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Abstract

This paper examines the relative savings position of migrant households in West Germany, paying particular attention to differences between temporary and permanent migrants. Our findings reveal significant differences in the savings rates between foreign-born and German-born individuals. These differences disappear, however, for temporary migrants, if their remittances are taken into account. The results of a decomposition analysis indicate that differences in the savings rate between Germans and foreigners can mainly be attributed to differences in observable characteristics. We do not find strong evidence for an adjustment of the savings rate between immigrants and natives over time.

JEL Classification: F22, E21, C24

Keywords: Savings, Migration

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*Thomas K. Bauer, RWI Essen, Ruhr-University Bochum, IZA Bonn, and CEPR London; Mathias Sinning, RWI Essen. The authors would like to thank Michael Fertig and the participants of the IZA Summer School for their helpful comments. All correspondence to Mathias Sinning, Rheinisch-Westfälisches Institut für Wirtschaftsforschung (RWI), Hohenzollernstraße 1-3, D-45128 Essen, Germany; Fax: ++49 201 81 49 200; e-mail: sinning@rwi-essen.de.

1 Introduction

Due to the growing number of immigrants worldwide, the economic performance of the foreign-born population and the integration of immigrant minorities into the host-country's society have become increasingly important. So far, the economic literature on the assimilation of immigrants concentrates predominantly on earnings and employment adjustment patterns (Borjas 1994)[1]. Only a few studies examine the relative savings position of the foreign-born population, although the savings level represents an important measure of the overall economic well-being, influencing the possibilities of immigrants to participate in the economic, social and political life of their host country (Cobb-Clark and Hildebrand 2002). The long-term integration process of immigrant minorities, however, also depends on the savings behavior and hence the wealth accumulation of immigrants. This is especially important in an ageing society with a pay-as-you go pension system, because private savings have become increasingly relevant to supplement public pensions after retirement.

Germany, the major immigration country in the European Union, is an excellent example of the importance of savings for the long-term integration of immigrants. In the 1960s and 1970s, a large number of "temporary" guest workers – mainly labor migrants from Southern Europe – were encouraged to migrate to Germany. Many of them, however, decided to stay in Germany permanently (Bauer, Dietz, Zimmermann, and Zwintz 2005). The savings level and the resulting wealth position of these guest workers may become an important factor of the German integration policy, because a major part of this group of migrants is reaching retirement age within the next decade.

Several arguments suggest the existence of savings disparities between immigrants and the native-born population. Firstly, differences in the savings behavior

[1]The evidence for Germany is summarized by Bauer, Dietz, Zimmermann, and Zwintz (2005).

between natives and immigrants may be caused by the original migration motive of immigrants. Different to permanent migrants, temporary migrants may want to accumulate more savings in order to improve their economic situation upon their return to the home country. Hence, it seems to be important to differentiate between temporary and permanent migrants and to take the remittances of migrants into account when analyzing differences in the savings behavior of immigrants and natives. Secondly, differences in the savings patterns and wealth position may be caused by differences in the socioeconomic background between natives and immigrants such as, for example, differences in the cultural and economic background or skill differences. The latter may be responsible for differences in the economic performance of immigrants and natives and consequently the possibilities to accumulate savings. Finally, savings disparities between natives and immigrants may be the results of regulations concerning the access to social welfare programs or discrimination by financial institutions.

This paper aims at providing a comprehensive analysis of the savings behavior of immigrants relative to natives using German data. In this endeavor, we pay special attention to the relative importance of remittances and control for differences between permanent and temporary migrants. Specifically, the following research questions will be addressed in this paper: Are there differences in the savings rate between immigrants and natives? Which factors determine the savings rate? Do we observe a savings assimilation process? Do remigration plans of immigrants affect their savings behavior? What is the relative importance of remittances in the context of wealth accumulation? Which part of the savings differential can be attributed to differences in the characteristics of immigrants and natives and which part is due to a different savings behavior?

We use household information drawn from the *German Socio-Economic Panel*

(GSOEP) of the years 1996 - 2003 which contain comparable information about the remittances of immigrants. In our analysis, we apply different estimation strategies to account for the large number of households who do not save at all. In particular, we estimate different empirical specifications of OLS, Tobit, and fixed effects OLS and Tobit models to investigate the savings gap and the assimilation process of immigrants in Germany. Particular attention is paid to the differences in the savings behavior between temporary and permanent migrants. We further apply the decomposition method proposed by Oaxaca (1973) and Blinder (1973) for linear models and develop a similar decomposition method for Tobit models to isolate the part of the savings differential that can be explained by differences in socioeconomic characteristics from the part attributable to differences in the savings behavior.

Our findings reveal significant differences in the savings rate between foreigners and Germans. However, these differences disappear when taking the remittances of migrants who intend to stay only temporarily into account. The decomposition of the savings differential shows that savings disparities are mainly the result of differences in socioeconomic characteristics rather than differences in the savings behavior of immigrants and natives. This result implies that distinctions in the savings rates mainly reflect disparities in observable factors, such as age, education, permanent income, and the number of children. Since our findings do not provide strong evidence for an assimilation process of savings rates between natives and immigrants, our results suggest deficits in the long-term integration of permanent migrants in Germany.

The paper is organized as follows: Section 2 provides a short survey of the existing literature on the savings behavior of migrants. Section 3 presents the empirical strategy of our analysis and describes the data drawn from the GSOEP. The estimation results of our analysis are presented in section 4. Section 5 concludes.

2 The Savings Differential between Natives and Immigrants

From a theoretical point of view, differences in the saving patterns between immigrants and natives may be caused by a variety of factors. Firstly, different savings behavior may be caused by the migration motive. Galor and Stark (1990) argue, for example, that the remigration probability of immigrants in the host country is higher than the migration probability of comparable natives. They use an overlapping-generations model to show that the higher probability of remigration increases the saving propensity of immigrants. This argument suggests, that it may be important to distinguish between temporary and permanent migrants when investigating the savings behavior of immigrants relative to natives, with temporary migrants saving more than permanent migrants and natives.

Following the literature on migration that occurs for risk-diversification within families[2], Dustmann (1997) develops a model in which immigrants' duration abroad and savings are jointly determined. He demonstrates that immigrants may accumulate more precautionary savings than comparable natives if they face greater income risk on the labor market of the host country. However, Dustmann (1997) also argues that the lifelong income risk of immigrants may be smaller than the income risk of natives, if immigrants are able to diversify labor market risks across countries. In this case, precautionary savings of immigrants may be lower than those of natives. Supporting this hypothesis, Amuedo-Dorantes and Pozo (2002) find lower savings rates for immigrants than for natives. They argue, however, that the apparent lower precautionary savings of immigrants may be caused by the fact that immigrants engage in precautionary saving by remitting part of their income

[2]See Stark (1991).

to their home countries.

To explore this issue further, Amuedo-Dorantes and Pozo (2004) pay particular attention to the determinants of home remittances. Using data on Mexican immigrants in the United States, they find that a higher income risk[3] leads to increased remittances of immigrants. Using data for Germany, Merkle and Zimmermann (1992) find that remigration plans represent an important determinant of remittances. However, they do not find a significant effect of remigration plans on the savings behavior. Based on these results, they conclude that temporary migrants hold savings mainly in their home country.

Savings disparities may also be caused by the fact that immigrants represent a highly selected group of people. It is well known that because of self-selection and the immigration policies of the receiving countries immigrants are neither representative for the population in the home nor for the population in the host country. Therefore, savings disparities may exist because of differences in the socioeconomic and cultural background. Skill differences, for example, may be responsible for differences in the economic performance of immigrants and natives (Chiswick 1978, Borjas 1987), and hence savings rates.

Cobb-Clark and Hildebrand (2002) argue that individuals in the sending country may have certain social norms and expectations about intergenerational transfers which can influence the amount of inherited wealth and consequently the post-migration savings behavior. These norms and expectations may lead to differences in the savings behavior between immigrants and natives as well as within the heterogenous immigrant population. Using data of the Survey of Income Program Participation (SIPP), they show that foreign-born households in the United States

[3]Amuedo-Dorantes and Pozo (2004) use proxies for income risk, such as immigrants' legal status or access to social networks.

are less wealthy than their U.S.-born counterparts. Their findings further indicate that the diversity in wealth levels can be attributed primarily to differences between source-regions rather than differences between entry-cohorts. Carroll, Rhee, and Rhee (1999) also find differences in the saving patterns of immigrants across countries of origin. However, they demonstrate that these patterns do not resemble the national saving patterns in the sending countries because of immigrant selectivity variations across sending regions, indicating that savings disparities within the immigrant population do not reflect cultural differences.

Some empirical studies analyze only a specific part of the overall savings portfolio. Most of these studies concentrate on home ownership. Borjas (2002), for example, examines the home-ownership of the immigrant population in the United States. He demonstrates that immigrants are less likely than natives to own a house and that the home-ownership gap has widened between 1980 and 2000. The estimation results of Painter, Yang, and Yu (2003) reveal that differences in native and foreign-born residential patterns may lead to a divergence in the proportion of wealth held in housing stock. They find that most of the difference in the home-ownership rates between Asian groups and White households in the United States can be explained by the higher mobility of Asian households and the concentration in major metropolitan areas with higher housing prices. Although Cobb-Clark and Hildebrand (2002) find that entry-cohorts do not affect overall wealth levels, they demonstrate that the year of arrival is significantly related to the portfolio choices of the foreign-born population in the United States.

Not only the cultural background in the home country but also the situation of immigrants in the host country may differ substantially from that of the native-born population because of institutional reasons. Shamsuddin and DeVoretz (1998) argue that immigrants may have limited access to social welfare programs, which could

impose different constraints on the wealth accumulation decisions of immigrants and natives, leading to an increased savings propensity of immigrants.

3 Data, Empirical Strategy, and Decomposition Analysis

3.1 Data and Empirical Strategy

In our analysis, we utilize data drawn from the *German Socio-Economic Panel* (GSOEP) for the years from 1996 to 2003[4]. Since less than two percent of the migrant population in the sample lives in East Germany, our analysis concentrates on West Germany. The empirical analysis is performed on the household level, because the GSOEP provides savings information only for households. We further restrict our analysis on household heads aged 16 to 65 years. After excluding all observations with missing values on one of the variables used in the analysis – which will be described in more detail below – our panel data set contains 38,885 household-year-observations of 8,034 households.

