

The Savings Behavior of Temporary and Permanent Migrants in Germany*

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- DRAFT -

Abstract

This paper examines the relative savings position of migrant households in West Germany, paying particular attention to differences between temporary and permanent migrants. Utilizing household level data drawn from the *German Socio-Economic Panel* (GSOEP), our findings reveal significant differences in the savings level between foreign-born and German-born individuals. These differences disappear, however, if we take remittances of temporary migrants into account. Fixed effects estimations of the determinants of immigrants' savings level reveal that intended return migration does not only affect remittances, but also the savings level of migrant households in the host country. The results of a decomposition analysis indicate that differences in the monthly amount of savings mainly reflect income disparities between immigrants and natives. We do not find evidence for an adjustment of the savings level between immigrants and natives over time, indicating deficits in the integration of permanent migrants in Germany.

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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 patterns¹. 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 receiving country within 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 2004). 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 between natives and immigrants may be caused by the original migration motive

¹See Borjas (1994) for a survey of the literature. The evidence for Germany is summarized by Bauer, Dietz, Zimmermann, and Zwintz (2004). Remarkably, 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).

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 differences in the savings behavior. 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 descriptive 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 monthly amount of savings between immigrants and natives? Which factors determine the savings level? 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 level between foreigners and Germans. However, these differences disappear when taking the remittances of migrants who intend to stay only temporarily into account. Furthermore, we find no evidence for an assimilation of the savings level towards the level of otherwise similar natives with time of residence in Germany. 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 monthly amount of savings mainly reflect income disparities between immigrants and natives. We conclude that the missing assimilation process of the savings level indicates deficits in the 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

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), for example, argue 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, Dustmann (1997) develops a model in which immigrants' duration abroad and savings are jointly determined. He shows that immigrants will only save more than natives if the labor markets in the home and the host country of the immigrants are uncorrelated, because immigrants face greater income risk in the host country than natives in this case. However, Dustmann (1997) also argues that the lifelong income risk of foreign-born persons could be smaller than the income risk of natives if the economic conditions across two countries are correlated and immigrants are able to diversify labor market risk. 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 to their home countries.

To explore this issue further, Amuedo-Dorantes and Pozo (2004) pay particu-

lar attention to the determinants of home remittances. Using data on Mexican immigrants in the United States, they find that a higher income risk² 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 levels.

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 heterogeneous immigrant population. Using data of the Survey of Income Program Participation (SIPP), they show that foreign-born households in the United States 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

²Amuedo-Dorantes and Pozo (2004) use proxies for income risk, such as immigrants' legal status or access to social networks.

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 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 with most of these studies concentrating 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. Additionally,

Loury (1998) points out that aversion to or discrimination by financial institutions may exist that could lower the propensity of immigrants to save money.

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 2003³. 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. 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 44,887 household-year-observations of 11,027 households.

To investigate the differences in the savings level 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 regression equation can be written as follows:

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

³The 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(TM). 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 h2708x h2743x h2747x h2748x h2817x h3111x p195x p2292x p296x p3466x p519x p527x. The SOEPMENU generated DO file to retrieve the SOEP data used here and the above SOEPMENU Plugins are available upon request. Any data or computational errors in this paper are our own.

for $i = 1, \dots, N$, $t = 1, \dots, T$. S_{it} measures the monthly amount of savings for larger purchases, emergencies and wealth accumulation 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. YSM_{it} includes the number of years since migration. The coefficient on this variable indicates how the savings of immigrant households evolve over the duration of stay in Germany relative to natives. \mathbf{D}_t represents a vector of year dummies.

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, a dummy variable indicating whether the household head is employed, the number of children in the household, dummy variables for household net income categories, a dummy variable indicating a single parent household, and a number of interaction terms between the migrant dummy and the socioeconomic characteristics. A detailed description of the definition of variables used in our analysis is given in Appendix-Table A1.

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, in order to differentiate between payments which represent savings in the

home country and payments attributable to altruistic remittances, an assumption about the type of payments to persons abroad 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 lead to a certain future return. In this case, remittances represent one form of savings in the home country, 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 savings of natives as well as savings and remittances of temporary and permanent migrants⁴ in our sample. The variables *Savings* and *Savings Equivalent* report only savings in Germany, while the variable *Savings and Remittances I* reports the savings equivalent when only remittances of temporary migrants are considered as savings, and *Savings and Remittances II* reports the savings equivalent if all remittances of the migrants are treated as savings.

Overall, savings turn out to be quite stable over time. For natives, the savings equivalent (in real 2000 Euro) varies from 156.16 Euro in 1998 to 170.61 Euro in 2003, with an average of 164.44 Euro over the entire sample period. Not considering

⁴We define temporary migrants as migrants who intend to return to their home country, while migrants who want to stay in Germany forever are considered as permanent migrants. Consequently, the classifications *temporary migrant* and *permanent migrant* may change over time.

remittances of migrants as savings, the savings equivalent of migrants, who plan to return to their home country some time in the future, varies from 88.70 Euro in 2002 to 132.32 Euro in 1999 with a mean savings level of 110.24 Euro for the period from 1996 to 2003. Apart from the year 2002, the savings of temporary migrants are substantially higher than those of permanent migrants. The mean savings of the latter range from 71.72 Euro in 1997 to 97.63 Euro in 2002 with a mean of 81.35 Euro 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 (*Savings and Remittances I*). However, this picture does not change very much by treating the remittances of permanent migrants as savings as well (*Savings and Remittances II*). Using this savings measure for migrants, temporary migrants save on average 179.87 Euros per month in our sample period, while permanent migrants only save 108.54 Euros. When we consider remittances of migrants as savings, even natives save slightly less than temporary migrants.

The distributions of the savings (and remittances) equivalent of natives and migrants for the year 2003 are shown in Figure 1. The savings distributions of all migrants (graphs (1) and (2)) resemble the distributions of permanent migrants (graph (1a) and (2a)), because in 2003 the majority of the immigrant population does not intend to return to their country of origin (see Table 1). Comparing the savings distributions of natives and migrants, it turns out that a substantial share of the immigrant population does not save at all or saves a relatively small amount. This difference decreases slightly, if remittances are taken into account. Considering remittances as savings results in a relatively small change of the savings distribution for permanent migrants (see graph (2a)), whereas the distribution of savings and remittances of temporary migrants resembles the savings distribution of natives

(graph (2b)). This result indicates that remittances represent a substantial part of the savings level of temporary migrants, while remittances of permanent migrants play only a minor role in the context of savings. In order to test 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 rejected⁵.

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):

$$\begin{aligned} S_{it}^* &= \gamma_0 + M_i(\gamma_1 + \gamma_2 R_{it} + \gamma_3 YSM_{it} + \gamma_4 YSM_{it}^2) + \mathbf{D}_t \gamma_5 + \mathbf{Z}_{it} \gamma_6 + \eta_{it} \\ &= \mathbf{X}_{it} \gamma + \eta_{it}, \quad \text{where} \end{aligned} \quad (2)$$

$$S_{it} = 0 \quad \text{if} \quad S_{it}^* \leq 0,$$

$$S_{it} = S_{it}^* \quad \text{if} \quad S_{it}^* > 0, \quad i = 1, \dots, N, \quad t = 1, \dots, T.$$

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

$$\begin{aligned} E(S_{it}|X_{it}) &= P(S_{it} > 0|X_{it})E(S_{it}|S_{it} > 0, X_{it}) \\ &= \Phi\left(\frac{X_{it}\gamma}{\sigma}\right)X_{it}\gamma + \sigma\phi\left(\frac{X_{it}\gamma}{\sigma}\right) \end{aligned} \quad (3)$$

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

⁵The test results can be obtained by the authors upon request.

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

$$\partial E(S_{it}|X_{it})/\partial X_{it} = \Phi\left(\frac{X_{it}\gamma}{\sigma}\right)\gamma. \quad (4)$$

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:

$$\begin{aligned} \partial E(S_{it}|X_{it})/\partial X_{it} &= \frac{\partial E(S_{it}|S_{it} > 0, X_{it})}{\partial X_{it}} P(S_{it} > 0|X_{it}) \\ &+ \frac{\partial P(S_{it} > 0|X_{it})}{\partial X_{it}} E(S_{it}|S_{it} > 0, X_{it}). \end{aligned} \quad (5)$$

The first term on the right hand side of equation (5) represents the change in the expected savings level of the households with positive savings, weighted by the probability of having positive savings, and the second term the change in the probability of positive savings, weighted by the expected value of savings if the savings level is 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 the savings level 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

$$S_{it} = \mathbf{X}_{it}\beta + \alpha_i + \varepsilon_{it}, \quad (6)$$

and the fixed effects Tobit model

$$S_{it}^* = \mathbf{X}_{it}\gamma + \alpha_i + \eta_{it}, \quad (7)$$

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 differences in the savings level 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). This kind of decomposition analysis appears to be important, since we can analyze the part of the savings differential between natives and immigrants that is due to differences in the socioeconomic characteristics of the two groups and the part that is due to different savings behavior.

