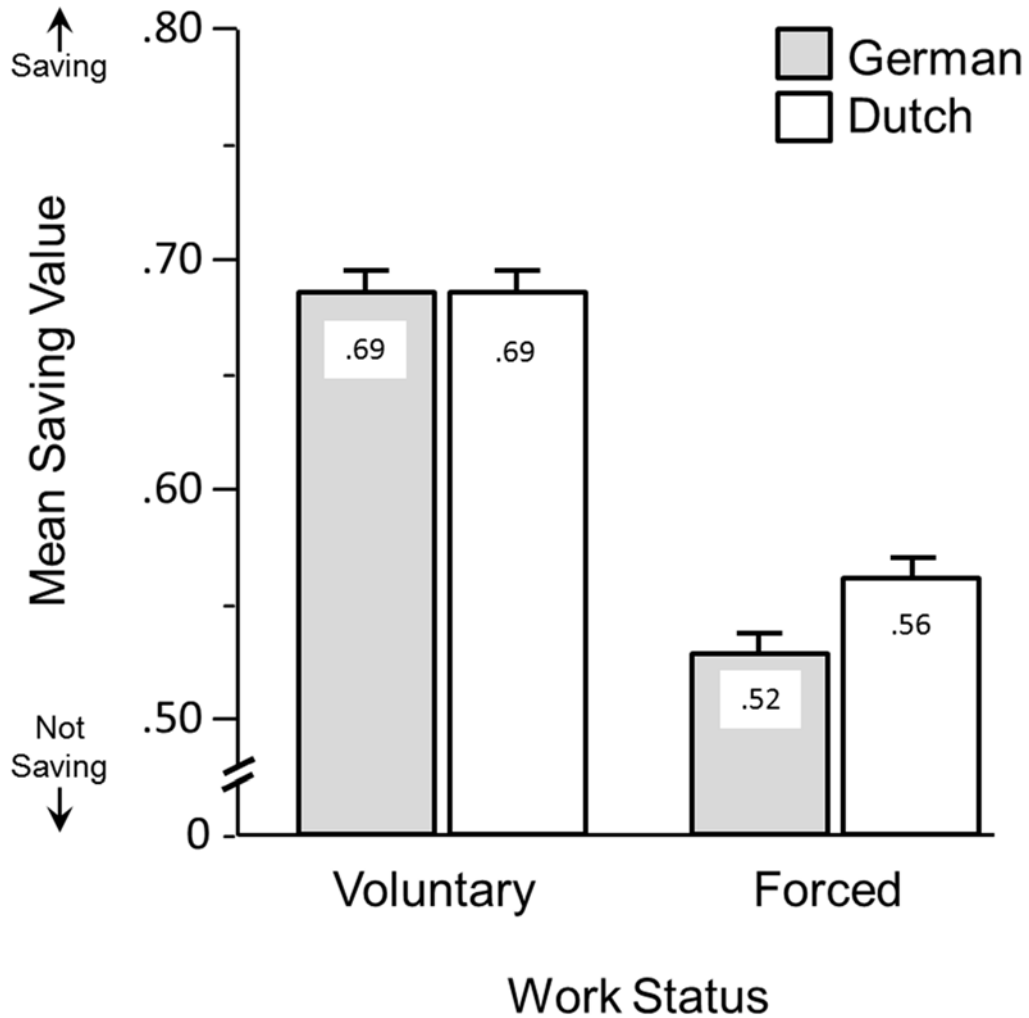
*Figure 2.* Mean saving scores and standard errors shown as a function of work status and country

   of origin. Values plotted are the proportion of individuals who indicate they are saving

   (or have saved) for retirement.

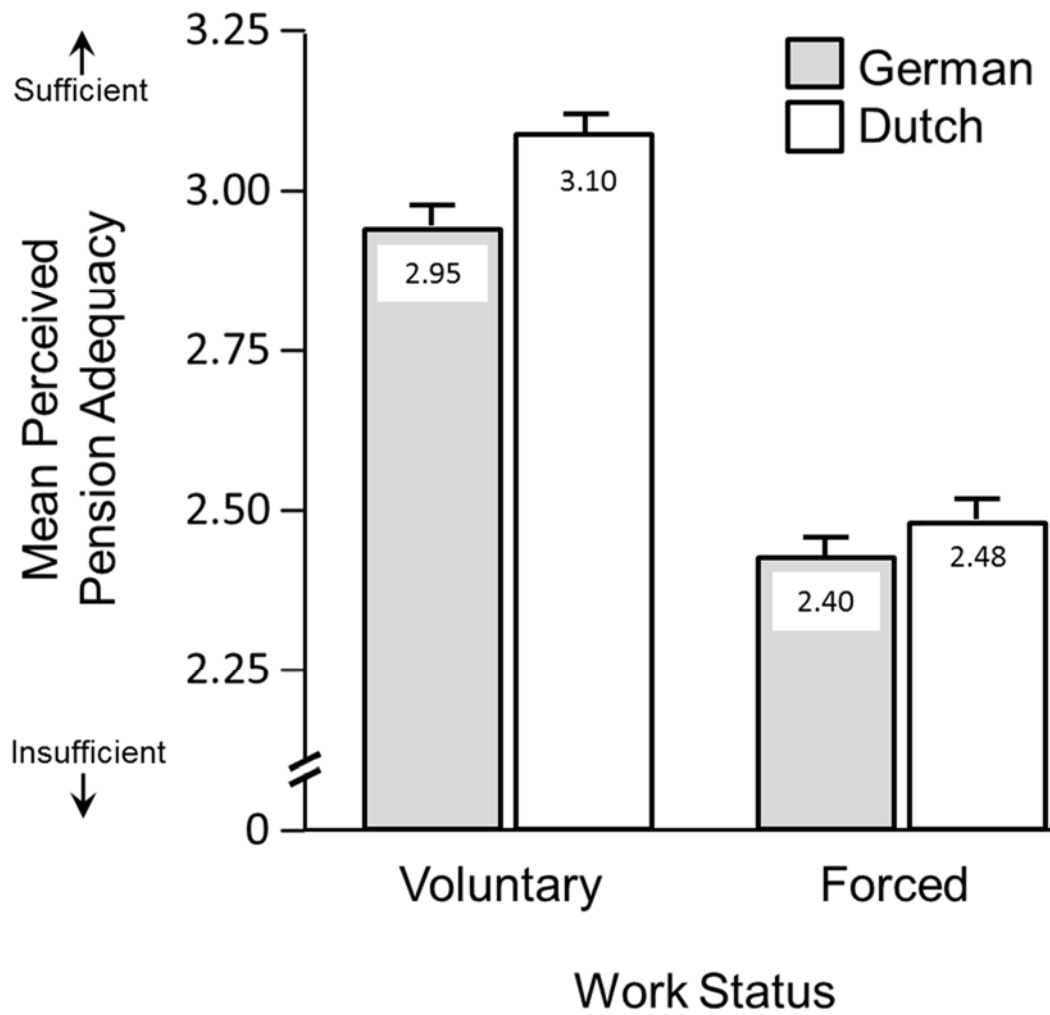*Figure 3*. Mean perceived pension adequacy scores and standard deviations shown as a function of work status and country of origin.