To investigate differences in the savings rate between immigrants and natives, we estimate regression models which resemble the model of Chiswick (1978), who analyzes the earnings assimilation of immigrants in the United States. Formally, the

[4]The data used in this paper was extracted from the SOEP Database provided by the DIW Berlin (http://www.diw.de/soep) using the Add-On package SOEPMENU v1.1 (Sep 2004) for Stata(R). SOEPMENU was written by Dr. John P. Haisken-DeNew (john@soepmenu.de). The following authors supplied SOEPMENU Plugins used to ensure longitudinal consistency, John P. Haisken-DeNew - h2110x h2707x h2743x h2747x h2748x h2817x h3111x p195x p2222x p2292x p296x p3466x, Mathias Sinning - h2713x p171x p601x p602x p603x p605x p606x p607x p609x p610x p611x p613x p614x p615x p617x p618x p619x p621x. The SOEPMENU generated DO file to retrieve the SOEP data used here and any SOEPMENU Plugins are available upon request. Any data or computational errors in this paper are our own.

regression equation can be written as follows:

$$\begin{aligned} S_{it} &= \beta_0 + \mathbf{Z}_{it}\beta_1 + M_i(\beta_2 + \beta_3 R_{it} + \beta_4 YSM_{it} + \beta_5 YSM_{it}^2) \\ &\quad + \mathbf{D}_t\beta_6 + \varepsilon_{it} \\ &= \mathbf{X}_{it}\beta + \varepsilon_{it}, \end{aligned} \tag{1}$$

for $i = 1, ..., N$, t = 1,...,T. S_{it} measures the savings rate of household i at time t. To make savings comparable across households of different size, we use equivalent household savings by dividing reported savings of a household with the square root of the respective household size. M_i is a dummy variable reflecting whether the head of a household immigrated to Germany, and R_{it} indicates the intend of a household head with migration background to return to the home country. The specification further includes the number of years since migration and its squared value. The parameters β_4 and β_5 indicate how the savings of immigrant households evolve over the duration of stay in Germany relative to natives.

The vector $\mathbf{Z}_{it}$ summarizes additional explanatory variables used to control for other determinants of savings. In the empirical analysis we will use alternative specifications of this vector. In its most extensive specification, the vector $\mathbf{Z}_{it}$ includes the years of education of the household head, the permanent income of the household, a dummy variable indicating whether the household owns a house and/or apartment, the number of children in the household, a dummy variable which specifies whether the household head is employed, a dummy variable indicating a single parent household, and a number of interaction terms between the migrant dummy and the socioeconomic characteristics. In addition, the vector $\mathbf{Z}_{it}$ includes a quadratic of the age of the household head in a particular period. We include age as a quadratic function into the regression equation, because we expect an 'U'-shaped path of the

savings rate over the life cycle[5]. Finally, $\mathbf{D}_t$ represents a vector of year dummies[6].

A particular difficulty when analyzing savings of immigrants is the treatment of remittances of immigrant households to their home country. The information on remittances of foreign households in the GSOEP does not reveal whether these remittances are consumption related transfers (e.g. payments to increase consumption levels of family members staying in the home country) or whether parts of the income were transferred to the home country to save or invest money. Consequently, an assumption about the nature of the remittances has to be made.

Treating all kinds of remittances as altruistic remittances represents one possible assumption about payments of foreign-born individuals to their home country. In this case, savings are only represented by savings in the host country (Amuedo-Dorantes and Pozo 2002). Alternatively, it can be assumed that all remittances could be treated as investments, which implies that they should be treated as savings. Finally, it may be assumed that the remittances of immigrants who do not plan to return to their home country are purely altruistic. In this case, only the remittances of temporary migrants could be treated as savings, while one has to consider the consumptive nature of the remittances of permanent migrants. In the empirical analysis, we will investigate all three possibilities to take remittances of migrants into account.

Table 1 contains some descriptive statistics on the savings of natives as well as the savings and remittances of temporary and permanent migrants in our sample. We define temporary migrants as migrants who claim to return to their home country, while migrants who claim that they stay in Germany forever are considered as permanent migrants. Consequently, the classifications *temporary migrant*

[5]Browning and Lusardi (1996) provide evidence for an 'U'-shaped savings rate-age profile.

[6]A detailed description of the definition of the variables used in our analysis is given in Appendix-Table A1. Appendix-Table A2 contains descriptive statistics.

and *permanent migrant* may change over time. The variables *Savings* and *Savings Equivalent* report only savings in Germany, while the variable *Savings and Remittances I (S & R I)* reports the savings equivalent when only remittances of temporary migrants are considered as savings, and *Savings and Remittances II (S & R II)* reports the savings equivalent if all remittances of the migrants are treated as savings. The savings rates represent the ratio between the respective savings level and the household income equivalent.

Overall, savings rates turn out to be quite stable over time. For natives, the savings rate varies from 8.1% in 2003 to 9.0% in 2000, with an average of 8.6% over the entire sample period. Not considering remittances of migrants as savings, the savings rate of migrants, who plan to return to their home country some time in the future, varies from 5.2% in 2002 to 8.3% in 2003 with a mean savings rate of 7.0% for the period from 1996 to 2003. Apart from the year 2002, the savings rates of temporary migrants are substantially higher than those of permanent migrants. The mean savings rate of the latter ranges from 4.5% in 2003 to 6.6% in 1999 with a mean of 5.4% for the entire sample period.

It is not surprising, that temporary migrants save more than permanent migrants in all years covered by our sample, when only remittances of temporary migrants are considered as savings ($S \ \& \ R \ I$). However, this picture does not change very much by treating the remittances of permanent migrants as savings as well ($S \ \& \ R \ II$). Using this savings measure for migrants, temporary migrants save on average 11.8%, while permanent migrants only save 7.2% of their income in our sample period. The savings rates of temporary migrants exceed the savings rates of natives when we treat remittances of migrants as being savings.

The distributions of the savings and remittances rates of natives and migrants for the year 2003 are shown in Figure 1. A substantial share of the immigrant popu-

lation does not save at all or saves a relatively small amount. Figure 1b shows again that temporary migrants save even more than natives, if remittances are taken into account. Although the consideration of remittances increases the savings rate of permanent migrants, the savings gap between natives and permanent migrants persists (Figure (1d)). These results indicate that remittances represent a substantial part of the savings rate of temporary migrants, while remittances seem to play a minor role in the context of the savings of permanent migrants. In order to test for differences in the distributions between natives and the respective group of migrants, we carried out Wilcoxon rank-sum tests. In all cases, the null hypothesis that the distributions are equal could be rejected[7].

Table 1 and Figure 1 have shown that a large share of the households in our sample does not save at all. Therefore, OLS estimations of equation (1) might result in inconsistent estimates of the parameter vector β. To take the censored nature of our dependent variable into account, we also estimate equation (1) using a Tobit model, which can be written in the form of an index function model (Tobin 1958):

$$\begin{aligned} S_{it}^* &= \mathbf{X}_{it}\gamma + \eta_{it}, \quad \text{where} \\ S_{it} &= 0 \quad \text{if} \quad S_{it}^* \leq 0, \\ S_{it} &= S_{it}^* \quad \text{if} \quad S_{it}^* > 0, \quad i = 1, ..., N, \quad t = 1, ..., T. \end{aligned}$$

The expected value of savings given the observable characteristics (the so called "unconditional expectation") consists of the probability of S being uncensored and the expectation of S given positive savings (the "conditional expectation"):

$$\begin{aligned} E(S_{it}|\mathbf{X}_{it}) &= P(S_{it} > 0|\mathbf{X}_{it})E(S_{it}|S_{it} > 0, \mathbf{X}_{it}) \\ &= \Phi(\frac{\mathbf{X}_{it}\gamma}{\sigma})\mathbf{X}_{it}\gamma + \sigma\phi(\frac{\mathbf{X}_{it}\gamma}{\sigma}), \end{aligned} \tag{2}$$

[7]The test results can be obtained by the authors upon request.

where $\phi(\cdot)$ represents the standard normal density function and $\Phi(\cdot)$ is the cumulative standard normal density function.

In the Tobit model, one has to differentiate between the marginal effects of the latent variable S_{it}^* and the marginal effects of observable savings S_{it}. For the latent variable, the marginal effect is $E(S_{it}^*|\mathbf{X}_{it})/\partial\mathbf{X}_{it} = \gamma$. However, we are particularly interested in the effect of a change in $\mathbf{X}_{it}$ on the conditional mean of the observable dependent variable:

$$\partial E(S_{it}|\mathbf{X}_{it})/\partial\mathbf{X}_{it} = \Phi(\frac{\mathbf{X}_{it}\gamma}{\sigma})\gamma. \tag{3}$$

McDonald and Moffitt (1980) propose a useful decomposition of this effect into two components, which we will report for the estimates of the Tobit model:

$$\begin{aligned}\partial E(S_{it}|\mathbf{X}_{it})/\partial\mathbf{X}_{it} &= \frac{\partial E(S_{it}|S_{it}>0,\mathbf{X}_{it})}{\partial\mathbf{X}_{it}}P(S_{it}>0|\mathbf{X}_{it}) \\ &\quad + \frac{\partial P(S_{it}>0|\mathbf{X}_{it})}{\partial\mathbf{X}_{it}}E(S_{it}|S_{it}>0,\mathbf{X}_{it}).\end{aligned} \tag{4}$$

The first term on the right hand side of equation (4) represents the change in the expected savings rate of the households with positive savings, weighted by the probability of having a positive savings rate, and the second term shows the change in the probability of positive savings, weighted by the expected value of savings if savings are positive.

Both, the OLS and Tobit estimates may be biased because of unobservable variables which are correlated with the regressors and affect the dependent variable. Unobservable future inheritances, for example, may have strong effects on the wealth accumulation behavior. Cobb-Clark and Hildebrand (2002) argue that there might exist substantial differences in social norms and expectations about intergenerational transfers in different countries. Consequently, unobservable factors may also have different effects on savings of foreign-born and native-born individuals. In particular, they may influence the decision of immigrants to return to their home country.