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

$$S_{itg} = X_{itg}\beta_g + \varepsilon_{itg}, \quad (8)$$

and

$$S_{itg}^* = X_{itg}\gamma_g + \eta_{itg}, \quad (9)$$

$$S_{it} = 0 \quad \text{if} \quad S_{it}^* \leq 0,$$

$$S_{it} = S_{it}^* \quad \text{if} \quad S_{it}^* > 0,$$

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

$$\begin{aligned}
\bar{S}_n - \bar{S}_m = \Delta_{nm}^{OLS} &= E_{\beta_n}(S_{itn}|X_{itn}) - E_{\beta_m}(S_{itm}|X_{itm}) \\
&= [E_{\beta_n}(S_{itn}|X_{itn}) - E_{\beta_n}(S_{itm}|X_{itm})] \\
&\quad + [E_{\beta_n}(S_{itm}|X_{itm}) - E_{\beta_m}(S_{itm}|X_{itm})] \\
&= (\bar{X}_n - \bar{X}_m)\hat{\beta}_n + \bar{X}_m(\hat{\beta}_n - \hat{\beta}_m),
\end{aligned} \tag{10}$$

where $E_{\beta_g}(S_{itg}|X_{itg})$ for $g = (n, m)$ means that the expected value of S_{itg} conditional on X_{itg} is evaluated at the parameter vector β_g , $\bar{S}_g = \frac{1}{N_g T_g} \sum_{i=1}^{N_g} \sum_{t=1}^{T_g} S_{itg}$ and $\bar{X}_g = \frac{1}{N_g T_g} \sum_{i=1}^{N_g} \sum_{t=1}^{T_g} X_{itg}$. The first term on the right hand side of equation (10) shows the differential in the savings level 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 X_{itg} , the linear model might be a good approximation to the expected value of the savings level $E(S_{itg}|X_{itg})$ for values of 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 differences in the savings level 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 two alternative decomposition equations

of the mean difference of S between the two groups (n) and (m):

$$\begin{aligned}\Delta_{nm}^{Tobit1} &= [E_{\gamma_n, \sigma_n}(S_{itn}|X_{itn}) - E_{\gamma_n, \sigma_m}(S_{itm}|X_{itm})] \\ &\quad + [E_{\gamma_n, \sigma_m}(S_{itm}|X_{itm}) - E_{\gamma_m, \sigma_m}(S_{itm}|X_{itm})],\end{aligned}\tag{11}$$

and

$$\begin{aligned}\Delta_{nm}^{Tobit2} &= [E_{\gamma_n, \sigma_n}(S_{itn}|X_{itn}) - E_{\gamma_n, \sigma_n}(S_{itm}|X_{itm})] \\ &\quad + [E_{\gamma_n, \sigma_n}(S_{itm}|X_{itm}) - E_{\gamma_m, \sigma_m}(S_{itm}|X_{itm})].\end{aligned}\tag{12}$$

The difference between these specifications is caused by the necessity to consider either σ_n or σ_m in the counterfactual parts of the decomposition equation. Consequently, the specifications may differ substantially from each other, if large differences in the variance of the error term between the two groups exist. The results will, however, be similar if these differences are small. Using equation (3), one can show that the two equations can be estimated by

$$\begin{aligned}\hat{\Delta}_{nm}^{Tobit1} &= [\Phi(\frac{\bar{X}_n \hat{\gamma}_n}{\hat{\sigma}_n}) \bar{X}_n \hat{\gamma}_n + \hat{\sigma}_n \phi(\frac{\bar{X}_n \hat{\gamma}_n}{\hat{\sigma}_n})] \\ &\quad - [\Phi(\frac{\bar{X}_m \hat{\gamma}_n}{\hat{\sigma}_m}) \bar{X}_m \hat{\gamma}_n + \hat{\sigma}_m \phi(\frac{\bar{X}_m \hat{\gamma}_n}{\hat{\sigma}_m})] \\ &\quad + [\Phi(\frac{\bar{X}_m \hat{\gamma}_n}{\hat{\sigma}_m}) \bar{X}_m \hat{\gamma}_n + \hat{\sigma}_m \phi(\frac{\bar{X}_m \hat{\gamma}_n}{\hat{\sigma}_m})] \\ &\quad - [\Phi(\frac{\bar{X}_m \hat{\gamma}_m}{\hat{\sigma}_m}) \bar{X}_m \hat{\gamma}_m + \hat{\sigma}_m \phi(\frac{\bar{X}_m \hat{\gamma}_m}{\hat{\sigma}_m})]\end{aligned}\tag{13}$$

and

$$\begin{aligned}\hat{\Delta}_{nm}^{Tobit2} &= [\Phi(\frac{\bar{X}_n \hat{\gamma}_n}{\hat{\sigma}_n}) \bar{X}_n \hat{\gamma}_n + \hat{\sigma}_n \phi(\frac{\bar{X}_n \hat{\gamma}_n}{\hat{\sigma}_n})] \\ &\quad - [\Phi(\frac{\bar{X}_m \hat{\gamma}_n}{\hat{\sigma}_n}) \bar{X}_m \hat{\gamma}_n + \hat{\sigma}_n \phi(\frac{\bar{X}_m \hat{\gamma}_n}{\hat{\sigma}_n})] \\ &\quad + [\Phi(\frac{\bar{X}_m \hat{\gamma}_n}{\hat{\sigma}_n}) \bar{X}_m \hat{\gamma}_n + \hat{\sigma}_n \phi(\frac{\bar{X}_m \hat{\gamma}_n}{\hat{\sigma}_n})] \\ &\quad - [\Phi(\frac{\bar{X}_m \hat{\gamma}_m}{\hat{\sigma}_m}) \bar{X}_m \hat{\gamma}_m + \hat{\sigma}_m \phi(\frac{\bar{X}_m \hat{\gamma}_m}{\hat{\sigma}_m})],\end{aligned}\tag{14}$$

where $\bar{X}_g = \frac{1}{N_g T_g} \sum_{i=1}^{N_g} \sum_{t=1}^{T_g} X_{itg}$, $g = (n, m)$. $\hat{\gamma}_g$ and $\hat{\sigma}_g$ 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 (13) is based on the average characteristics and the estimated error variance of natives as well as the estimated coefficients of migrants, while we use the average characteristics of the natives and the estimated variance of the error term and the estimated coefficients of the migrant population in equation (14).

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 (11). To account for the clustering of the savings level 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) as well as the results of the Tobit-Oaxaca-Blinder decomposition according to equations (13) and (14). Finally, we report the results of estimating the fixed effects models (6) and (7) in order to investigate the role of unobserved heterogeneity.

4 Results

Table 2 reports the results from pooled OLS and Tobit estimates of models (1) and (2) using a basic specification that includes only a quadratic function of the age of the household head, an immigrant dummy, a dummy 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. Part A of Table 2 shows the results obtained when we do not consider remittances as being savings. Part B reports the results when treating remittances of temporary migrants as savings (*Savings and Remittances I*), and part C when treating the remittances

of all immigrant households as savings (*Savings and Remittances II*).

Independent of how we treat remittances, there is evidence for a statistically significant inverted 'U'-shaped savings-age profile. Immigrant households that intend to stay in Germany permanently save significantly less than natives. The marginal effect presented in column (2a) indicates that average household heads with migration background save about 89 Euro less (per month) than comparable natives, if remittances are not considered to be savings. The McDonald-Moffitt-decomposition reported in columns (2b) and (2c) reveals that the propensity to save at all is 17.6% lower for permanent immigrant households if compared to native households and that, conditional on having savings, permanent immigrant households save about 60 Euros less than native households. Considering only savings in Germany, there is no statistical 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 estimation results presented in Part C shows that the savings gap between permanent migrants and natives do not disappear if all remittances are treated as savings. The marginal effect of the Tobit estimation in Part C indicates that permanent migrants save about 69 Euro less than natives, even if their remittances are considered as savings. The propensity of permanent migrants to save and remit is about 13% lower than the propensity of comparable natives, while – given a positive savings level – the savings (and remittance) gap between permanent migrants and natives amounts to 47 Euro. The results presented in Part B and C show, however, that the differences between temporary immigrant households and native households become insignificant when we consider remittances to represent savings⁶. This result confirms the presumption

⁶For the Tobit estimates, we applied a χ^2 -test to examine whether the sum of the coefficients of

of Amuedo-Dorantes and Pozo (2002) who argue that immigrants transfer parts of their income to their country of origin. For all specifications, the estimated coefficients on years since migration suggest that there is no assimilation of the savings level of immigrant households towards the savings level of natives.

Tables 3 to 5 report the results of an extended specification of the models (1) and (2), where we added the 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. The dependent variable of the estimates presented in Table 4 considers only the remittances of temporary migrant households as savings, while in Table 5 the remittances of all immigrant households are treated as savings.

Independent of the specific definition of the dependent variable, household net income and the employment status of the household head appear to be the most important factors of the savings level. The effect of income on the savings level turns out to be nonlinear. When estimating pooled OLS, immigrant household in the lowest income categories save significantly more than comparable native households. However, in the Tobit model this difference disappears. Furthermore there is no significant difference in the effect of household net income on saving between immigrants and natives.

