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Precautionary Savings by Natives and Immigrants in Germany

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Abstract

This paper analyses the savings behaviour of natives and immigrants in Germany. It is argued that uncertainty about future income and legal status (in case of immigrants) is a key component in the determination of the level of precautionary savings. Using the German dataset, we exploit a natural experiment arising from a change in the nationality law in Germany to estimate the importance of precautionary savings. Using difference-in-differences approach, we find a significant reduction in savings and remittances for immigrants after the easing of citizenship requirements, compared to the pre-reform period. Our parametric specification shows that introduction of the new nationality law reduces the marginal propensity to save gap between natives and immigrants by up to 80%. These findings suggest that much of the differences in terms of the savings behaviour between natives and immigrants are driven by the savings arising from the uncertainties about future income and legal status rather than cultural differences.

JEL Classification: D80, E21, F22

Keywords: migrants, remittances, savings, uncertainty

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1. Introduction

Most of the research on migration has focused on the labour market performance of immigrants, hence ignoring their role in the capital markets, especially their savings behaviour. Although recent literature has filled this gap somewhat, further analysis is needed to systematically analyse the differences between the level of precautionary savings of natives and immigrants, especially since savings is an important determinant of the assimilation process in the host country.

Recently several papers have contributed to the general topic of migrants' savings behaviour. Galor and Stark (1990) and Dustmann (1997) consider the link between return intentions of migration and their savings behaviour. Using an overlapping generations model, Galor and Stark show that the higher the probability of emigration from the host country the higher is the level of savings. They argue that since migrants have the high possibility of emigrating back to the source country, compared to natives, immigrants save more than the natives.[1]

Dustmann (1997) endogenises the return-intention with the savings decision. More precisely, he links the (precautionary) savings and return decisions with the level of uncertainty about the future income stream. He shows that if labour markets in the home and the host regions are positively correlated then immigrants will save more than the natives as they are subject to more income risk in the host country than are the natives. However, in the absence of positive correlation of economic conditions between the two countries, the risk diversification favours the immigrants as they are highly likely to

[1] Other arguments have also been explored for the difference in savings rate between natives and immigrants. There might be cultural or socioeconomic reasons which determine the level of savings, though this has been rejected by Shamsuddin and DeVortez (1998). Skill differences could also be responsible as it has an effect on the economic performance of immigrants (see Chiswick 1978 and Borjas 1987) which could affect their savings behaviour.

emigrate back to their home country in case of worsening labour market conditions in the host country. In such a circumstance, the immigrants will save less compared to the natives.

Amuedo-Dorantes and Pozo (2002) use the 1979 Youth Cohort of the National Longitudinal Surveys (NLSY79) to compare the precautionary savings and wealth patterns of immigrants and natives. They find that immigrants on average accumulate less wealth, i.e., carry out lower precautionary savings in the host country, compared to natives. This finding is consistent with earlier results of Carroll, Rhee and Rhee (1994) for Canada, Merkle and Zimmermann (1993) for Germany and also partially support the theoretical results of Dustmann (1997).

In a related paper, Amuedo-Dorantes and Pozo (2006) analyse the motives for remittances by the migrants. They argue that remittances are transferred to the home country for multiple reasons: to help family members (altruism), to purchase family-provided insurance (informal agreement for reciprocal help in case of economic hardship faced by the migrant) and self-insurance (precautionary savings). They call the latter two the "insurance" motive and test this by correlating host variables with flows of remittances. More precisely, they determine the correlation between risk and uncertainty level in the host country with level of remittances, i.e., the level of insurance they purchase.

Finally, a recent paper by Bauer and Sinning (2006) studies the savings behaviour of temporary and permanent migrants in Germany and compares that to those of the natives. Although their scope is a bit wider than ours, the main concept of their paper and ours is similar in nature. However, our paper differs from theirs in two significant ways.

Firstly, they ex ante impose a decision rule regarding the type of migration, temporary or permanent, whereas we think that, as pointed out by Dustmann (1997), the decision process is endogenous in nature. A large number of individuals initially migrate with a different motive but change their mind once they arrive, and spend time, in the host country. Therefore making the migration decision endogenous is crucial to this type of analysis.