For that reason, we also estimate the OLS and Tobit models (1) and (2) separately for natives and immigrants with household fixed effects to control for time-invariant confounding factors, which may appear in the pooled regression models. Specifically, we estimate the linear model

$$S_{it} = \mathbf{X}_{it}\beta + \alpha_i + \varepsilon_{it}, \tag{5}$$

and the fixed effects Tobit model

$$S^*_{it} = \mathbf{X}_{it}\gamma + \alpha_i + \eta_{it}, \tag{6}$$

with $S_{it} = 0$ if $S^*_{it} \leq 0$, and $S_{it} = S^*_{it}$ if $S^*_{it} > 0$, where α_i are the household fixed effects.

3.2 Decomposition Analysis

In order to provide a comprehensive descriptive analysis of the savings behavior of immigrants relative to natives, we pay particular attention to the isolation of the part of the savings differential that can be explained by differences in socioeconomic characteristics from the part attributable to differences in the coefficients, based on the decomposition method proposed by Blinder (1973) and Oaxaca (1973).

For the decomposition analysis we estimate equations (1) and (2) separately for natives (n) and migrants (m), resulting in the models

$$S_{itg} = \mathbf{X}_{itg}\beta_g + \varepsilon_{itg}, \tag{7}$$

and

$$\begin{aligned} S^*_{itg} &= \mathbf{X}_{itg}\gamma_g + \eta_{itg}, \qquad (8)\\ S_{it} &= 0 \quad \text{if} \quad S^*_{it} \leq 0,\\ S_{it} &= S^*_{it} \quad \text{if} \quad S^*_{it} > 0, \end{aligned}$$

for $i = 1, ..., N_g$, $t = 1, ..., T_g$, $g = (n, m)$, $\sum_g N_g = N$, and $\sum_g T_g = T$, respectively. For the linear model (8), Blinder (1973) and Oaxaca (1973) propose the decomposition

$$\begin{aligned} \overline{S}_n - \overline{S}_m = \Delta_{nm}^{OLS} &= E_{\beta_n}(S_{itn}|\mathbf{X}_{itn}) - E_{\beta_m}(S_{itm}|\mathbf{X}_{itm}) \\ &= [E_{\beta_n}(S_{itn}|\mathbf{X}_{itn}) - E_{\beta_n}(S_{itm}|\mathbf{X}_{itm})] \\ &\quad + [E_{\beta_n}(S_{itm}|\mathbf{X}_{itm}) - E_{\beta_m}(S_{itm}|\mathbf{X}_{itm})] \\ &= (\overline{\mathbf{X}}_n - \overline{\mathbf{X}}_m)\widehat{\beta}_n + \overline{\mathbf{X}}_m(\widehat{\beta}_n - \widehat{\beta}_m), \end{aligned} \tag{9}$$

where $E_{\beta_g}(S_{itg}|\mathbf{X}_{itg})$ for $g = (n, m)$ means that the expected value of S_{itg} conditional on $\mathbf{X}_{itg}$ is evaluated at the parameter vector β_g, $\overline{S}_g = \frac{1}{N_g T_g} \sum_{i=1}^{N_g} \sum_{t=1}^{T_g} S_{itg}$ and $\overline{\mathbf{X}}_g = \frac{1}{N_g T_g} \sum_{i=1}^{N_g} \sum_{t=1}^{T_g} \mathbf{X}_{itg}$. The first term on the right hand side of equation (10) shows the savings differential between the two groups due to differences in characteristics, whereas the second term shows the differential that is due to differences in coefficients. We will interpret the latter as the savings difference between the two groups that is due to a different savings behavior.

Given the observable socioeconomic characteristics $\mathbf{X}_{itg}$, the linear model might be a good approximation to the expected value of savings $E(S_{itg}|\mathbf{X}_{itg})$ for values of $\mathbf{X}_g$ which lie close to the mean. However, due to the large number of individuals who do not save at all, the application of a simple linear regression model may lead to biased estimates of the parameter vector. Therefore, we aim to provide a similar decomposition that is based on the results of the Tobit models (9).

Equation (4) indicates that a decomposition of savings disparities similar to equation (10) is not appropriate if the dependent variable is censored, because the marginal effects depend on the estimated variance of the error term. For the Tobit models we therefore propose an alternative decomposition of the mean difference of

S between the two groups (n) and (m):

$$\begin{aligned}\Delta_{nm}^{Tobit} &= [E_{\gamma_n,\sigma_n}(S_{itn}|\mathbf{X}_{itn}) - E_{\gamma_n,\sigma_m}(S_{itm}|\mathbf{X}_{itm})] \\ &\quad +[E_{\gamma_n,\sigma_m}(S_{itm}|\mathbf{X}_{itm}) - E_{\gamma_m,\sigma_m}(S_{itm}|\mathbf{X}_{itm})]. \qquad (10)\end{aligned}$$

Using equation (3), one can show that equation (11) can be estimated by

$$\begin{aligned}\hat{\Delta}_{nm}^{Tobit} &= [\Phi(\frac{\overline{\mathbf{X}}_n\widehat{\gamma}_n}{\widehat{\sigma}_n})\overline{\mathbf{X}}_n\widehat{\gamma}_n + \widehat{\sigma}_n\phi(\frac{\overline{\mathbf{X}}_n\widehat{\gamma}_n}{\widehat{\sigma}_n})] \\ &\quad -[\Phi(\frac{\overline{\mathbf{X}}_m\widehat{\gamma}_n}{\widehat{\sigma}_m})\overline{\mathbf{X}}_m\widehat{\gamma}_n + \widehat{\sigma}_m\phi(\frac{\overline{\mathbf{X}}_m\widehat{\gamma}_n}{\widehat{\sigma}_m})] \\ &\quad +[\Phi(\frac{\overline{\mathbf{X}}_m\widehat{\gamma}_n}{\widehat{\sigma}_m})\overline{\mathbf{X}}_m\widehat{\gamma}_n + \widehat{\sigma}_m\phi(\frac{\overline{\mathbf{X}}_m\widehat{\gamma}_n}{\widehat{\sigma}_m})] \qquad (11) \\ &\quad -[\Phi(\frac{\overline{\mathbf{X}}_m\widehat{\gamma}_m}{\widehat{\sigma}_m})\overline{\mathbf{X}}_m\widehat{\gamma}_m + \widehat{\sigma}_m\phi(\frac{\overline{\mathbf{X}}_m\widehat{\gamma}_m}{\widehat{\sigma}_m})],\end{aligned}$$

where $\overline{\mathbf{X}}_g = \frac{1}{N_g T_g}\sum_{i=1}^{N_g}\sum_{t=1}^{T_g}\mathbf{X}_{itg}$, $g = (n, m)$. $\widehat{\gamma}_g$ and $\widehat{\sigma}_g$ represent the estimated parameter vector and the variance of the error term of group g, respectively. Similar to the decomposition equation of the linear model, the calculation of the counterfactual parts of equation (12) is based on the average characteristics and the estimated error variance of migrants as well as the estimated coefficients of natives[8].

In the following empirical analysis we will report the estimation results from different specifications of the linear models (1) and (8) and the respective decomposition according to equation (10). To account for the clustering of savings at zero, we also report the results of estimating different specifications of the Tobit model (2) and (9) providing for each specification the McDonald-Moffit decomposition (5)

[8]In contrast to the decomposition of the OLS model, the Tobit decomposition also requires the consideration of the error variance in the counterfactual part of the decomposition equation. Consequently, instead of using only the parameter vector of natives, one can also use $(\frac{\gamma_n}{\sigma_n})$ as a counterfactual term in the decomposition equation which results in $[E_{\gamma_n,\sigma_n}(S_{itn}|\mathbf{X}_{itn}) - E_{\gamma_n,\sigma_n}(S_{itm}|\mathbf{X}_{itm})]$ + $[E_{\gamma_n,\sigma_n}(S_{itm}|\mathbf{X}_{itm}) - E_{\gamma_m,\sigma_m}(S_{itm}|\mathbf{X}_{itm})]$. Such a specification of the decomposition may differ substantially from (11) if large differences in the variance of the error term between the two groups exist. For that reason, we focus our analysis on the estimation of equation (12) because this decomposition is comparable to the OLS decomposition described in equation (10).

as well as the results of the Tobit-Oaxaca-Blinder decomposition according to equations (12). Finally, we report the results of estimating the fixed effects models (6) and (7) in order to investigate the role of unobserved heterogeneity.

4 Estimation Results

Table 2 reports the results from pooled OLS and Tobit estimates of models (1) and (2) using a basic specification that includes a quadratic function of the age of the household head, the permanent income of the household measured as the average household net income over the past five years, an immigrant dummy, a dummy variable indicating whether the head of a migrant household intends to return to the home country, a quadratic function of the years since immigration, and year dummies as covariates. As described in section 3, we compare three different definitions of savings. Part A of Table 2 includes the estimates for the savings equivalent, assuming that remittances are purely altruistic. Remittances of temporary migrants are considered as being savings in Part B, while remittances of both temporary and permanent migrants are treated as savings in Part C of Table 2.

Independent of how we treat remittances, there is evidence for a statistically significant 'U'-shaped savings rate-age profile. Immigrant households save significantly less than natives. The marginal effect of the unconditional expected value of the Tobit model presented in Part A indicates that the average household with migration background saves 2.9 percentage points less than comparable natives if remittances are not taken into account. The McDonald-Moffitt-decomposition reported in columns (2b) and (2c) reveals that the propensity to save at all is 14.4% lower for permanent immigrant households if compared to native households and that, conditional on having savings, permanent immigrant households save about 2.1 percentage points less than native households. Considering only savings in Germany,

there does not seem to be a significant difference between immigrant households who intend to return to their home country and permanent immigrant households.

This picture changes somewhat if one considers the case in which remittances of migrant households are treated as savings. The estimates presented in Part B show that differences between temporary migrants and natives disappear if remittances of temporary migrants are considered to be part of their savings[9]. These results confirm the presumption of Amuedo-Dorantes and Pozo (2002) who argue that they observe savings disparities between migrants and natives because immigrants transfer parts of their income to the country of origin. The marginal effect given in Part C reveals, however, that the savings gap between permanent migrants and natives persists, even if remittances of permanent migrants are treated as savings. Finally, we do not find strong evidence for a savings assimilation of migrants towards the savings of otherwise similar natives with time of residence in Germany.