For German households, the monthly amount of savings increases by about 27 Euro if the household head is employed. For all three different specifications of the dependent variable, employed immigrant households save statistically more than employed German households. Due to the correlation between the age of the household

the immigrant dummy and temporary migrant dummy are significantly different from zero. The test results reveal that differences between temporary migrants and natives become insignificant if remittances are taken into account.

head and the income levels of the household, the coefficient of age becomes negative if income levels are taken into account. The education of the household head turns out to have a significantly positive effect on savings. For migrant households, the effects of age and education are significantly stronger than for similar natives. For German households, the effect of the number of children is significantly negative and stronger than for immigrant households. While an additional child causes a German household to save on average 54.23 Euro less, the savings level of migrant households decreases only by 28.61 Euro. Single parent households save on average 23.91 Euro less than other households and, at least in the Tobit models, there is no significant difference between migrant and native single parent households.

Immigrant households whose head intend 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). The marginal effect of the "unconditional" expected value in Table 4 indicates that temporary migrants save (and remit) 84.36 Euro more than comparable natives and permanent migrants. Taking also remittances of permanent migrants into account, the effect of intended return migration still leads on average to 47.67 Euro higher savings per month. Finally, for all specifications of the dependent variable there appears no assimilation between the savings level of immigrant households towards the savings level of native households with time of residence in Germany.

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 the savings level of immigrants. 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 level and hence may cause biased estimates of the model 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 factors⁷.

Controlling for unobserved heterogeneity does not change the results qualitatively. However, in contrast to the results of the pooled estimations in Table 3, 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 monthly amount of savings of temporary migrants is 17.13 Euro higher than the amount of savings of natives and permanent migrants. In addition, the effect of being employed on savings turns out to be nearly twice as high for natives (54.03 Euro) than in the pooled estimates, but still significantly lower than the comparable effect for immigrant households.

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 84.86 Euro per month and the observed difference between natives and temporary immigrant households is 69.73 Euro per month. Treating all remittances as savings, the observed difference between natives and permanent migrants decreases to 57.96 Euro, while the savings gap between natives and temporary migrants drops to 7.43 Euro.

⁷While the coefficients of the pooled regression models were estimated with STATA 8.2, the estimates of the fixed effects models were calculated using LIMDEP 8.0.

The decomposition of the savings gap shows that the major part of the difference between native and immigrant households can be explained by observable characteristics, in particular by household net income and employment status. As outlined above, we report two possible decompositions of the Tobit estimates, because we can evaluate the decomposition at two different counterfactual parts. The decomposition of the OLS model and the first decomposition of the Tobit model, which evaluates the counterfactual part using the estimated variance of the error term for native households, shows that around 62% of the savings gap between natives and immigrants can be explained by observable factors when remittances are not considered as being savings (see part A of Table 7). The second decomposition of the Tobit model, which evaluates the counterfactual part of the decomposition using the estimated error variance of immigrant households, indicates that even 87.5% of the differences are attributable to differences in observable characteristics.

Differentiating permanent and temporary immigrant households, shows that between 60% and 98% of the savings gap between native and permanent migrant households and between 60% and 64% of the savings gap between native and temporary migrant households can be explained by differences in characteristics. For the latter, the results of the two specifications of the Tobit decomposition are much more similar than for permanent migrant households, because the variances σ_n and σ_m lie close to each other.

Part B of Table 7 shows the results of the decomposition analysis when we treat all remittances as savings. According to the results, around 90% of the difference in the savings and remittance level between native and permanent migrant households are caused by observable factors. The second decomposition of the Tobit model indicates that even more than 100% of the predicted difference 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 money⁸. Taking remittances into account, the predicted difference between natives and temporary migrants becomes negative and very small. This is the main reason, why the decomposition analysis results in unrealistic values.

Overall, we conclude from the decomposition analysis that the savings gap between native and immigrant households is caused by differences in observable characteristics rather than differences in the savings behavior, especially so for immigrant households who plan to stay in Germany permanently. Since household net income and the employment status of the household head appear to be the most important determinants of savings, the savings gap between immigrants and natives mainly reflects differences in these characteristics.

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. However, the savings gap between natives and temporary migrants disappears if remittances of temporary migrants are taken into account as part of their savings.

Considering the effects of additional determinants of the savings equivalent, household net income levels and employment status turn out to be the most important factors of the savings level. The effect of household income on savings is similar for native and immigrant households, but the positive effect of employment on savings is significantly stronger for migrant households than for native households. The estimation results further indicate that independent of how remittances are treated, immigrant households who intend to return to their country of origin

⁸See Neuman and Oaxaca (1998) for a similar interpretation.

save significantly more than immigrant households who plan to stay in Germany permanently.

Finally, the results of a decomposition analysis indicate that differences in the monthly amount of savings between native and immigrant households can mainly be explained by differences in observable socioeconomic characteristics rather than differences in the savings behavior. For that reason, we argue that the nativity savings gap mainly reflects differences in the income levels and employment status between natives and immigrants. In economic literature, a variety of studies suggest that income and employment of immigrants – which highly depend on education and especially language skills – represent important measures of the integration of foreigners into the host country's society. Consequently, the missing assimilation process of the savings level between native and migrant households indicates deficits in the German integration policy of permanent migrants.

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FIGURE 1: Distribution of Savings and Remittances Equivalent (2003)

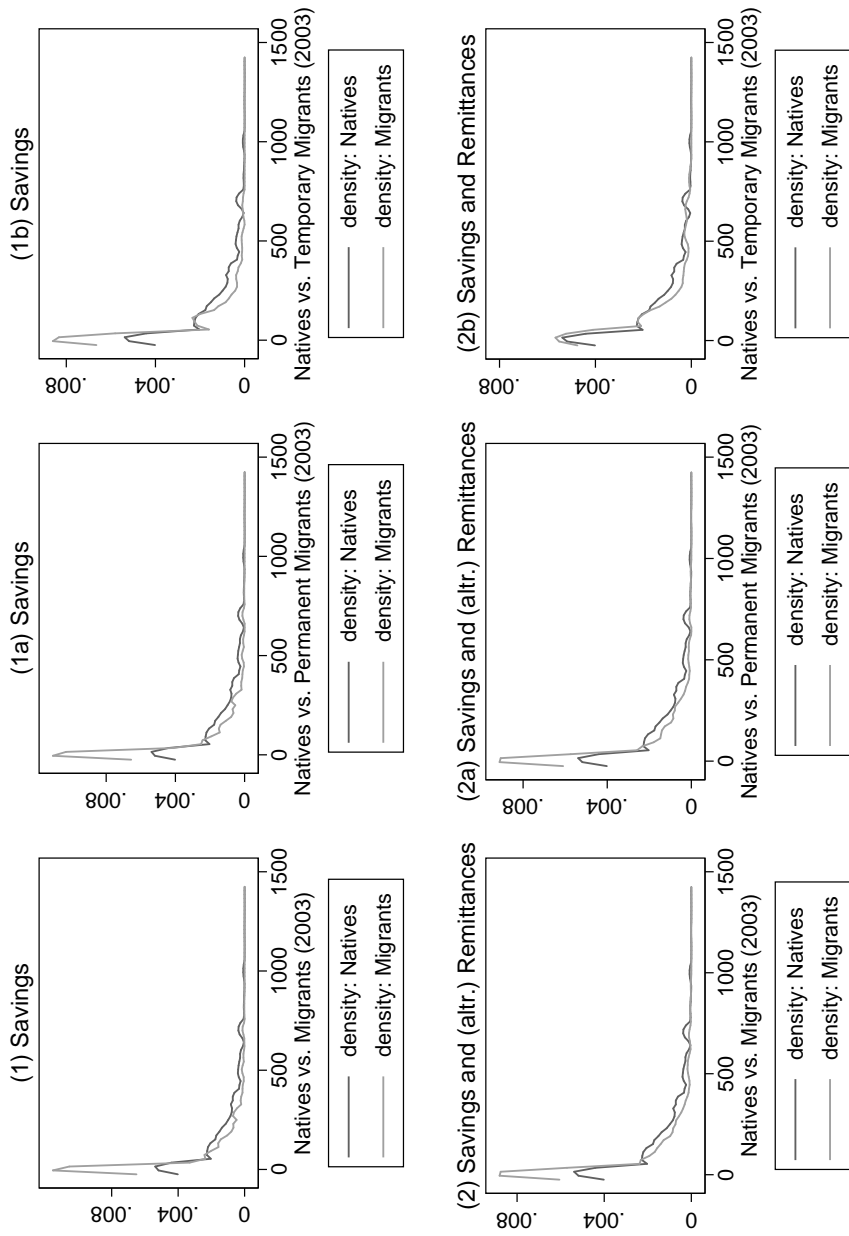


TABLE 1: Descriptive Statistics – Savings and Remittances (1996 - 2003)