Secondly, and in relation to the above point, we explicitly introduce uncertainty to study the savings behaviour of natives and immigrants. Within this framework then, there are two different scenarios. On the one hand it could be argued that immigrants save more than the natives as there is a higher level of uncertainty regarding migrant's employment status (because perhaps of their skill level or residency status in the country) and thus there is higher risk of lower earnings in the future. Under this condition, immigrants are likely to save more than the natives. However, on the other hand, immigrants have the option to diversify risk by taking employment in their home country when conditions in the host country get worse. In this case they are likely to have lower level of savings compared to the natives.

In terms of modelling the approach discussed above, we believe that the two aspects of savings discussed in two separate papers by Amuedo-Dorantes and Pozo (2002, 2006) could be analysed within the same framework to make a proper comparison between natives and immigrants since for immigrants savings behaviour is related to the remittance behaviour as for them part of the savings takes place outside the host country. More precisely we assume agents to be uncertain about their future stream of income and

maximise their utility over 2 periods with two possible states of the world in period two: either "good" (high income, which is assumed in period 1) or "bad" (low income).

Using the German Socio-Economic Panel (GSOEP) data we find that, once remittances are taken into account, immigrants tend to save more than the natives. However, in order to capture the impact of uncertainty on the savings (including remittance) behaviour of immigrants, we exploit the natural experiment arising from a change in nationality law in Germany in 2000. We find that the easing of the requirements for naturalization has caused significant reductions of savings and remittances for immigrants as a whole, which is consistent with our risk story. In other words, with a fall in the uncertainty level in the host country a migrant tends to behave more like a native, which shows a positive trend towards assimilation.

The rest of the paper is organised as follows. Section 2 outlines a brief theoretical model to set out the foundation for the estimations of the model. Section 3 discusses the data while section 4 presents the empirical analysis. The last section concludes the paper.

2. Theoretical Framework

Following Amuedo-Dorantes and Pozo (2006), we consider a two-period model in which the households know with certainty their income in the first period but there is uncertainty about the income in the second period which consists of a "good" state or a "bad" state. More precisely, income level in the second period, in the good state, is Y^L (low) with probability μ and Y^H (high), in the bad state, with probability $(1-\mu)$. In the first period the income level is assumed to be Y^H with certainty.

Households derive their utility from consumption C_1 in the first period and a discounted consumption level C_2 in the second period,

$$U = \ln C_1 + \delta \ln C_2 , \tag{1}$$

where δ is the discount factor.

As in the simple two-period model, consumption in the first period is constrained by the savings made in that period for use in the second period,

$$C_1 \le Y^H - S , \tag{2}$$

In period 2, the household is faced with two possibilities. Either the good state will prevail with probability *(1-μ)* or the household will face the bad state with probability μ, then

$$C_2 \le \mu\left[Y^L + S\left(1+r\right)\right] + \left(1-\mu\right)\left[Y^H + S\left(1+r\right)\right], \tag{3}$$

where *r* is the interest rate.

The households choose the level of savings to maximise their utility subject to the two constraints. The first order condition for this maximisation problem gives us the intertemporal consumption choices.

$$\begin{aligned} U^S &= \frac{\partial U}{\partial S} = -\delta C_1\left(1+r\right) + C_2 = 0 \\ \Rightarrow C_2 &= \delta C_1\left(1+r\right) \end{aligned} \tag{4}$$

Our objective in this paper is to analyse the role of uncertainty on the savings behaviour of households. In particular we want to determine whether non-natives save more or less as a precautionary motive compared to the natives. A priori we have two

competing views on migrants' savings behaviour. One, as mentioned earlier, is that migrants are subject to more income risk in the host country than are the natives therefore will tend to save more. However, on the other hand migrants are more likely to diversify risk as they could always emigrate back to their home country if economic conditions in the host country were unfavourable. In this case migrants are likely to save less than the natives. The two conditions in our framework could be shown below.