Tables 3 to 5 report the results of an extended specification of the models (1) and (2), where we added explanatory variables summarized in the vector $\mathbf{Z}_{it}$ to the specification. Again, we apply the three different definitions of the savings equivalent to examine the relative importance of remittances of temporary and permanent migrants. In Table 3, remittances are not considered to be part of the dependent variable, in Table 4 we consider only the remittances of temporary migrant households as savings, while in Table 5 the remittances of all immigrant households are treated as savings.

The estimates in the three tables do not differ substantially from each other. In all cases we find an 'U'-shaped savings rate-age profile. The education of the

[9]In order to examine whether the sum of the coefficients of the immigrant dummy and temporary migrant dummy are significantly different from zero, a χ^2-test was applied for the Tobit estimates. The test results suggest that differences between temporary migrants and natives become insignificant if remittances are taken into account.

household head turns out to have a significantly positive effect on savings. For migrant households, the effect of education on savings is significantly stronger than for similar natives. While the significantly positive effect of permanent income on the savings rate is higher for migrant households than for natives if remittances are not taken into account, it becomes insignificant as soon as remittances are considered to be part of the savings rate, indicating that permanent income exhibits similar effects on the savings rate of migrant and native households once remittances are taken into account. Interestingly, house owners have higher savings rates than household heads who do not own a house. An explanation for this may be that we could measure only gross rather than net savings, since we do not observe the debt of an household. However, χ^2-tests reveal that this effect becomes insignificant for migrant households as soon as remittances are treated as savings.

While a child lowers the average savings rate of German households by about 1.5 percentage points, the savings rate of migrant households decreases only by 0.8 percentage points. Taking remittances into account, the coefficient of the interaction term between the number of children and the migrant dummy becomes insignificant. For German households, the savings rate increases by about 3.5 percentage points if the household head is employed. In all three different specifications of the dependent variable, employed immigrant households save about 2 to 3 percentage points more than employed German households. Single parent households save about 2.4 percentage points less than other households and there is no significant difference between migrant and native single parent households.

Immigrant households whose head intends to return to the country of origin save significantly more than permanent immigrant households and native households as soon as remittances are treated as savings (see Tables 4 and 5), while the marginal effect of return migration in Table 3 is only significant at the 10%-level. The marginal

effect in Table 4 indicates that temporary migrants save (and remit) 6.4 percentage points more than comparable natives and permanent migrants. Taking also remittances of permanent migrants into account, the intention to return still leads on average to 3.5 percentage points higher savings per month. Finally, the significant coefficients of years since migration in Table 5 reveal an increase in the savings rate over time if remittances of both temporary and permanent migrants are considered. This result indicates that immigrants increase payments to their host country while staying abroad. However, it is important to note that remittances do not necessarily represent savings. Especially in the case of immigrants who do not plan to return to their home country, it may be the case that their payments abroad represent savings rather than payments to their family. Overall, the results reported in Tables 3 - 5 indicate that migrants increase remittances to their home country with time of residence in Germany but not savings[10].

The results presented in Tables 3 - 5 confirm the findings of Merkle and Zimmermann (1992), who demonstrate that remigration plans increase remittances but do not affect migrants' savings. However, similar to Merkle and Zimmermann (1992) Tables 3 - 5 do not control for unobservable factors that might be correlated with the explanatory variables and the savings rate and hence may cause biased estimates of the parameters. In the context of return migration, especially the existence of unobservable expectations about the own future economic situation may be correlated with remigration plans and influence the savings behavior at the same time. For that reason, we estimate additional OLS and Tobit models with fixed effects to control for unobservable factors.

[10]In order to test whether the effect of the migrant dummy and the interaction terms are jointly significant, we carried out adjusted Wald tests and χ^2-tests for OLS and Tobit specifications, respectively. The p-values of these tests, which are given at the bottom of Tables 3 - 5, indicate that the coefficients of migrant dummy and interaction terms are significantly different from zero in all cases.

The fixed effects Tobit-estimates presented in Table 6 reveal that return migration does not only affect remittances but also savings in the host country. On average, the savings rate of temporary migrants is 0.9 percentage points higher than the savings rate of natives and permanent migrants. In addition, while the marginal effect of employment in the fixed effects model is lower for Germans and immigrants than in the pooled model, the effect of permanent income on savings turns out to be underestimated in the pooled model for German natives and overestimated for immigrants. Moreover, single parent migrant households who intend to return to their country of origin save significantly more than permanent migrants and German natives if their remittances are taken into account.

In order to distinguish the part of the savings gap that can be explained by socioeconomic characteristics from the part attributable to differences in the savings behavior, we apply an Oaxaca-Blinder decomposition based on the results of OLS and Tobit estimations. The findings of the decomposition analysis are presented in Table 7. The underlying OLS and Tobit estimates are reported in Tables A3 and A4.

When remittances are not taken into account, the observed savings gap between native and permanent immigrant households amounts to 3.2% and the observed difference between natives and temporary immigrant households is 2.1%. Treating all remittances as savings, the observed difference between natives and permanent migrants decreases to 1.6%, while the savings gap between natives and temporary migrants becomes even negative (-2.3%).

The Tobit decomposition of the differences in the savings rates between natives and permanent migrants presented in Part A shows that about 60% of the savings gap can be explained by observable factors when remittances are not considered as being savings, while 40% can be attributed to a different savings behavior. The

comparison of natives and temporary migrants in Part A suggests that the part of the differences in the savings rates attributable to observable characteristics is around 80% and that temporary migrants appear to be somewhat more similar to natives than permanent migrants. The decomposition of the OLS model indicates that even more than 100% of the predicted difference between natives and temporary migrants is attributable to observable characteristics. The negative part of the savings differential attributable to differences in the savings behavior may be interpreted as a higher preference of immigrants to save[11].

Part B of Table 7 shows the results of the decomposition analysis when we treat all remittances as savings. The decomposition of the OLS model and the Tobit model shows that even more than 100% of the savings disparities between permanent migrants and natives can be explained by observable factors. These findings indicate that permanent migrants have higher preferences towards savings than natives. However, it is possible that we observe this result because remittances of permanent migrants reflect payments to family members abroad rather than savings. Taking remittances into account, the predicted difference between natives and temporary migrants becomes negative. Consequently, the major part of the negative difference between native and immigrant households can be explained by differences in the savings behavior. Overall, we conclude from the decomposition analysis that the savings gap between native and immigrant households is predominantly caused by differences in observable characteristics, such as age, education, permanent income, and the number of children, rather than differences in the savings behavior.

[11]See Neuman and Oaxaca (1998) for a similar interpretation.

5 Conclusion

This paper analyzes the relative savings position of temporary and permanent migrants in West Germany. Our results show that immigrants save significantly less than natives. On average, household heads with a migration background save 2.9 percentage points less than comparable natives if remittances are not taken into account. However, we find that temporary migrants save significantly more than permanent migrants and natives as soon as remittances are treated as savings. The fixed effects estimates further indicate that independent of how remittances are treated, immigrants who intend to return to their country of origin save significantly more than immigrants who plan to stay in Germany permanently.

Considering the effects of additional determinants of the savings rate, we find no evidence for an adjustment of savings in the host country between immigrants and natives. However, our findings reveal that immigrants increase payments to their host country with time since migration. Since remittances do not necessarily represent savings, these results do not provide evidence for an increase of migrants' savings over time. Especially in the case of migrants who do not intend to return to their country of origin, remittances may represent payments to family members abroad rather than savings. Consequently, since we do not find an assimilation process of savings in the host country and only weak evidence for increasing savings rates abroad, our findings indicate deficits in the long-term integration of permanent migrants in Germany.

Finally, the results of a decomposition analysis indicate that differences in the savings rate between native and immigrant households can mainly be attributed to differences in observable socioeconomic characteristics rather than differences in the savings behavior.

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FIGURE 1: **Distribution of Savings Rates, 2003**