Variable	Germans		Immigrants		Permanent Migrants		Temporary Migrants	
	Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.
1996								
Savings	219.859	8.903	138.285	13.621	129.902	18.504	151.504	19.558
No Savings	0.359	0.012	0.559	0.024	0.580	0.031	0.525	0.040
Savings Equivalent	159.817	7.052	84.171	7.888	74.615	10.079	99.240	12.599
Savings and Remittances I	159.817	7.052	88.659	8.367	74.615	10.079	110.804	14.455
Savings and Remittances II	159.817	7.052	100.561	9.540	94.065	12.636	110.804	14.455
Observations	3329		870		512		358	
1997								
Savings	214.905	8.174	130.386	11.298	114.656	13.326	154.382	19.993
No Savings	0.372	0.012	0.526	0.026	0.528	0.033	0.523	0.040
Savings Equivalent	158.256	6.919	79.980	7.757	71.716	9.059	92.587	13.938
Savings and Remittances I	158.256	6.919	120.587	15.168	71.716	9.059	195.141	34.421
Savings and Remittances II	158.256	6.919	145.533	15.616	113.016	11.614	195.141	34.421
Observations	3378		835		486		349	
1998								
Savings	216.663	11.401	134.655	15.853	120.138	19.063	163.155	27.943
No Savings	0.368	0.011	0.560	0.026	0.564	0.032	0.551	.044
Savings Equivalent	156.156	6.865	83.017	9.683	75.470	11.936	97.831	16.364
Savings and Remittances I	156.156	6.865	111.143	16.468	75.470	11.936	181.171	41.589
Savings and Remittances II	156.156	6.865	140.911	17.404	120.403	15.136	181.171	41.589
Observations	3828		790		492		298	
1999								
Savings	229.593	10.758	167.448	23.959	147.569	18.094	218.712	71.854
No Savings	0.367	0.011	0.532	0.028	0.514	0.034	0.579	0.048
Savings Equivalent	165.448	6.942	99.784	13.580	87.169	10.601	132.318	40.181
Savings and Remittances I	165.448	6.942	117.664	14.081	87.169	10.601	196.307	42.002
Savings and Remittances II	165.448	6.942	150.071	17.267	132.142	17.751	196.307	42.002
Observations	3838		741		508		233	
2000								
Savings	229.419	5.475	144.834	14.305	122.433	13.195	204.634	38.191
No Savings	0.352	0.007	0.541	0.022	0.525	0.026	0.584	.043
Savings Equivalent	168.637	4.172	89.316	8.809	73.624	7.833	131.205	24.223
Savings and Remittances I	168.637	4.172	122.348	13.822	73.624	7.833	252.419	44.295
Savings and Remittances II	168.637	4.172	142.717	14.464	101.623	10.080	252.419	44.295
Observations	7300		982		717		265	

TABLE 1 CONTINUED: Descriptive Statistics – Savings and Remittances (1996 - 2003)

Variable	Germans		Immigrants		Permanent Migrants		Temporary Migrants	
	Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.
2001								
Savings	229.824	5.812	145.013	15.500	124.385	14.858	199.145	39.723
No Savings	0.348	0.008	0.564	0.024	0.557	0.026	0.581	0.053
Savings Equivalent	168.419	4.308	88.586	9.792	72.870	7.914	129.826	28.125
Savings and Remittances I	168.419	4.308	112.612	11.574	72.870	7.914	216.901	34.809
Savings and Remittances II	168.419	4.308	134.912	11.857	103.669	9.127	216.901	34.809
Observations	6539		939		686		253	
2002								
Savings	227.857	6.898	147.145	14.943	149.0203	17.156	138.193	27.037
No Savings	0.377	0.008	0.579	0.022	0.572	0.025	0.610	.047
Savings Equivalent	168.223	5.250	96.086	11.408	97.632	13.210	88.704	18.910
Savings and Remittances I	168.223	5.250	101.443	11.471	97.632	13.210	119.641	20.663
Savings and Remittances II	168.223	5.250	111.645	12.114	109.971	14.016	119.641	20.663
Observations	6308		1086		864		222	
2003								
Savings	230.609	6.791	136.111	15.078	129.656	16.264	176.058	38.393
No Savings	0.386	0.008	0.566	0.024	0.588	0.025	0.431	0.064
Savings Equivalent	170.613	5.120	90.425	10.688	84.156	10.917	129.220	34.050
Savings and Remittances I	170.613	5.120	97.529	12.641	84.156	10.917	180.292	54.983
Savings and Remittances II	170.613	5.120	108.431	13.206	96.819	11.901	180.292	54.983
Observations	6102		1022		833		189	
1996-2003								
Savings	224.832	5.507	143.083	9.685	131.421	9.842	173.847	18.190
No Savings	0.366	0.006	0.555	0.013	0.556	0.015	0.551	0.024
Savings Equivalent	164.439	4.096	89.287	5.758	81.346	6.104	110.236	11.675
Savings and Remittances Equivalent I	164.439	4.096	108.428	7.406	81.346	6.104	179.868	19.863
Savings and Remittances Equivalent II	164.439	4.096	128.147	7.724	108.541	6.997	179.868	19.863
Observations	40622		7265		5098		2167	

TABLE 2: Savings Gap and Performance of Immigrants: Natives and Immigrants (1996-2003)

	(1)	(2)	(2a)	(2b)	(2c)
	OLS	Tobit	Marginal Effects		
			Uncond. Expected Value	Probability Uncensored	Conditional on being Uncensored
A: Savings Equivalent					
Age (Yrs.)	5.529 (1.277)***	10.397 (2.043)***	5.563 (1.093)***	0.010 (0.001)***	4.032 (0.780)***
Age ² × 10 ⁻³	-42.032 (12.157)***	-80.419 (19.129)***	-43.027 (10.235)***	-0.082 (0.018)***	-31.191 (7.338)***
Immigrant	-69.366 (18.322)***	-173.412 (39.621)***	-88.872 (20.305)***	-0.176 (0.038)***	-60.448 (12.361)***
Immigrant × Return Migration	29.864 (13.715)**	38.590 (27.073)	20.790 (14.585)	0.039 (0.027)	15.393 (11.103)
Immigrant × YSM	-0.856 (1.986)	1.906 (4.379)	1.020 (2.343)	0.001 (0.004)	0.739 (1.698)
Immigrant × YSM ² × 10 ⁻²	0.781 (4.538)	-7.122 (9.967)	-3.811 (5.333)	-0.007 (0.010)	-2.762 (3.865)
Constant	9.395 (29.850)	-240.644 (52.232)***			
R ² / Pseudo-R ²	0.010	0.002			
B: Savings and Remittances I					
Age (Yrs.)	5.594 (1.279)***	10.540 (2.050)***	5.676 (1.104)***	0.010 (0.001)***	4.095 (0.785)***
Age ² × 10 ⁻³	-42.551 (12.171)***	-81.545 (19.191)***	-43.910 (10.334)***	-0.082 (0.018)***	-31.685 (7.378)***
Immigrant	-77.409 (20.909)***	-191.344 (41.407)***	-98.191 (21.249)***	-0.191 (0.039)***	-66.182 (12.694)***
Immigrant × Return Migration	97.904 (20.547)***	158.904 (31.850)***	87.218 (17.481)***	0.153 (0.028)***	69.238 (15.376)***
Immigrant × YSM	-0.267 (2.215)	3.333 (4.479)	1.795 (2.412)	0.003 (0.004)	1.294 (1.740)
Immigrant × YSM ² × 10 ⁻²	0.169 (4.877)	-9.154 (10.055)	-4.929 (5.414)	-0.009 (0.010)	-3.557 (3.905)
Constant	7.252 (29.921)	-246.643 (52.369)***			
R ² / Pseudo-R ²	0.010	0.002			
C: Savings and Remittances II					
Age (Yrs.)	5.766 (1.280)***	10.806 (2.049)***	5.875 (1.114)***	0.010 (0.001)***	4.220 (0.788)***
Age ² × 10 ⁻³	-44.168 (12.179)***	-84.050 (19.190)***	-45.695 (10.434)***	-0.084 (0.018)***	-32.825 (7.413)***
Immigrant	-59.538 (21.736)***	-131.345 (39.748)***	-69.377 (20.995)***	-0.132 (0.039)***	-47.346 (13.196)***
Immigrant × Return Migration	69.172 (20.932)***	98.086 (31.787)***	54.079 (17.526)***	0.096 (0.030)***	41.101 (14.235)***
Immigrant × YSM	0.902 (2.355)	4.034 (4.423)	2.194 (2.405)	0.004 (0.004)	1.575 (1.727)
Immigrant × YSM ² × 10 ⁻²	-2.419 (5.188)	-11.697 (10.004)	-6.360 (5.439)	-0.011 (0.010)	-4.568 (3.906)
Constant	1.932 (29.947)	-254.862 (52.293)***			
R ² / Pseudo-R ²	0.009	0.001			

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. Weighted OLS and weighted Tobit using weights provided by the GSOEP. Observations: 47,887. Standard errors, which are reported in parentheses, are adjusted in order to take repeated observations of households into account. The Pseudo-R² equals $1 - \frac{\ln L_{UR}}{\ln L_R}$, where $\ln L_{UR}$ and $\ln L_R$ represent the values of the log-likelihood function of the unrestricted model and the restricted model without explanatory variables respectively. The model further includes 7 year dummies.