Using the implicit function theorem we can derive the comparative results.

$$\frac{\partial S}{\partial \mu} = -\frac{\partial U^S / \partial \mu}{\partial U^S / \partial S} = -\frac{\left(Y^L - Y^H\right)}{\left(1+\delta\right)\left(1+r\right)} > 0 \tag{5}$$

This result suggests that an increase in the probability of the poor state increases the savings rate. This is consistent with the permanent income hypothesis as it states that an individual will decrease consumption in the good state (in the first period) and will increase saving to smooth out consumption over the lifetime,

$$\frac{\partial S}{\partial Y_H} = -\frac{\partial U^S / \partial Y_H}{\partial U^S / \partial S} = -\frac{\left(1-\mu\right)-\delta\left(1+r\right)}{\left(1+\delta\right)\left(1+r\right)} > 0 \tag{6}$$

$$\frac{\partial S}{\partial Y_L} = -\frac{\partial U^S / \partial Y_L}{\partial U^S / \partial S} = -\frac{\mu}{\left(1+\delta\right)\left(1+r\right)} < 0 \tag{7}$$

The sign for eq (6) is satisfied if the individual's discount rate of future consumption $\delta > \frac{1-\mu}{1+r}$; a very small discount rate is required to trigger savings in the presence of high uncertainty level of future income. Equations (6) and (7) together imply that

$\frac{\partial S}{\partial\left(Y^H - Y^L\right)} > 0$ which means a higher dispersion between the good and bad state results in higher level of savings. This is then consistent with consumption smoothing as well as with our story of saving for the future in the presence of uncertainty about the state of the world in the second period.

The simple theoretical setup gives us some insights into the affect of uncertainty on the savings behaviour. In the rest of the paper we conduct a more rich empirical analysis of this setup. More precisely, we will determine the effect of uncertainty on the savings behaviour of immigrants (and compare it to that of natives) due to a change in their legal (residency) status in Germany.

3. Data

We use the German Socio-Economic Panel (GSOEP) data which is a representative micro data on individuals and families in Germany collected annually since 1984. The sample consists of households with a head aged between 16 and 65 during 1997-2006 inclusive, i.e. waves 14 through 23.[2] Since one of the main focus points, as mentioned in the Introduction, is the analysis of the impact of new nationality law (change in the legal residency status of immigrants) which came into effect in January 2000, we exclude the "Innovation Sample" and the "High Income Sample", both of which were added to the main sample after 2000. As only 1% of all immigrants live in East Germany at any time, we also drop East Germany from our sample.

[2] 2006 is the latest year available. The year 1997 was chosen as the beginning of the sample period because this is the earliest wave where savings, loan repayment and remittances are all available.

We distinguish between natives and immigrants according to the country of birth and nationality. For the purpose of our analysis, a native (German) is defined as someone who was born in Germany and holds German citizenship.[3] In contrast, an immigrant (non-native) is someone who was not born in Germany, regardless of nationality. Within the group of immigrants, we can further differentiate between naturalized immigrants and foreigners according to the current nationality.[4] Since we want to focus on the impact of change in nationality law on foreigners' savings and remittances behaviour, we exclude from our main analysis immigrants who had already attained German citizenship before 1998, as well as foreigners from the old EU15 countries or Switzerland. Hence our main sample consists of 5219 distinct households, of which 566 are non-natives as of 1998. The median spells are 7 waves for both natives and non-natives.

The literature suggests that nationality and country of origin matter for people's saving and remittance behaviour. In particular, these factors are expected to affect people's precautionary savings. For instance, immigrants might have a higher *marginal propensity to save (MPS)* compared to the natives because they face higher employment/income uncertainties for various reasons, such as restrictions imposed by the legal and welfare system or discrimination in the labour market. On the other hand, an alternative explanation to differential in the MPS is the unobserved heterogeneity (for "culture effects", see e.g. Carroll, Rhee and Rhee 1994) across natives and immigrants. The discrimination between these two competing hypotheses is not only of academic interest, it also carries important policy implications: if differences in preferences or

[3] GSOEP does not ask respondents about the country of births of their parents.
[4] There are 183 distinct individuals who were born in Germany but do not have German citizenship in our sample. These are presumably second-generation immigrants who form an interesting group in its own right. However, we feel that the sample size is too small to generate estimates with any precision and therefore decide to leave them out for the current paper.

tastes (or culture in general) are responsible for the variation in the marginal propensity to save across natives and immigrants, then one would expect to see a convergence in the savings and consumption behaviour through the process of assimilation which is long-term in nature. In contrast, if the difference in MPS across natives and immigrants is largely driven by differentials in uncertainties (i.e. precautionary savings motive), then legal reforms that reduce uncertainties might lead to sizeable changes in behaviour over the short-term. Therefore, the real challenge from an econometric point of view is to find an exogenous variation that will allow us to disentangle the effect of unobservables from that of different degrees of uncertainties faced by these two distinct groups.