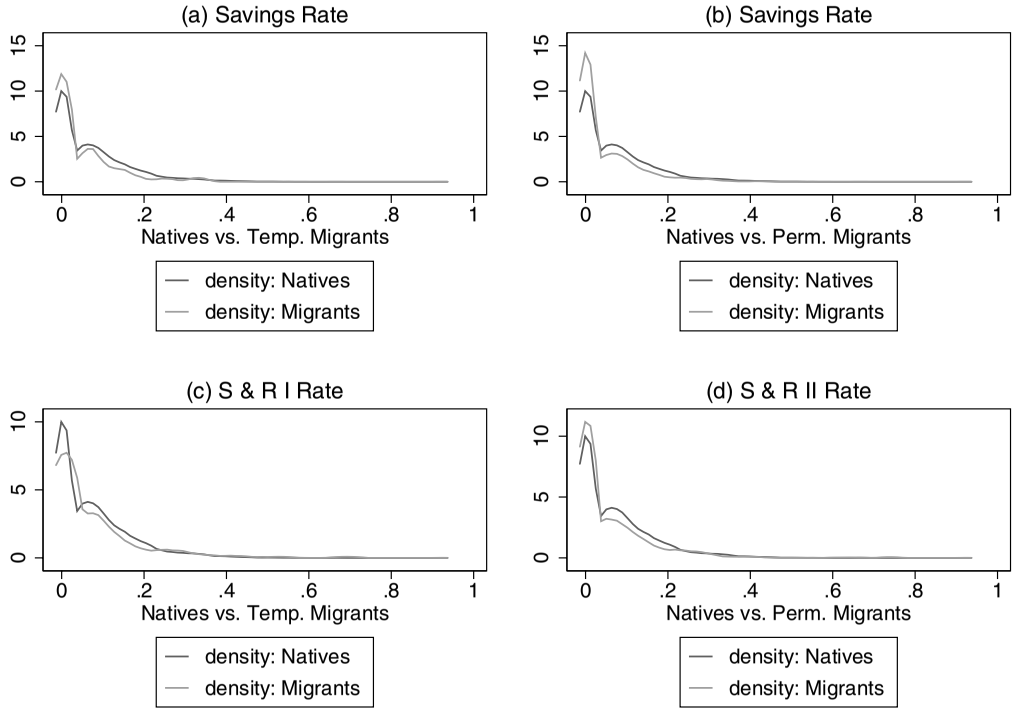

TABLE 1: **Descriptive Statistics – Savings and Remittances (S & R)**

	Germans		Immigrants		Permanent Migrants		Temporary Migrants	
Variable	**Mean**	**S.E.**	**Mean**	**S.E.**	**Mean**	**S.E.**	**Mean**	**S.E.**
1996								
Savings	221.282	10.754	139.587	14.008	133.238	19.456	149.254	19.343
No Savings	0.377	0.013	0.550	0.025	0.567	0.032	0.523	0.041
Savings Equivalent	154.468	8.394	84.426	8.025	75.705	10.525	97.703	12.344
S & R I	154.468	8.394	103.177	9.033	75.705	10.525	145.005	15.836
S & R II	154.468	8.394	116.438	9.270	97.675	11.228	145.005	15.836
Savings Rate	0.089	0.003	0.064	0.005	0.057	0.006	0.075	0.008
S & R Rate I	0.089	0.003	0.087	0.008	0.057	0.006	0.131	0.017
S & R Rate II	0.089	0.003	0.101	0.008	0.080	0.008	0.131	0.017
Net Income	2065.664	33.409	1778.137	57.575	1801.883	80.799	1741.981	76.478
Observations	2697		822		476		346	
1997								
Savings	214.495	9.898	129.616	11.274	115.909	14.337	149.524	18.152
No Savings	0.393	0.014	0.534	0.026	0.547	0.033	0.515	0.041
Savings Equivalent	151.285	8.368	78.595	7.854	70.217	9.368	90.764	13.633
S & R I	151.285	8.368	111.258	11.657	70.217	9.368	170.867	24.122
S & R II	151.285	8.368	122.310	11.720	88.877	9.873	170.867	24.122
Savings Rate	0.088	0.003	0.060	0.004	0.054	0.005	0.068	0.007
S & R Rate I	0.088	0.003	0.090	0.009	0.054	0.005	0.143	0.019
S & R Rate II	0.088	0.003	0.101	0.009	0.072	0.006	0.143	0.019
Net Income	2086.303	33.126	1758.931	46.751	1684.625	57.407	1866.855	78.188
Observations	2734		783		453		330	
1998								
Savings	220.302	14.627	140.225	16.919	126.194	20.800	165.913	28.739
No Savings	0.383	0.013	0.561	0.027	0.566	0.033	0.551	0.045
Savings Equivalent	151.335	8.438	86.188	10.329	78.899	13.016	99.534	16.826
S & R I	151.335	8.438	102.583	13.316	78.899	13.016	145.942	28.581
S & R II	151.335	8.438	118.745	13.927	103.889	14.666	145.942	28.581
Savings Rate	0.085	0.003	0.062	0.006	0.058	0.007	0.071	0.012
S & R Rate I	0.085	0.003	0.077	0.010	0.058	0.007	0.113	0.025
S & R Rate II	0.085	0.003	0.092	0.011	0.081	0.010	0.113	0.025
Net Income	2119.118	34.801	1834.534	54.083	1745.431	63.675	1997.657	95.893
Observations	3090		737		453		284	
1999								
Savings	231.046	13.479	174.578	25.827	153.709	19.707	224.755	74.045
No Savings	0.381	0.012	0.533	0.029	0.517	0.036	0.573	0.049
Savings Equivalent	157.855	8.145	103.535	14.634	90.071	11.540	135.908	41.412
S & R I	157.855	8.145	121.000	16.630	90.071	11.540	195.368	48.989
S & R II	157.855	8.145	139.372	17.902	116.083	15.215	195.368	48.989
Savings Rate	0.086	0.003	0.067	0.007	0.066	0.008	0.070	0.012
S & R Rate I	0.086	0.003	0.082	0.008	0.066	0.008	0.122	0.018
S & R Rate II	0.086	0.003	0.100	0.011	0.090	0.014	0.122	0.018
Net Income	2210.641	37.315	1913.927	64.721	1859.737	64.313	2044.224	156.238
Observations	3104		682		459		223	
2000								
Savings	232.815	6.475	148.889	15.422	124.740	14.385	210.726	39.950
No Savings	0.360	0.008	0.547	0.023	0.537	0.028	0.572	0.044
Savings Equivalent	165.554	4.868	90.180	9.442	73.297	8.493	133.411	25.189
S & R I	165.554	4.868	107.065	11.402	73.297	8.493	193.532	32.973
S & R II	165.554	4.868	115.805	11.435	85.451	8.673	193.532	32.973
Savings Rate	0.090	0.001	0.056	0.004	0.051	0.004	0.070	0.010
S & R Rate I	0.090	0.001	0.069	0.005	0.051	0.004	0.115	0.016
S & R Rate II	0.090	0.001	0.078	0.005	0.063	0.004	0.115	0.016
Net Income	2198.975	23.779	1952.786	54.183	1897.237	52.792	2095.027	137.682
Observations	5901		905		652		253	

TABLE 1 CONTINUED: **Descriptive Statistics – Savings and Remittances**

	Germans		Immigrants		Permanent Migrants		Temporary Migrants	
Variable	**Mean**	**S.E.**	**Mean**	**S.E.**	**Mean**	**S.E.**	**Mean**	**S.E.**
2001								
Savings	228.788	6.791	149.781	16.760	128.169	16.377	202.390	40.877
No Savings	0.367	0.009	0.565	0.025	0.562	0.028	0.572	0.054
Savings Equivalent	162.374	4.969	90.146	10.563	73.633	8.684	130.344	28.877
S & R I	162.374	4.969	102.444	11.011	73.633	8.684	172.578	30.190
S & R II	162.374	4.969	114.206	11.025	90.226	8.947	172.578	30.190
Savings Rate	0.086	0.002	0.056	0.005	0.050	0.004	0.072	0.015
S & R Rate I	0.086	0.002	0.066	0.006	0.050	0.004	0.104	0.017
S & R Rate II	0.086	0.002	0.077	0.006	0.066	0.005	0.104	0.017
Net Income	2252.628	24.866	1994.905	58.826	1948.264	57.507	2108.444	146.782
Observations	5225		849		611		238	
2002								
Savings	230.324	8.209	135.176	13.699	132.072	15.599	146.579	28.788
No Savings	0.385	0.009	0.580	0.026	0.578	0.030	0.589	0.049
Savings Equivalent	164.616	6.162	82.682	8.396	79.684	9.200	93.698	20.068
S & R I	164.616	6.162	89.052	8.567	79.684	9.200	123.470	21.575
S & R II	164.616	6.162	101.097	9.927	95.007	11.223	123.470	21.575
Savings Rate	0.082	0.002	0.051	0.004	0.051	0.005	0.052	0.007
S & R Rate I	0.082	0.002	0.056	0.004	0.051	0.005	0.075	0.010
S & R Rate II	0.082	0.002	0.068	0.007	0.066	0.008	0.075	0.010
Net Income	2326.082	26.300	2005.295	58.580	1982.125	67.052	2090.412	118.863
Observations	4993		833		626		207	
2003								
Savings	228.400	7.632	129.073	16.033	117.656	17.003	183.991	41.552
No Savings	0.402	0.010	0.574	0.029	0.606	0.031	0.419	0.068
Savings Equivalent	163.972	5.720	84.140	11.577	73.931	11.155	133.245	36.860
S & R I	163.972	5.720	94.994	14.885	73.931	11.155	196.306	59.585
S & R II	163.972	5.720	109.346	15.246	91.267	12.155	196.306	59.585
Savings Rate	0.081	0.002	0.051	0.005	0.045	0.004	0.083	0.022
S & R Rate I	0.081	0.002	0.057	0.008	0.045	0.004	0.119	0.036
S & R Rate II	0.081	0.002	0.070	0.008	0.059	0.006	0.119	0.036
Net Income	2407.283	29.212	2007.553	73.796	1990.266	79.243	2090.703	198.178
Observations	4756		774		603		171	
1996-2003								
Savings	225.919	6.577	143.363	10.322	129.169	10.284	176.296	18.703
No Savings	0.381	0.007	0.556	0.014	0.561	0.016	0.543	0.024
Savings Equivalent	158.930	4.778	87.425	5.987	77.091	6.164	111.403	11.976
S & R I	158.930	4.778	103.766	6.963	77.091	6.164	165.655	16.313
S & R II	158.930	4.778	116.958	7.176	95.969	6.737	165.655	16.313
Savings Rate	0.086	0.001	0.058	0.003	0.054	0.003	0.070	0.005
S & R Rate I	0.086	0.001	0.073	0.004	0.054	0.003	0.118	0.010
S & R Rate II	0.086	0.001	0.086	0.004	0.072	0.004	0.118	0.010
Net Income	2208.139	22.655	1906.692	37.611	1875.564	38.280	1978.913	66.397
Observations	32500		6385		4333		2052	

TABLE 2: **Savings Gap and Performance of Immigrants: Natives and Immigrants, 1996-2003**