TABLE 3: Determinants of Savings Equivalent: Natives and Immigrants (1996-2003)

	(1)	(2)	(2a)	(2b)	(2c)
	OLS	Tobit	Marginal Effects		
			Uncond. Exp.	Prob. Uncens.	Cond. Uncens.
Age (Yrs.)	-3.964 (1.185)***	-6.547 (1.776)***	-3.573 (0.969)***	-0.007 (0.002)***	-2.564 (0.695)***
Age ² * 10 ⁻³	48.828 (12.054)***	88.955 (17.586)***	48.544 (9.597)***	0.105 (0.021)***	34.836 (6.882)***
Education (Yrs.)	8.858 (1.757)***	12.008 (2.302)***	6.553 (1.256)***	0.014 (0.002)***	4.702 (0.908)***
HH. Net Income I	-196.319 (8.555)***	-388.876 (20.462)***	-186.384 (9.807)***	-0.426 (0.015)***	-122.849 (4.959)***
HH. Net Income II	-199.656 (12.829)***	-285.044 (17.670)***	-151.084 (9.366)***	-0.330 (0.017)***	-107.413 (5.976)***
HH. Net Income III	-331.615 (41.303)***	-363.389 (46.375)***	-190.945 (24.368)***	-0.413 (0.037)***	-137.852 (16.494)***
HH. Net Income IV	-236.440 (39.673)***	-244.707 (43.144)***	-132.278 (23.322)***	-0.284 (0.040)***	-96.894 (16.732)***
Number of Children	-70.226 (4.806)***	-99.374 (7.163)***	-54.230 (3.909)***	-0.118 (0.007)***	-38.916 (2.627)***
Employed	3.493 (10.668)	50.325 (14.271)***	27.423 (7.777)***	0.059 (0.017)***	19.639 (5.625)***
Single Parent Household	15.994 (8.966)*	-44.276 (17.951)**	-23.911 (9.695)**	-0.052 (0.021)**	-16.744 (6.530)***
Immigrant	-84.628 (86.344)	95.885 (133.858)	53.030 (74.031)	0.111 (0.150)	40.286 (60.321)
Immigrant × Age (Yrs.)	-2.846 (2.133)	-17.090 (4.880)***	-9.326 (2.663)***	-0.020 (0.005)***	-6.692 (1.898)***
Immigrant × Age ² * 10 ⁻³	25.978 (22.523)	172.957 (52.481)***	94.386 (28.640)***	0.205 (0.061)***	67.733 (20.421)***
Immigrant × Education (Yrs.)	1.684 (2.701)	10.796 (4.231)**	5.891 (2.309)**	0.012 (0.004)***	4.227 (1.648)***
Immigrant × HH. Net Income I	77.558 (16.611)***	-19.080 (40.575)	-10.365 (22.042)	-0.022 (0.048)	-7.350 (15.372)
Immigrant × HH. Net Income II	53.387 (24.148)**	6.134 (33.101)	3.352 (18.087)	0.007 (0.039)	2.414 (13.093)
Immigrant × HH. Net Income III	43.213 (64.546)	-1.534 (71.787)	-0.837 (39.162)	-0.001 (0.085)	-0.600 (28.045)
Immigrant × HH. Net Income IV	28.932 (64.547)	2.661 (72.002)	1.453 (39.314)	0.003 (0.085)	1.044 (28.315)
Immigrant × Number of Children	42.616 (6.498)***	46.94 (11.448)***	25.621 (6.247)***	0.055 (0.013)***	18.386 (4.449)***
Immigrant × Employed	30.893 (13.209)**	73.724 (25.226)***	40.719 (13.933)***	0.085 (0.027)***	30.622 (10.939)***
Immigrant × Single Parent Household	-27.976 (11.647)**	-12.233 (40.003)	-6.656 (21.766)	-0.014 (0.047)	-4.739 (15.332)
Immigrant × Return Migration	18.948 (11.250)*	26.951 (21.418)	14.788 (11.752)	0.031 (0.025)	10.798 (8.776)
Immigrant × YSM	0.061 (1.497)	2.067 (3.481)	1.128 (1.899)	0.002 (0.004)	0.809 (1.362)
Immigrant × YSM ² * 10 ⁻²	0.029 (3.561)	-4.726 (8.438)	-2.579 (4.605)	-0.005 (0.010)	-1.850 (3.303)
Constant	514.670 (60.764)***	448.975 (75.320)***			
Observations	47887	47887			
R-squared	0.23	0.030			

Notes: See notes to Table 2.

TABLE 4: Determinants of Savings and Remittance Equivalent, including Remittances of Temporary Migrants (Savings and Remittances I): Natives and Immigrants (1996-2003)

	(1)	(2)	(2a)	(2b)	(2c)
	OLS	Tobit	Marginal Effects		
			Uncond. Exp.	Prob. Uncens.	Cond. Uncens.
Age (Yrs.)	-3.964 (1.185)***	-6.578 (1.785)***	-3.614 (0.980)***	-0.007 (0.002)***	-2.580 (0.699)***
Age ² * 10 ⁻³	48.821 (12.054)***	89.443 (17.664)***	49.133 (9.703)***	0.104 (0.021)***	35.078 (6.922)***
Education (Yrs.)	8.856 (1.757)***	12.035 (2.309)***	6.611 (1.269)***	0.014 (0.002)***	4.719 (0.912)***
HH. Net Income I	-196.294 (8.555)***	-391.352 (20.437)***	-189.138 (9.877)***	-0.424 (0.014)***	-123.978 (4.840)***
HH. Net Income II	-199.647 (12.831)***	-286.166 (17.672)***	-152.760 (9.434)***	-0.327 (0.017)***	-108.022 (5.965)***
HH. Net Income III	-331.604 (41.303)***	-363.734 (46.412)***	-192.559 (24.571)***	-0.409 (0.037)***	-138.213 (16.143)***
HH. Net Income IV	-236.443 (39.674)***	-244.760 (43.196)***	-133.219 (23.511)***	-0.280 (0.039)***	-97.034 (16.479)***
Number of Children	-70.226 (4.806)***	-99.676 (7.168)***	-54.754 (3.937)***	-0.116 (0.006)***	-39.091 (2.642)***
Employed	3.482 (10.669)	50.934 (14.336)***	27.938 (7.864)***	0.059 (0.017)***	19.906 (5.684)***
Single Parent Household	15.979 (8.966)*	-45.095 (18.061)**	-24.514 (9.818)**	-0.053 (0.021)**	-17.076 (6.574)***
Immigrant	-112.674 (113.303)	-1.919 (166.654)	-1.054 (91.514)	-0.002 (0.195)	-0.751 (65.176)
Immigrant × Age (Yrs.)	-2.519 (2.343)	-15.339 (4.945)***	-8.426 (2.716)***	-0.017 (0.005)***	-6.015 (1.930)***
Immigrant × Age ² * 10 ⁻³	25.215 (23.933)	159.982 (52.075)***	87.882 (28.606)***	0.187 (0.060)***	62.743 (20.317)***
Immigrant × Education (Yrs.)	2.275 (3.038)	11.170 (4.553)**	6.136 (2.501)**	0.013 (0.005)**	4.380 (1.777)**
Immigrant × HH. Net Income I	60.583 (18.320)***	-24.100 (39.903)	-13.163 (21.794)	-0.028 (0.047)	-9.260 (15.021)
Immigrant × HH. Net Income II	73.127 (28.470)**	42.422 (38.969)	23.486 (21.574)	0.049 (0.044)	17.219 (16.362)
Immigrant × HH. Net Income III	48.737 (67.916)	22.692 (75.797)	12.521 (41.822)	0.026 (0.087)	9.064 (30.748)
Immigrant × HH. Net Income IV	17.483 (68.238)	-0.121 (76.492)	-0.066 (42.018)	-0.000 (0.089)	-0.047 (29.994)
Immigrant × Number of Children	33.695 (7.465)***	35.646 (12.694)***	19.581 (6.973)***	0.041 (0.014)***	13.980 (4.960)***
Immigrant × Employed	44.403 (15.908)***	89.125 (27.925)***	49.626 (15.549)***	0.101 (0.029)***	37.497 (12.373)***
Immigrant × Single Parent Household	-27.909 (12.450)**	-7.049 (38.845)	-3.866 (21.303)	-0.008 (0.045)	-2.747 (15.049)
Immigrant × Return Migration	86.195 (18.204)***	150.709 (27.176)***	84.358 (15.211)***	0.166 (0.027)***	67.041 (13.492)***
Immigrant × YSM	0.713 (1.861)	4.011 (3.791)	2.203 (2.082)	0.004 (0.004)	1.572 (1.485)
Immigrant × YSM ² * 10 ⁻²	-1.089 (4.174)	-8.489 (8.953)	-4.663 (4.918)	-0.009 (0.010)	-3.329 (3.509)
Constant	514.409 (60.766)***	447.511 (75.595)***			
Observations	47887	47887			
R-squared	0.22	0.029			

Notes: See notes to Table 2.