	(1) OLS	(2) Tobit	(2a) Marginal Effects	(2b) Marginal Effects	(2c) Marginal Effects
			Uncond. Exp.	Prob. Uncens.	Cond. Uncens.
			Part A		
Age (Yrs.)	-0.006	-0.008	-0.004	-0.003	-0.020
	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.003)***
Age$^2 \times 10^{-3}$	0.071	0.094	0.056	0.039	0.239
	(0.010)***	(0.016)***	(0.009)***	(0.006)***	(0.040)***
Immigrant	-0.020	-0.055	-0.029	-0.021	-0.144
	(0.010)**	(0.019)***	(0.009)***	(0.006)***	(0.049)***
Immigrant × Return Migration	0.014	0.019	0.011	0.008	0.047
	(0.006)**	(0.012)	(0.007)	(0.005)	(0.028)*
Immigrant × YSM$\times 10^{-2}$	0.040	0.202	0.120	0.084	0.515
	(0.115)	(0.228)	(0.135)	(0.095)	(0.581)
Immigrant × YSM$^2 \times 10^{-2}$	-0.002	-0.007	-0.004	-0.002	-0.018
	(0.003)	(0.006)	(0.003)	(0.002)	(0.014)
Permanent Income$\times 10^{-3}$	0.026	0.044	0.026	0.113	0.019
	(0.002)***	(0.003)***	(0.002)***	(0.007)***	(0.001)***
Constant	0.145	0.097			
	(0.017)***	(0.028)***			
R^2 / Wald statistic (χ^2)	0.080	387.85			
			Part B		
Age (Yrs.)	-0.006	-0.008	-0.004	-0.003	-0.019
	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.003)***
Age$^2 \times 10^{-3}$	0.070	0.092	0.054	0.038	0.226
	(0.010)***	(0.016)***	(0.009)***	(0.006)***	(0.040)***
Immigrant	-0.027	-0.068	-0.035	-0.025	-0.170
	(0.012)**	(0.021)***	(0.009)***	(0.007)***	(0.052)***
Immigrant × Return Migration	0.061	0.092	0.063	0.044	0.201
	(0.011)***	(0.016)***	(0.012)***	(0.008)***	(0.028)***
Immigrant × YSM$\times 10^{-2}$	0.103	0.325	0.192	0.135	0.797
	(0.136)	(0.244)	(0.144)	(0.101)	(0.598)
Immigrant × YSM$^2 \times 10^{-2}$	-0.003	-0.009	-0.005	-0.003	-0.023
	(0.003)	(0.006)	(0.003)	(0.002)	(0.014)
Permanent Income$\times 10^{-3}$	0.026	0.044	0.026	0.109	0.018
	(0.002)***	(0.003)***	(0.002)***	(0.007)***	(0.001)***
Constant	0.142	0.089			
	(0.017)***	(0.029)***			
R^2 / Wald statistic (χ^2)	0.074	379.65			
			Part C		
Age (Yrs.)	-0.006	-0.008	-0.004	-0.003	-0.018
	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.003)***
Age$^2 \times 10^{-3}$	0.068	0.089	0.052	0.037	0.214
	(0.010)***	(0.016)***	(0.009)***	(0.006)***	(0.039)***
Immigrant	-0.020	-0.043	-0.023	-0.016	-0.104
	(0.014)	(0.022)**	(0.011)**	(0.008)**	(0.053)*
Immigrant × Return Migration	0.041	0.056	0.036	0.025	0.128
	(0.012)***	(0.016)***	(0.011)***	(0.008)***	(0.033)***
Immigrant × YSM$\times 10^{-2}$	0.233	0.445	0.265	0.186	1.075
	(0.167)	(0.266)*	(0.158)*	(0.111)*	(0.642)*
Immigrant × YSM$^2 \times 10^{-2}$	-0.006	-0.012	-0.007	-0.005	-0.029
	(0.004)*	(0.006)**	(0.003)**	(0.002)**	(0.015)**
Permanent Income$\times 10^{-3}$	0.026	0.044	0.026	0.107	0.019
	(0.002)***	(0.003)***	(0.002)***	(0.007)***	(0.001)***
Constant	0.138	0.081			
	(0.017)***	(0.029)***			
R^2 / Wald statistic (χ^2)	0.067	302.51			

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. Weighted OLS and weighted Tobit using weights provided by the GSOEP. Observations: 38,885. Standard errors, which are reported in parentheses, are adjusted in order to take repeated observations of households into account. The regression further includes 7 year dummies.

TABLE 3: **Determinants of the Savings Rate: Natives and Immigrants, 1996-2003**

	(1) OLS	(2) Tobit	(2a) Marginal Effects	(2b) Marginal Effects	(2c) Marginal Effects
			Uncond. Exp.	Prob. Uncens.	Cond. Uncens.
Age (Yrs.)	-0.006	-0.010	-0.005	-0.025	-0.004
	(0.001)***	(0.002)***	(0.001)***	(0.004)***	(0.001)***
Age$^2 \times 10^{-3}$	0.070	0.116	0.069	0.306	0.048
	(0.012)***	(0.019)***	(0.011)***	(0.049)***	(0.007)***
Education (Yrs.)	0.004	0.005	0.003	0.014	0.002
	(0.001)***	(0.001)***	(0.001)***	(0.002)***	(0.0004)***
Permanent Income$\times 10^{-3}$	0.022	0.033	0.019	0.087	0.013
	(0.003)***	(0.004)***	(0.002)***	(0.009)***	(0.001)***
Owner of House	0.014	0.025	0.015	0.066	0.010
	(0.004)***	(0.005)***	(0.003)***	(0.014)***	(0.002)***
Number of Children	-0.018	-0.025	-0.014	-0.066	-0.010
	(0.002)***	(0.003)***	(0.001)***	(0.007)***	(0.001)***
Employed	0.027	0.062	0.035	0.166	0.025
	(0.004)***	(0.006)***	(0.003)***	(0.015)***	(0.002)***
Single Parent Household	-0.013	-0.043	-0.023	-0.115	-0.016
	(0.004)***	(0.008)***	(0.004)***	(0.021)***	(0.002)***
Immigrant	-0.020	-0.004	-0.002	-0.011	-0.001
	(0.037)	(0.075)	(0.044)	(0.199)	(0.031)
Immigrant $\times$ Age (Yrs.)	-0.002	-0.008	-0.004	-0.022	-0.003
	(0.002)	(0.004)*	(0.002)*	(0.011)*	(0.001)*
Immigrant $\times$ Age$^2 \times 10^{-3}$	0.022	0.088	0.052	0.232	0.037
	(0.026)	(0.051)*	(0.030)*	(0.135)*	(0.021)*
Immigrant $\times$ Education (Yrs.)	0.003	0.006	0.003	0.014	0.002
	(0.001)*	(0.002)***	(0.001)***	(0.005)***	(0.001)***
Immigrant $\times$ Permanent Income$\times 10^{-3}$	0.005	0.023	0.013	0.060	0.009
	(0.005)	(0.007)***	(0.004)***	(0.018)***	(0.002)***
Immigrant $\times$ Owner of House	-0.008	-0.020	-0.011	-0.052	-0.007
	(0.008)	(0.013)	(0.007)	(0.036)	(0.005)
Immigrant $\times$ Number of Children	0.011	0.011	0.006	0.030	0.004
	(0.004)***	(0.006)**	(0.003)**	(0.014)**	(0.002)**
Immigrant $\times$ Employed	0.007	0.033	0.020	0.083	0.014
	(0.006)	(0.012)***	(0.008)**	(0.030)***	(0.005)**
Immigrant $\times$ Single Parent Household	0.007	0.027	0.017	0.070	0.012
	(0.008)	(0.018)	(0.011)	(0.043)	(0.008)
Immigrant $\times$Return Migration	0.014	0.019	0.011	0.050	0.008
	(0.006)**	(0.011)*	(0.006)*	(0.026)*	(0.004)*
Immigrant $\times$ YSM$\times 10^{-2}$	0.133	0.321	0.192	0.850	0.135
	(0.111)	(0.244)	(0.146)	(0.645)	(0.103)
Immigrant $\times$ YSM$^2 \times 10^{-2}$	-0.004	-0.009	-0.005	-0.022	-0.003
	(0.003)	(0.007)	(0.004)	(0.017)	(0.002)
Constant	0.096	0.045			
	(0.019)***	(0.032)			
Observations	38885	38885			
R^2 / Wald statistic (χ^2)	0.129	1095.58			
Interaction terms: F-value / χ^2-value	3.26	72.74			

Notes: See notes to Table 2.

TABLE 4: **Determinants of the Savings Rate, including Remittances of Temporary Migrants (based on Savings and Remittances I): Natives and Immigrants, 1996-2003**

	(1) OLS	(2) Tobit	(2a) Marginal Effects	(2b) Marginal Effects	(2c) Marginal Effects
			Uncond. Exp.	Prob. Uncens.	Cond. Uncens.
Age (Yrs.)	-0.006	-0.010	-0.005	-0.025	-0.004
	(0.001)***	(0.002)***	(0.001)***	(0.004)***	(0.001)***
$Age^2 \times 10^{-3}$	0.070	0.118	0.069	0.299	0.049
	(0.012)***	(0.019)***	(0.011)***	(0.048)***	(0.007)***
Education (Yrs.)	0.004	0.005	0.003	0.013	0.002
	(0.001)***	(0.001)***	(0.001)***	(0.002)***	(0.0004)***
Permanent Income$\times 10^{-3}$	0.022	0.034	0.019	0.085	0.014
	(0.003)***	(0.004)***	(0.002)***	(0.009)***	(0.001)***
Owner of House	0.014	0.026	0.015	0.064	0.010
	(0.004)***	(0.006)***	(0.003)***	(0.013)***	(0.002)***
Number of Children	-0.018	-0.025	-0.015	-0.064	-0.010
	(0.002)***	(0.003)***	(0.001)***	(0.007)***	(0.001)***
Employed	0.027	0.064	0.035	0.164	0.025
	(0.004)***	(0.006)***	(0.003)***	(0.015)***	(0.002)***
Single Parent Household	-0.013	-0.044	-0.024	-0.113	-0.017
	(0.004)***	(0.008)***	(0.004)***	(0.021)***	(0.002)***
Immigrant	-0.062	-0.077	-0.039	-0.198	-0.028
	(0.052)	(0.091)	(0.039)	(0.230)	(0.029)
Immigrant × Age (Yrs.)	-0.001	-0.005	-0.003	-0.013	-0.002
	(0.002)	(0.005)	(0.002)	(0.011)	(0.001)
Immigrant × $Age^2 \times 10^{-3}$	0.007	0.059	0.035	0.150	0.024
	(0.029)	(0.053)	(0.031)	(0.133)	(0.022)
Immigrant × Education (Yrs.)	0.003	0.006	0.003	0.015	0.002
	(0.002)*	(0.002)**	(0.001)**	(0.006)***	(0.001)**
Immigrant × Permanent Income$\times 10^{-3}$	-0.002	0.012	0.007	0.030	0.004
	(0.007)	(0.009)	(0.005)	(0.023)	(0.003)
Immigrant × Owner of House	-0.012	-0.024	-0.013	-0.063	-0.009
	(0.009)	(0.014)*	(0.007)*	(0.036)*	(0.005)*
Immigrant × Number of Children	0.007	0.007	0.004	0.017	0.002
	(0.004)*	(0.006)	(0.003)	(0.015)	(0.002)
Immigrant × Employed	0.020	0.045	0.028	0.108	0.020
	(0.009)**	(0.015)***	(0.010)***	(0.035)***	(0.007)***
Immigrant × Single Parent Household	0.003	0.020	0.012	0.050	0.008
	(0.009)	(0.018)	(0.011)	(0.044)	(0.008)
Immigrant ×Return Migration	0.060	0.093	0.064	0.208	0.045
	(0.011)***	(0.015)***	(0.011)***	(0.026)***	(0.008)***
Immigrant × YSM$\times 10^{-2}$	0.223	0.498	0.295	1.265	0.208
	(0.141)	(0.266)*	(0.158)*	(0.677)*	(0.111)*
Immigrant × $YSM^2 \times 10^{-2}$	-0.006	-0.012	-0.007	-0.031	-0.005
	(0.004)	(0.007)*	(0.004)*	(0.017)*	(0.002)*
Constant	0.095	0.041			
	(0.019)***	(0.033)			
Observations	38885	38885			
R^2 / Wald statistic (χ^2)	0.121	950.44			
Interaction terms: F-value / χ^2-value	4.66	87.39			

Notes: See notes to Table 2.