TABLE 5: Determinants of Savings and Remittance Equivalent, including Remittances of Temporary and Permanent Migrants (Savings and Remittances II): Natives and Immigrants (1996-2003)

	(1)	(2)	(2a)	(2b)	(2c)
	OLS	Tobit	Marginal Effects		
			Uncond. Exp.	Prob. Uncens.	Cond. Uncens.
Age (Yrs.)	-3.959	-6.586	-3.659	-0.007	-2.598
	(1.185)***	(1.788)***	(0.993)***	(0.002)***	(0.704)***
Age ² * 10 ⁻³	48.775	89.584	49.766	0.104	35.343
	(12.053)***	(17.692)***	(9.829)***	(0.021)***	(6.975)***
Education (Yrs.)	8.867	12.055	6.697	0.014	4.756
	(1.757)***	(2.313)***	(1.285)***	(0.002)***	(0.919)***
HH. Net Income I	-196.288	-392.277	-192.194	-0.424	-125.081
	(8.554)***	(20.388)***	(9.989)***	(0.014)***	(4.957)***
HH. Net Income II	-199.711	-286.645	-154.836	-0.326	-108.856
	(12.831)***	(17.660)***	(9.539)***	(0.017)***	(6.026)***
HH. Net Income III	-331.654	-363.902	-194.973	-0.407	-139.103
	(41.301)***	(46.418)***	(24.870)***	(0.037)***	(16.672)***
HH. Net Income IV	-236.452	-244.776	-134.752	-0.278	-97.605
	(39.671)***	(43.210)***	(23.787)***	(0.040)***	(16.901)***
Number of Children	-70.238	-99.805	-55.444	-0.116	-39.375
	(4.806)***	(7.166)***	(3.981)***	(0.006)***	(2.660)***
Employed	3.433	51.124	28.360	0.059	20.099
	(10.668)	(14.362)***	(7.967)***	(0.017)***	(5.703)***
Single Parent Household	16.031	-45.388	-24.958	-0.053	-17.289
	(8.965)*	(18.101)**	(9.954)**	(0.021)**	(6.633)***
Immigrant	-151.171	-106.064	-57.433	-0.124	-38.819
	(112.953)	(161.689)	(87.553)	(0.186)	(54.731)
Immigrant × Age (Yrs.)	-0.057	-8.367	-4.648	-0.009	-3.300
	(2.456)	(4.808)*	(2.671)*	(0.005)*	(1.893)*
Immigrant × Age ² * 10 ⁻³	1.352	89.216	49.562	0.103	35.198
	(25.096)	(50.311)*	(27.949)*	(0.058)*	(19.804)*
Immigrant × Education (Yrs.)	2.383	10.510	5.839	0.012	4.146
	(3.081)	(4.504)**	(2.502)**	(0.005)**	(1.769)**
Immigrant × HH. Net Income I	49.933	-1.011	-0.561	-0.001	-0.398
	(19.570)**	(38.150)	(21.189)	(0.044)	(15.026)
Immigrant × HH. Net Income II	87.447	81.687	45.954	0.092	34.418
	(29.417)***	(39.571)**	(22.261)**	(0.043)***	(17.714)*
Immigrant × HH. Net Income III	51.841	39.300	21.987	0.045	16.002
	(66.700)	(72.850)	(40.756)	(0.082)	(30.536)
Immigrant × HH. Net Income IV	2.606	-14.696	-8.139	-0.017	-5.730
	(67.072)	(73.212)	(40.545)	(0.085)	(28.235)
Immigrant × Number of Children	31.274	37.478	20.820	0.043	14.786
	(8.495)***	(13.491)***	(7.495)***	(0.015)***	(5.304)***
Immigrant × Employed	59.559	96.969	54.616	0.109	41.275
	(16.451)***	(27.367)***	(15.414)***	(0.028)***	(12.328)***
Immigrant × Single Parent Household	-37.713	-38.797	-21.347	-0.045	-14.803
	(15.035)**	(40.978)	(22.547)	(0.048)	(15.110)
Immigrant × Return Migration	55.769	84.675	47.668	0.096	35.842
	(18.471)***	(27.051)***	(15.228)***	(0.029)***	(12.228)***
Immigrant × YSM	1.177	3.868	2.149	0.004	1.526
	(2.019)	(3.754)	(2.086)	(0.004)	(1.480)
Immigrant × YSM ² * 10 ⁻²	-2.270	-9.292	-5.162	-0.010	-3.665
	(4.444)	(8.718)	(4.843)	(0.010)	(3.437)
Constant	513.191	445.911			
	(60.764)***	(75.714)***			
Observations	47887	47887			
R-squared	0.22	0.028			

Notes: See notes to Table 2.

TABLE 6: Determinants of Savings and Remittance Equivalent: Natives and Immigrants – Fixed Effects Estimation (1996-2003)

	(1)		(2)		(2a)		(3)		(4)		(4a)		(5)		(6)		(6a)		
	OLS FE	Tobit FE	Savings Equivalent	Tobit FE	OLS FE	OLS FE	OLS FE	OLS FE	Tobit FE	Tobit FE	OLS FE	OLS FE	Tobit FE	OLS FE	Tobit FE	Tobit FE	OLS FE	OLS FE	
					OLS FE	OLS FE	OLS FE	OLS FE	Tobit FE	Tobit FE	OLS FE	OLS FE	Tobit FE	OLS FE	Tobit FE	Tobit FE	OLS FE	OLS FE	
HH. Net Income I	-93.186	-207.122	-165.586	(6.318)***	(5.625)***	(8.470)***	(6.635)***	(8.470)***	(6.635)***	(8.470)***	(6.635)***	(8.470)***	(6.635)***	(8.470)***	(6.635)***	(8.470)***	(6.635)***	(8.470)***	(6.635)***
	(5.231)***	(7.913)***	(6.318)***	(5.231)***	(7.913)***	(6.318)***	(5.231)***	(7.913)***	(6.318)***	(5.231)***	(7.913)***	(6.318)***	(5.231)***	(7.913)***	(6.318)***	(5.231)***	(7.913)***	(6.318)***	(5.231)***
HH. Net Income II	-117.881	-171.626	-137.209	(4.125)***	(4.579)***	(5.795)***	(4.125)***	(4.579)***	(5.795)***	(4.125)***	(4.579)***	(5.795)***	(4.125)***	(4.579)***	(5.795)***	(4.125)***	(4.579)***	(5.795)***	(4.125)***
	(4.258)***	(5.414)***	(4.125)***	(4.258)***	(5.414)***	(4.125)***	(4.258)***	(5.414)***	(4.125)***	(4.258)***	(5.414)***	(4.125)***	(4.258)***	(5.414)***	(4.125)***	(4.258)***	(5.414)***	(4.125)***	(4.258)***
HH. Net Income III	-174.341	-209.331	-167.353	(3.961)***	(5.835)***	(7.173)***	(3.961)***	(5.835)***	(7.173)***	(3.961)***	(5.835)***	(7.173)***	(3.961)***	(5.835)***	(7.173)***	(3.961)***	(5.835)***	(7.173)***	(3.961)***
	(5.426)***	(6.702)***	(3.961)***	(5.426)***	(6.702)***	(3.961)***	(5.426)***	(6.702)***	(3.961)***	(5.426)***	(6.702)***	(3.961)***	(5.426)***	(6.702)***	(3.961)***	(5.426)***	(6.702)***	(3.961)***	(5.426)***
HH. Net Income IV	-109.464	-125.436	-100.282	(4.290)***	(5.543)***	(6.717)***	(4.290)***	(5.543)***	(6.717)***	(4.290)***	(5.543)***	(6.717)***	(4.290)***	(5.543)***	(6.717)***	(4.290)***	(5.543)***	(6.717)***	(4.290)***
	(5.155)***	(6.277)***	(4.290)***	(5.155)***	(6.277)***	(4.290)***	(5.155)***	(6.277)***	(4.290)***	(5.155)***	(6.277)***	(4.290)***	(5.155)***	(6.277)***	(4.290)***	(5.155)***	(6.277)***	(4.290)***	(5.155)***
Number of Children	-28.186	-39.065	-31.231	(2.743)***	(2.848)***	(3.803)***	(2.743)***	(2.848)***	(3.803)***	(2.743)***	(2.848)***	(3.803)***	(2.743)***	(2.848)***	(3.803)***	(2.743)***	(2.848)***	(3.803)***	(2.743)***
	(2.648)***	(3.553)***	(2.743)***	(2.648)***	(3.553)***	(2.743)***	(2.648)***	(3.553)***	(2.743)***	(2.648)***	(3.553)***	(2.743)***	(2.648)***	(3.553)***	(2.743)***	(2.648)***	(3.553)***	(2.743)***	(2.648)***
Employed	31.967	67.588	54.034	(4.418)***	(3.914)***	(5.394)***	(4.418)***	(3.914)***	(5.394)***	(4.418)***	(3.914)***	(5.394)***	(4.418)***	(3.914)***	(5.394)***	(4.418)***	(3.914)***	(5.394)***	(4.418)***
	(3.639)***	(5.039)***	(4.418)***	(3.639)***	(5.039)***	(4.418)***	(3.639)***	(5.039)***	(4.418)***	(3.639)***	(5.039)***	(4.418)***	(3.639)***	(5.039)***	(4.418)***	(3.639)***	(5.039)***	(4.418)***	(3.639)***
Single Parent Household	3.258	0.286	0.229	(7.580)	(7.076)	(10.151)	(7.580)	(7.076)	(10.151)	(7.580)	(7.076)	(10.151)	(7.580)	(7.076)	(10.151)	(7.580)	(7.076)	(10.151)	(7.580)
	(6.580)	(9.482)	(7.580)	(6.580)	(9.482)	(7.580)	(6.580)	(9.482)	(7.580)	(6.580)	(9.482)	(7.580)	(6.580)	(9.482)	(7.580)	(6.580)	(9.482)	(7.580)	(6.580)
Immigrant × HH. Net Income I	40.155	1.197	0.957	(18.348)	(13.384)	(24.505)**	(18.348)	(13.384)	(24.505)**	(18.348)	(13.384)	(24.505)**	(18.348)	(13.384)	(24.505)**	(18.348)	(13.384)	(24.505)**	(18.348)
	(12.446)***	(22.950)	(18.348)	(12.446)***	(22.950)	(18.348)	(12.446)***	(22.950)	(18.348)	(12.446)***	(22.950)	(18.348)	(12.446)***	(22.950)	(18.348)	(12.446)***	(22.950)	(18.348)	(12.446)***
Immigrant × HH. Net Income II	23.527	-8.727	-6.977	(12.444)	(12.360)*	(16.351)	(12.444)	(12.360)*	(16.351)	(12.444)	(12.360)*	(16.351)	(12.444)	(12.360)*	(16.351)	(12.444)	(12.360)*	(16.351)	(12.444)
	(11.494)**	(15.565)	(12.444)	(11.494)**	(15.565)	(12.444)	(11.494)**	(15.565)	(12.444)	(11.494)**	(15.565)	(12.444)	(11.494)**	(15.565)	(12.444)	(11.494)**	(15.565)	(12.444)	(11.494)**
Immigrant × HH. Net Income III	11.718	-8.091	-6.468	(15.200)	(15.371)	(20.104)	(15.200)	(15.371)	(20.104)	(15.200)	(15.371)	(20.104)	(15.200)	(15.371)	(20.104)	(15.200)	(15.371)	(20.104)	(15.200)
	(14.294)	(19.021)	(15.200)	(14.294)	(19.021)	(20.104)	(14.294)	(19.021)	(20.104)	(14.294)	(19.021)	(20.104)	(14.294)	(19.021)	(20.104)	(14.294)	(19.021)	(20.104)	(14.294)
Immigrant × HH. Net Income IV	6.805	5.721	4.574	(15.408)	(16.022)	(20.377)	(15.408)	(16.022)	(20.377)	(15.408)	(16.022)	(20.377)	(15.408)	(16.022)	(20.377)	(15.408)	(16.022)	(20.377)	(15.408)
	(14.899)	(19.267)	(15.408)	(14.899)	(19.267)	(20.377)	(14.899)	(19.267)	(20.377)	(14.899)	(19.267)	(20.377)	(14.899)	(19.267)	(20.377)	(14.899)	(19.267)	(20.377)	(14.899)
Immigrant × Number of Children	24.373	37.072	29.637	(6.294)***	(5.654)***	(8.227)***	(6.294)***	(5.654)***	(8.227)***	(6.294)***	(5.654)***	(8.227)***	(6.294)***	(5.654)***	(8.227)***	(6.294)***	(5.654)***	(8.227)***	(6.294)***
	(5.258)***	(7.852)***	(6.294)***	(5.258)***	(7.852)***	(6.294)***	(5.258)***	(7.852)***	(6.294)***	(5.258)***	(7.852)***	(6.294)***	(5.258)***	(7.852)***	(6.294)***	(5.258)***	(7.852)***	(6.294)***	(5.258)***
Immigrant × Employed	0.201	43.816	35.029	(10.506)***	(9.038)*	(13.718)***	(10.506)***	(9.038)*	(13.718)***	(10.506)***	(9.038)*	(13.718)***	(10.506)***	(9.038)*	(13.718)***	(10.506)***	(9.038)*	(13.718)***	(10.506)***
	(8.405)	(13.139)***	(10.506)***	(8.405)	(13.139)***	(10.506)***	(8.405)	(13.139)***	(10.506)***	(8.405)	(13.139)***	(10.506)***	(8.405)	(13.139)***	(10.506)***	(8.405)	(13.139)***	(10.506)***	(8.405)
Immigrant × Single Parent Household	2.722	14.703	11.754	(22.124)	(19.253)	(28.775)	(22.124)	(19.253)	(28.775)	(22.124)	(19.253)	(28.775)	(22.124)	(19.253)	(28.775)	(22.124)	(19.253)	(28.775)	(22.124)
	(17.904)	(27.671)	(22.124)	(17.904)	(27.671)	(28.775)	(17.904)	(27.671)	(28.775)	(17.904)	(27.671)	(28.775)	(17.904)	(27.671)	(28.775)	(17.904)	(27.671)	(28.775)	(17.904)
Immigrant × Return Migration	6.645	21.428	17.131	(8.148)**	(7.164)***	(10.531)***	(8.148)**	(7.164)***	(10.531)***	(8.148)**	(7.164)***	(10.531)***	(8.148)**	(7.164)***	(10.531)***	(8.148)**	(7.164)***	(10.531)***	(8.148)**
	(6.662)	(10.169)**	(8.148)**	(6.662)	(10.169)**	(10.531)***	(6.662)	(10.169)**	(10.531)***	(6.662)	(10.169)**	(10.531)***	(6.662)	(10.169)**	(10.531)***	(6.662)	(10.169)**	(10.531)***	(6.662)
Log likelihood	-302768.1	-200926.4	-306247.7	-203455.5	-307860.8	-206055.1	-307860.8	-206055.1	-307860.8	-206055.1	-307860.8	-206055.1	-307860.8	-206055.1	-307860.8	-206055.1	-307860.8	-206055.1	-307860.8
R-squared	0.752		0.728		0.728		0.728		0.728		0.728		0.728		0.728		0.728		0.728