TABLE 5: **Determinants of the Savings Rate, including Remittances of Temporary and Permanent Migrants (based on Savings and Remittances II): Natives and Immigrants, 1996-2003**

	(1) OLS	(2) Tobit	(2a) Marginal Effects	(2b) Marginal Effects	(2c) Marginal Effects
			Uncond. Exp.	Prob. Uncens.	Cond. Uncens.
Age (Yrs.)	-0.006	-0.010	-0.005	-0.025	-0.004
	(0.001)***	(0.002)***	(0.001)***	(0.004)***	(0.001)***
$Age^2 \times 10^{-3}$	0.070	0.118	0.070	0.296	0.049
	(0.012)***	(0.019)***	(0.011)***	(0.048)***	(0.007)***
Education (Yrs.)	0.004	0.006	0.003	0.013	0.002
	(0.001)***	(0.001)***	(0.001)***	(0.002)***	(0.0004)***
Permanent Income$\times 10^{-3}$	0.022	0.034	0.020	0.084	0.014
	(0.003)***	(0.004)***	(0.002)***	(0.009)***	(0.001)***
Owner of House	0.014	0.026	0.015	0.064	0.010
	(0.004)***	(0.006)***	(0.003)***	(0.013)***	(0.002)***
Number of Children	-0.018	-0.025	-0.015	-0.063	-0.010
	(0.002)***	(0.003)***	(0.001)***	(0.007)***	(0.001)***
Employed	0.027	0.065	0.036	0.163	0.025
	(0.004)***	(0.006)***	(0.003)***	(0.015)***	(0.002)***
Single Parent Household	-0.013	-0.044	-0.024	-0.113	-0.017
	(0.004)***	(0.008)***	(0.004)***	(0.021)***	(0.003)***
Immigrant	-0.084	-0.118	-0.056	-0.296	-0.041
	(0.058)	(0.093)	(0.033)*	(0.219)	(0.027)
Immigrant × Age (Yrs.)	0.001	-0.001	-0.001	-0.003	-0.001
	(0.003)	(0.005)	(0.002)	(0.011)	(0.001)
Immigrant × $Age^2 \times 10^{-3}$	-0.005	0.017	0.010	0.043	0.007
	(0.034)	(0.055)	(0.032)	(0.138)	(0.023)
Immigrant × Education (Yrs.)	0.003	0.006	0.003	0.014	0.002
	(0.002)*	(0.002)**	(0.001)**	(0.005)**	(0.001)**
Immigrant × Permanent Income$\times 10^{-3}$	-0.004	0.005	0.003	0.013	0.002
	(0.007)	(0.009)	(0.005)	(0.022)	(0.003)
Immigrant × Owner of House	-0.020	-0.038	-0.020	-0.096	-0.014
	(0.010)*	(0.015)**	(0.007)***	(0.039)**	(0.005)***
Immigrant × Number of Children	0.007	0.009	0.005	0.021	0.003
	(0.004)*	(0.007)	(0.003)	(0.016)	(0.002)
Immigrant × Employed	0.029	0.046	0.029	0.110	0.020
	(0.010)***	(0.015)***	(0.010)***	(0.033)***	(0.007)***
Immigrant × Single Parent Household	-0.007	0.002	0.001	0.004	0.001
	(0.010)	(0.019)	(0.011)	(0.048)	(0.008)
Immigrant ×Return Migration	0.040	0.054	0.035	0.128	0.025
	(0.011)***	(0.015)***	(0.010)***	(0.031)***	(0.007)***
Immigrant × YSM$\times 10^{-2}$	0.350	0.620	0.370	1.552	0.260
	(0.166)**	(0.275)**	(0.164)**	(0.686)**	(0.115)**
Immigrant × $YSM^2 \times 10^{-2}$	-0.008	-0.015	-0.009	-0.037	-0.006
	(0.004)**	(0.007)**	(0.004)**	(0.017)**	(0.002)**
Constant	0.095	0.041			
	(0.019)***	(0.033)			
Observations	38885	38885			
R^2 / Wald statistic (χ^2)	0.114	904.05			
Interaction terms: F-value / χ^2-value	3.72	60.46			

Notes: See notes to Table 2.

TABLE 6: **Determinants of Savings and Remittances Rates: Natives and Immigrants – Fixed Effects Estimation, 1996-2003**

	(1)	(2)	(2a)	(3)	(4)	(4a)	(5)	(6)	(6a)
	Savings Equivalent			**Savings and Remittances I**			**Savings and Remittances II**		
	OLS FE	**Tobit FE**	**marg. Effect**	**OLS FE**	**Tobit FE**	**marg. Effect**	**OLS FE**	**Tobit FE**	**marg. Effect**
Permanent Income$\times 10^{-3}$	0.023	0.035	0.026	0.022	0.037	0.026	0.022	0.036	0.026
	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***
Number of Children	-0.014	-0.019	-0.014	-0.014	-0.020	-0.014	-0.014	-0.020	-0.014
	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***
Employed	0.016	0.037	0.027	0.016	0.039	0.028	0.016	0.038	0.027
	(0.001)***	(0.002)***	(0.001)***	(0.001)***	(0.002)***	(0.001)***	(0.001)***	(0.002)***	(0.001)***
Single Parent Household	-0.016	-0.041	-0.030	-0.016	-0.043	-0.031	-0.016	-0.043	-0.031
	(0.002)***	(0.003)***	(0.002)***	(0.002)***	(0.004)***	(0.003)***	(0.002)***	(0.004)***	(0.003)***
Immigrant × Permanent Income$\times 10^{-3}$	-0.006	-0.004	-0.003	-0.009	-0.010	-0.007	-0.007	-0.007	-0.005
	(0.001)***	(0.002)*	(0.001)*	(0.002)***	(0.002)***	(0.002)***	(0.002)***	(0.002)**	(0.002)**
Immigrant × Number of Children	0.008	0.007	0.005	0.004	0.001	0.001	0.003	0.001	0.001
	(0.001)***	(0.002)***	(0.001)***	(0.001)**	(0.002)	(0.001)	(0.001)*	(0.002)	(0.001)
Immigrant × Employed	0.001	0.008	0.006	0.013	0.027	0.019	0.023	0.040	0.028
	(0.003)	(0.005)*	(0.003)*	(0.004)***	(0.005)***	(0.004)***	(0.004)***	(0.005)***	(0.004)***
Immigrant × Single Parent Household	0.010	0.017	0.013	0.016	0.030	0.021	0.011	0.020	0.015
	(0.006)	(0.010)*	(0.007)*	(0.007)**	(0.011)***	(0.008)***	(0.007)	(0.011)*	(0.008)*
Immigrant × Return Migration	0.008	0.012	0.009	0.048	0.078	0.055	0.026	0.038	0.027
	(0.003)***	(0.004)**	(0.003)**	(0.003)***	(0.005)***	(0.003)***	(0.003)***	(0.005)***	(0.003)***
R^2 / Wald statistic (χ^2)	0.518	2350.60		0.471	2386.16		0.466	2236.16	

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. Observations: 38,885. Unbalanced panel has 8,034 individuals.

TABLE 7: **Decomposition Analysis**

	Natives vs. Permanent Migrants	**Natives vs. Temporary Migrants**
	A: Savings Rate	
Observed Difference in Savings Rate:		
$E(S_n) - E(S_m)$	0.032	0.021
OLS Estimates		
Predicted Difference in Savings Rate:	0.032 (100.0%)	0.018 (100.0%)
Component:		
Difference in Characteristics:		
$(\overline{X}_n - \overline{X}_m)b_n$	0.023 (73.5%)	0.024 (136.6%)
Difference in Coefficients:		
$\overline{X}_m(b_n - b_m)$	0.008 (26.5%)	-0.007 (-36.6%)
Tobit Estimates		
Predicted Difference in Savings Rate:	0.037 (100.0%)	0.023 (100.0%)
Component:		
Difference in Characteristics:		
$E_{\gamma_n,\sigma_n}(S_{itn}\|X_{itn}) - E_{\gamma_n,\sigma_m}(S_{itm}\|X_{itm})$	0.022 (60.4%)	0.018 (79.7%)
Difference in Coefficients:		
$E_{\gamma_n,\sigma_m}(S_{itm}\|X_{itm}) - E_{\gamma_m,\sigma_m}(S_{itm}\|X_{itm})$	0.015 (39.6%)	0.005 (20.3%)
	B: Savings and Remittances Rate	
Observed Difference in Savings Rate:		
$E(S_n) - E(S_m)$	0.016	-0.023
OLS Estimates		
Predicted Difference in Savings Rate:	0.014 (100.0%)	-0.027 (100.0%)
Component:		
Difference in Characteristics:		
$(\overline{X}_n - \overline{X}_m)b_n$	0.019 (140.4%)	0.017 (-61.9%)
Difference in Coefficients:		
$\overline{X}_m(b_n - b_m)$	-0.006 (-40.4%)	-0.044 (161.9%)
Tobit Estimates		
Predicted Difference in Savings Rate:	0.015 (100.0%)	-0.037 (100.0%)
Component:		
Difference in Characteristics:		
$E_{\gamma_n,\sigma_n}(S_{itn}\|X_{itn}) - E_{\gamma_n,\sigma_m}(S_{itm}\|X_{itm})$	0.022 (148.1%)	0.018 (-48.4%)
Difference in Coefficients:		
$E_{\gamma_n,\sigma_m}(S_{itm}\|X_{itm}) - E_{\gamma_m,\sigma_m}(S_{itm}\|X_{itm})$	-0.007 (-48.1%)	-0.055 (148.4%)

Appendix

TABLE A1: **Definition of Variables**

Variable	Description
Savings	Monthly amount of savings (in real 2000 Euro) for larger purchases, emergencies or wealth accumulation.
No Savings	1 if respondent does not save money; 0 otherwise.
Remittances I	Average monthly amount of payments (in real 2000 Euro) to relatives and / or other persons abroad if respondent immigrated to Germany and does not want to remain in Germany forever; 0 otherwise.
Remittances II	Average monthly amount of payments (in real 2000 Euro) to relatives and / or other persons abroad if respondent immigrated to Germany; 0 otherwise.
Household Size	Number of persons in household.
Savings Equivalent	Savings/$\sqrt{\text{Household Size}}$.
Savings and Remittances Equivalent I	Savings Equivalent + Remittances I.
Savings and Remittances Equivalent II	Savings Equivalent + Remittances II.
Income Equivalent	Household Net Income/$\sqrt{\text{Household Size}}$.
Savings Rate	Savings Equivalent/Income Equivalent.
S & R Rate I	Savings Equivalent + Remittances I/Income Equivalent.
S & R Rate II	Savings Equivalent + Remittances II/Income Equivalent.
Household Net Income	Currently monthly household net income (in real 2000 Euro).
Age	Age of respondent in years.
Education	Education of respondent in years.
Single Parent Household	1 if respondent is not married and number of children in household > 0; 0 otherwise.
Number of Children	Number of children respondent received child allowance for (previous year).
Employed	1 if respondent currently works full-time or part-time; 0 otherwise.
Permanent Income	Average household net income (in real 2000 Euro) over the last five years.
Owner of House	1 if respondent owns house and / or apartment; 0 otherwise.
Immigrant	1 if respondent immigrated to Germany since 1948; 0 otherwise.
Return Migration	Intended return migration: 1 if immigrant wishes to return to the country of origin; 0 otherwise.
YSM	Number of years since migration if respondent immigrated; 0 otherwise.

TABLE A2: **Descriptive Statistics, 2003**

	Germans		Immigrants		Permanent Migrants		Temporary Migrants	
Variable	**Mean**	**S.E.**	**Mean**	**S.E.**	**Mean**	**S.E.**	**Mean**	**S.E.**
				Savings and Remittances				
Savings	228.400	7.632	129.073	16.033	117.656	17.003	183.991	41.552
No Savings	0.402	0.010	0.574	0.029	0.606	0.031	0.419	0.068
Savings Equivalent	163.972	5.720	84.140	11.577	73.931	11.155	133.245	36.860
Savings and Remittances I	163.972	5.720	94.994	14.885	73.931	11.155	196.306	59.585
Savings and Remittances II	163.972	5.720	109.346	15.246	91.267	12.155	196.306	59.585
Household Size	2.269	0.024	2.890	0.111	2.984	0.124	2.438	0.215
Savings Rate	0.081	0.002	0.051	0.005	0.045	0.004	0.083	0.022
S & R Rate I	0.081	0.002	0.057	0.008	0.045	0.004	0.119	0.036
S & R Rate II	0.081	0.002	0.070	0.008	0.059	0.006	0.119	0.036
				Explanatory Variables				
Age	44.296	0.248	43.648	0.747	43.591	0.794	43.926	2.092
Education	12.471	0.059	11.798	0.161	11.841	0.177	11.593	0.401
Single Parent Household	0.097	0.005	0.099	0.017	0.100	0.017	0.097	0.057
Number of Children	0.610	0.017	1.065	0.091	1.145	0.105	0.683	0.122
Employed	0.695	0.009	0.607	0.029	0.597	0.032	0.659	0.067
Household Net Income	2407.283	29.212	2007.553	73.796	1990.266	79.243	2090.703	198.178
Permanent Income	2274.539	25.270	1885.901	61.006	1872.390	60.179	1950.890	206.975
Owner of House	0.417	0.009	0.250	0.025	0.270	0.029	0.155	0.042
Immigrant	0	0	1	0	1	0	1	0
Return Migration	0	0	0.172	0.023	0	0	1	0
YSM	0	0	20.227	0.665	19.780	0.703	22.375	1.979
Observations	4756		774		603		171	

TABLE A3: **Determinants of the Savings Rate: German Natives, Permanent Migrants, and Temporary Migrants – Pooled Estimation, 1996-2003**

	(1)	(2)	(2a)	(3)	(4)	(4a)	(5)	(6)	(6a)
		Natives			Permanent Migrants			Temporary Migrants	
	OLS	**Tobit**	**marg. Effect**	**OLS**	**Tobit**	**marg. Effect**	**OLS**	**Tobit**	**marg. Effect**
Age (Yrs.)	-0.006	-0.010	-0.006	-0.007	-0.017	-0.007	-0.011	-0.024	-0.010
	(0.001)***	(0.002)***	(0.001)***	(0.002)***	(0.004)***	(0.001)***	(0.004)***	(0.007)***	(0.003)***
Age$^2 \times 10^{-3}$	0.070	0.116	0.071	0.080	0.188	0.079	0.121	0.263	0.118
	(0.012)***	(0.019)***	(0.011)***	(0.025)***	(0.050)***	(0.021)***	(0.040)***	(0.081)***	(0.036)***
Education (Yrs.)	0.004	0.005	0.003	0.006	0.011	0.004	0.007	0.012	0.005
	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.002)***	(0.001)***	(0.002)***	(0.004)***	(0.001)***
Permanent Income$\times 10^{-3}$	0.021	0.033	0.020	0.028	0.062	0.026	0.028	0.060	0.027
	(0.003)***	(0.004)***	(0.002)***	(0.004)***	(0.008)***	(0.003)***	(0.005)***	(0.010)***	(0.004)***
Owner of House	0.014	0.025	0.015	0.008	0.007	0.003	-0.002	-0.003	-0.001
	(0.004)***	(0.005)***	(0.003)***	(0.008)	(0.013)	(0.005)	(0.013)	(0.025)	(0.011)
Number of Children	-0.018	-0.025	-0.015	-0.005	-0.009	-0.003	-0.012	-0.021	-0.009
	(0.002)***	(0.003)***	(0.001)***	(0.003)*	(0.005)*	(0.002)*	(0.005)**	(0.010)**	(0.004)**
Employed	0.027	0.062	0.036	0.029	0.089	0.034	0.043	0.110	0.045
	(0.004)***	(0.006)***	(0.003)***	(0.006)***	(0.013)***	(0.004)***	(0.009)***	(0.020)***	(0.007)***
Single Parent Household	-0.013	-0.043	-0.024	-0.008	-0.017	-0.006	0.010	0.009	0.004
	(0.004)***	(0.008)***	(0.004)***	(0.006)	(0.017)	(0.006)	(0.016)	(0.036)	(0.016)
Constant	0.096	0.046		0.053	0.002		0.180	0.223	
	(0.019)***	(0.032)		(0.034)	(0.077)		(0.071)**	(0.146)	
Observations	32500	32500		4333	4333		2052	2052	
R^2 / Wald statistic (χ^2)	0.119	746.12		0.177	190.40		0.160	110.31	

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. Weighted OLS and weighted Tobit using weights provided by the GSOEP. Standard errors, which are reported in parentheses, are adjusted in order to take repeated observations of households into account. The effects of year dummies are not reported.

TABLE A4: **Determinants of the Savings and Remittances Rate: Permanent Migrants and Temporary Migrants – Pooled Estimation, 1996-2003**

	(1)	(2)	(2a)	(3)	(4)	(4a)
	Permanent Migrants			**Temporary Migrants**		
	OLS	**Tobit**	**marg. Effect**	**OLS**	**Tobit**	**marg. Effect**
Age (Yrs.)	-0.005	-0.012	-0.006	-0.005	-0.015	-0.007
	(0.003)*	(0.005)**	(0.002)**	(0.006)	(0.012)	(0.005)
$\text{Age}^2 \times 10^{-3}$	0.062	0.143	0.069	0.060	0.178	0.090
	(0.034)*	(0.060)**	(0.028)**	(0.065)	(0.126)	(0.061)
Education (Yrs.)	0.006	0.011	0.005	0.009	0.018	0.008
	(0.001)***	(0.002)***	(0.001)***	(0.003)**	(0.006)***	(0.003)***
Permanent Income$\times 10^{-3}$	0.025	0.059	0.028	0.012	0.049	0.024
	(0.005)***	(0.008)***	(0.004)***	(0.013)	(0.018)***	(0.008)***
Owner of House	-0.002	-0.011	-0.005	-0.013	-0.026	-0.012
	(0.010)	(0.017)	(0.007)	(0.020)	(0.037)	(0.017)
Number of Children	-0.005	-0.008	-0.003	-0.023	-0.044	-0.022
	(0.004)	(0.006)	(0.003)	(0.007)***	(0.015)***	(0.007)***
Employed	0.041	0.106	0.047	0.087	0.183	0.085
	(0.007)***	(0.015)***	(0.006)***	(0.024)***	(0.048)***	(0.019)***
Single Parent Household	-0.020	-0.046	-0.020	0.007	0.003	0.001
	(0.008)**	(0.022)**	(0.008)**	(0.021)	(0.047)	(0.023)
Constant	0.028	-0.071		0.038	-0.072	
	(0.047)	(0.091)		(0.155)	(0.264)	
Observations	4333	4333		2052	2052	
R^2 / Wald statistic (χ^2)	0.113	194.65		0.074	52.73	

Notes: See notes to Table A3.