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. Observations: 47,887. Unbalanced panel has 11,027 individuals.

TABLE 7: Decomposition Analysis

	Natives vs. Immigrants	Natives vs. Permanent Migrants	Natives vs. Temporary Migrants
	Value (%)	Value (%)	Value (%)
A: Savings Equivalent			
Observed Difference in Savings Level: $E(S_n) - E(S_m)$	80.35	84.86	69.73
OLS Estimates			
Predicted Difference in Savings Level:	78.55 (100.0%)	84.65 (100.0%)	64.03 (100.0%)
<i>Component:</i>			
Difference in Characteristics: $(\bar{X}_n - \bar{X}_m)b_n$	53.45 (68.0%)	52.11 (61.6%)	61.42 (95.9%)
Difference in Coefficients: $\bar{X}_m(b_n - b_m)$	25.10 (32.0%)	32.54 (38.4%)	2.61 (4.1%)
Tobit Estimates I			
Predicted Difference in Savings Level:	89.17 (100.0%)	96.49 (100.0%)	74.36 (100.0%)
<i>Component:</i>			
Difference in Characteristics: $E_{\gamma_n, \sigma_n}(S_{itn} X_{itn}) - E_{\gamma_m, \sigma_m}(S_{itm} X_{itm})$	54.80 (61.5%)	57.72 (59.8%)	47.75 (64.2%)
Difference in Coefficients: $E_{\gamma_n, \sigma_n}(S_{itm} X_{itm}) - E_{\gamma_m, \sigma_m}(S_{itm} X_{itm})$	34.37 (38.5%)	38.77 (40.2%)	26.61 (35.8%)
Tobit Estimates II			
<i>Component:</i>			
Difference in Characteristics: $E_{\gamma_n, \sigma_n}(S_{in} X_{in}) - E_{\gamma_n, \sigma_n}(S_{itm} X_{itm})$	78.07 (87.5%)	94.12 (97.5%)	44.45 (59.8%)
Difference in Coefficients: $E_{\gamma_n, \sigma_n}(S_{itm} X_{itm}) - E_{\gamma_m, \sigma_m}(S_{itm} X_{itm})$	11.11 (12.5%)	2.37 (2.5%)	29.91 (40.2%)
σ_n	336.74	336.74	336.74
σ_m	277.77	243.96	345.06
B: Savings and Remittances Equivalent			
Observed Difference in Savings Level: $E(S_n) - E(S_m)$	47.89	57.96	7.43
OLS Estimates			
Predicted Difference in Savings Level:	38.12 (100.0%)	56.54 (100.0%)	-7.50 (100.0%)
<i>Component:</i>			
Difference in Characteristics: $(\bar{X}_n - \bar{X}_m)b_n$	55.12 (144.6%)	51.89 (91.8%)	76.85 (-1024.7%)
Difference in Coefficients: $\bar{X}_m(b_n - b_m)$	-17.00 (-44.6%)	4.64 (8.2%)	-84.35 (1124.7%)
Tobit Estimates I			
Predicted Difference in Savings Level:	40.71 (100.0%)	64.26 (100.0%)	-9.46 (100.0%)
<i>Component:</i>			
Difference in Characteristics: $E_{\gamma_n, \sigma_n}(S_{itn} X_{itn}) - E_{\gamma_m, \sigma_m}(S_{itm} X_{itm})$	54.80 (134.6%)	57.72 (89.8%)	47.75 (-504.9%)
Difference in Coefficients: $E_{\gamma_n, \sigma_n}(S_{itm} X_{itm}) - E_{\gamma_m, \sigma_m}(S_{itm} X_{itm})$	-14.10 (-34.6%)	6.54 (10.2%)	-57.21 (604.9%)
Tobit Estimates II			
<i>Component:</i>			
Difference in Characteristics: $E_{\gamma_n, \sigma_n}(S_{itn} X_{itn}) - E_{\gamma_n, \sigma_n}(S_{itm} X_{itm})$	40.66 (99.9%)	73.82 (114.9%)	-16.40 (173.4%)
Difference in Coefficients: $E_{\gamma_n, \sigma_n}(S_{itm} X_{itm}) - E_{\gamma_m, \sigma_m}(S_{itm} X_{itm})$	0.05 (0.1%)	-9.56 (-14.9%)	6.94 (-73.4%)
σ_n	336.74	336.74	336.74
σ_m	372.49	295.82	497.97

Appendix

TABLE A1: Definition of Variables

Variable	Description
Savings and Remittances	
Savings	Monthly amount of savings for larger purchases, emergencies or wealth accumulation.
No Savings	1 if respondent does not save money; 0 otherwise.
Remittances	Average monthly amount of payments to relatives and / or other persons abroad if respondent immigrated to Germany and does not want to remain in Germany forever; 0 otherwise.
Household Size	Number of persons in household.
Savings Equivalent	$\text{Savings} / \sqrt{\text{Household Size}}$.
Savings and Remittances Equivalent	Savings Equivalent + Remittances.
Explanatory Variables	
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.
Household Net Income	Currently monthly household net income.
HH. Net Income I	1 if household net income is less or equal to 1000 Euro; 0 otherwise.
HH. Net Income II	1 if household net income lies between 1000 and 2000 Euro; 0 otherwise.
HH. Net Income III	1 if household net income lies between 2000 and 3000 Euro; 0 otherwise.
HH. Net Income IV	1 if household net income lies between 3000 and 4000 Euro; 0 otherwise.
HH. Net Income V	Reference group: 1 if household net income lies above 4000 Euro; 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)

Variable	Germans		Immigrants		Permanent Migrants		Temporary Migrants	
	Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.
Savings and Remittances								
Savings	230.609	6.791	136.111	15.078	129.656	16.264	176.058	38.393
No Savings	0.386	0.008	0.566	0.024	0.588	0.025	0.431	0.064
Savings Equivalent	170.613	5.120	90.425	10.688	84.156	10.917	129.220	34.050
Savings and Remittances I	170.613	5.120	97.529	12.641	84.156	10.917	180.292	54.983
Savings and Remittances II	170.613	5.120	108.431	13.206	96.819	11.901	180.292	54.983
Household Size	2.082	0.019	2.669	0.084	2.713	0.091	2.396	0.196
Explanatory Variables								
Age	52.015	0.309	48.495	0.792	48.877	0.838	46.128	2.186
Education	12.126	0.050	11.636	0.138	11.667	0.148	11.443	0.390
Single Parent Household	0.065	0.004	0.073	0.014	0.072	0.013	0.081	0.051
Number of Children	0.462	0.013	0.870	0.069	0.908	0.077	0.638	0.111
Employed	0.524	0.008	0.518	0.024	0.505	0.026	0.601	0.065
Household Net Income	2249.303	24.456	1950.311	62.263	1941.655	66.224	2003.884	180.939
HH. Net Income I	0.162	0.006	0.219	0.023	0.221	0.025	0.206	0.058
HH. Net Income II	0.369	0.008	0.411	0.024	0.400	0.025	0.481	0.070
HH. Net Income III	0.425	0.008	0.471	0.025	0.489	0.026	0.357	0.064
HH. Net Income IV	0.490	0.008	0.478	0.024	0.463	0.026	0.570	0.067
Immigrant	0	0	1	0	1	0	1	0
Return Migration	0	0	0.139	0.017	0	0	1	0
YSM	0	0	21.847	0.641	21.570	0.685	23.560	1.928
Observations	6102		1022		833		189	

TABLE A3: Determinants of Savings Equivalent: German Natives, Permanent Migrants, and Temporary Migrants – Pooled Estimation (1996-2003)

	(1)	(2)	(2a)	(3)	(4)	(4a)	(5)	(6)	(6a)
	OLS	Natives Tobit	margin. Effect	OLS	Permanent Migrants Tobit	margin. Effect	OLS	Temporary Migrants Tobit	margin. Effect
Age (Yrs.)	-3.965 (1.185)***	-6.577 (1.783)***	-3.759 (1.019)***	-5.180 (1.616)***	-16.746 (3.811)***	-6.711 (1.527)***	-11.827 (4.845)**	-32.562 (11.466)***	-12.570 (4.426)***
Age ² * 10 ⁻³	48.841 (12.055)***	89.389 (17.648)***	51.090 (10.087)***	61.496 (17.786)***	193.520 (40.941)***	77.550 (16.406)***	117.857 (50.879)**	336.345 (125.276)***	129.840 (48.361)***
Education (Yrs.)	8.855 (1.755)***	12.011 (2.306)***	6.865 (1.318)***	9.113 (1.996)***	17.954 (3.402)***	7.195 (1.363)***	12.961 (4.472)***	27.243 (7.251)***	10.517 (2.799)***
HH. Net Income I	-196.316 (8.561)***	-390.762 (20.946)***	-197.734 (10.599)***	-112.862 (16.502)***	-332.366 (43.422)***	-105.398 (13.770)***	-145.460 (28.019)***	-458.057 (82.311)***	-138.507 (24.889)***
HH. Net Income II	-199.651 (12.840)***	-285.850 (17.851)***	-158.940 (9.926)***	-165.289 (25.189)***	-270.695 (33.813)***	-103.317 (12.906)***	-108.934 (30.245)***	-234.562 (55.541)***	-88.088 (20.858)***
HH. Net Income III	-331.612 (41.320)***	-363.588 (46.494)***	-200.540 (25.644)***	-291.332 (60.186)***	-342.300 (66.460)***	-128.985 (25.043)***	-281.850 (83.887)***	-376.380 (105.386)***	-137.027 (38.367)***
HH. Net Income IV	-236.441 (39.679)***	-244.715 (43.202)***	-138.610 (24.470)***	-190.716 (61.828)***	-207.087 (66.836)***	-81.926 (26.441)***	-245.554 (86.118)***	-315.054 (106.553)***	-119.809 (40.520)***
Number of Children	-70.222 (4.807)***	-99.584 (7.216)***	-56.917 (4.125)***	-22.955 (4.498)***	-40.586 (8.848)***	-16.264 (3.546)***	-37.100 (8.608)***	-65.282 (18.391)***	-25.201 (7.100)***
Employed	3.506 (10.673)	50.870 (14.276)***	29.038 (8.149)***	28.029 (9.424)***	95.538 (19.800)***	37.780 (7.830)***	44.494 (12.930)***	130.214 (38.509)***	49.092 (14.518)***
Single Parent Household	15.986 (8.967)*	-44.979 (18.057)**	-25.466 (10.223)**	-10.235 (7.438)	-40.165 (30.721)	-15.626 (11.952)***	-10.158 (15.376)	-50.087 (65.678)	-18.823 (24.682)***
Constant	514.841 (60.618)***	448.899 (75.287)***	399.059 (69.649)***	399.059 (69.649)***	459.374 (109.208)***	572.961 (116.024)***	572.961 (116.024)***	876.868 (268.499)***	
Observations	40622	40622		5098	5098		2167	2167	
R-squared	0.22			0.27			0.24		

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 Savings and (altr.) Remittance Equivalent: Permanent Migrants and Temporary Migrants – Pooled Estimation (1996-2003)

	(1)	(2)	(2a)	(3)	(4)	(4a)
	OLS	Permanent Migrants		OLS	Temporary Migrants	
		Tobit	marg. Effect		Tobit	marg. Effect
Age (Yrs.)	-2.466 (1.801)	-11.655 (4.003)***	-5.293 (1.818)***	-11.248 (7.921)	-28.817 (14.737)*	-13.365 (6.835)***
Age ² * 10 ⁻³	35.763 (19.658)*	144.228 (42.724)***	65.505 (19.404)***	130.645 (78.124)*	329.799 (154.126)**	152.957 (71.482)***
Education (Yrs.)	9.540 (2.136)***	19.398 (3.566)***	8.810 (1.620)***	15.494 (6.429)**	33.008 (10.178)***	15.308 (4.720)***
HH. Net Income I	-129.344 (18.971)***	-349.898 (42.334)***	-134.011 (16.214)***	-205.108 (38.126)***	-557.454 (83.509)***	-220.434 (33.022)***
HH. Net Income II	-146.101 (27.655)***	-238.845 (36.265)***	-105.526 (16.023)***	-40.391 (54.311)	-149.805 (80.130)*	-68.963 (36.888)***
HH. Net Income III	-291.432 (55.799)***	-332.154 (60.164)***	-144.830 (26.233)***	-263.272 (97.979)***	-337.985 (119.123)***	-152.877 (53.882)***
HH. Net Income IV	-216.065 (57.997)***	-232.489 (61.654)***	-104.371 (27.678)***	-283.893 (101.806)***	-361.066 (127.086)***	-165.806 (58.359)***
Number of Children	-26.301 (6.966)***	-42.186 (11.564)***	-19.160 (5.252)***	-66.686 (14.009)***	-114.251 (27.574)***	-52.988 (12.789)***
Employed	47.819 (11.292)***	120.898 (22.520)***	54.260 (10.107)***	96.434 (33.689)***	215.067 (65.043)***	97.678 (29.541)***
Single Parent Household	-21.837 (13.426)	-87.109 (39.964)**	-37.808 (17.346)***	1.452 (21.946)	-10.130 (78.444)	-4.687 (36.291)***
Constant	343.386 (66.634)***	318.733 (109.723)***		519.817 (293.524)*	663.461 (469.217)	
Observations	5098	5098		2167	2167	
R-squared	0.21			0.16		

Notes: See notes to Table A3.