The recent reform of the nationality law in Germany offers us such a *natural experiment*. The 2000 citizenship legislation replaced the previous one which was solely based on the principle of descent (*jus anguinis*), dating back to the imperial period of 1913, with the introduction of the country of birth (*jus soli*) principle in the citizenship law and the easing of the requirements for naturalization. This reform was only made possible after the coalition led by Gerhard Schröder came to power in 1998, and therefore was largely unanticipated at the time.[5] The change was also radical. For instance, the qualifying period was reduced from a minimum of 15 years to 8 years. Figure 1 shows that the proportion of foreigners (i.e. non-citizens at the beginning of the sample period) acquiring German citizenship has tripled from around 8% before 1998 to about 25% by 2004. This pattern is consistent with aggregate statistics from official source.

[5] This implies that the choice of 1998 as the start of our sample period should work against us in finding a significant impact of the law change if anything.

The outcome variable we focus on in this paper is "savings". Three alternative measures are used throughout the paper, ranging from the narrowest to the broadest:

1) **saving0**: usual amount of money left over at the end of the month that the household can save for larger purchases, emergency expenses or to acquire wealth;
2) **saving1** (saving0 + loan repayments): this also includes the amount of income for paying back loans which the household took out for major purchases of other expenses;
3) **saving2** (saving1 + remittances): this adds further payments or support by all household members to parents, children, (ex) spouse, and other persons related (or not) who live abroad. To the extent that all remittances are "insurance" related, this definition is fully justified. However, if parts of the remittances are motivated by altruism, then this definition might be regarded as an upper bound.

Figure 2 shows the mean levels of savings, loan repayments and remittances over time by legal status. It is obvious that natives save more on average than immigrants. This is not surprising as we do not control for any other factors, the most important of which is the household income. What is really striking is change in savings behaviour among non-natives over this relatively short time period. Comparing to natives who have demonstrated remarkable stability over the sample period, both savings and remittances

have experienced a dramatic drop while loan repayments have increased post reform for the subsample of immigrants.

Table 1 gives the summary statistics of the key variables to be used in the econometric analyses below for natives and immigrants separately. We leave out the transition period of 1999-2003 inclusive and compare the post-reform period of 2004-06 to the pre-reform period of 1997-98. Native households report an average family net income of €2510 per month, which is 20% higher than the mean of €2090 of immigrant households. Natives save €226 per month on average, more than 80% higher than the mean savings by immigrants. This "savings gap" is reduced to around 40% if we regard loan repayments as savings. Once we take remittances into account, the gap is further reduced to just above 15%.

Although theoretically saving can be negative, it is often reported as a variable left-censored at zero in household surveys such as the GSOEP. Policymakers are interested in finding out the number and share of savers as well as the level of savings. So we also report the percentage of savers by different definitions in Table 1. It turns out that natives not only save more on average, but are also more likely to have positive savings. Nearly 60% of natives save on a regular basis, a figure which is about 50% higher than the 40% for immigrants. However, as with the levels of savings, this gap in headcounts is also significantly reduced when we move to broader definition of savings. For instance, once we take into account both loan repayments and remittances, this gap is reduced to about 10%.

While heads of immigrant households are about two years older on average (45.5 vs. 43.3 years old) comparing to their native counterparts, they receive 2 years less

schooling. Immigrant families also tend to be larger and have more dependent children, implying an even large per capita income gap in favour of natives. Moreover, heads of immigrant households are much less likely to be female (21.8% vs. 38.5%) and significantly more likely to be married. They are also less likely to be in work, and at least twice as likely to be unemployed (omitted category being inactivity) or to be receiving social assistance. They are only one third as likely to own their houses and apartments. Finally, three-fifths of immigrants are of Turkish origin while about one third are from former Yugoslavia.

To sum up, immigrants seem to fare worse in terms of virtually all socio-economic indicators comparing to natives. However, this is not surprising given their relatively more disadvantaged background and the constraints imposed by their legal status.

4. Empirical Results

4.1 Simple Difference-in-differences Estimates

Figures 1 and 2 suggest that it is perhaps no coincidence that immigrants in Germany decrease their levels of savings and remittances while increasing loan repayments (hence increasing consumption of durable goods) as Germany is undergoing a landmark reform of its immigration law. This is consistent with our theoretical model as the precautionary savings motive arising from the uncertainties, here due to their legal status, will be much weakened for immigrants as a result of the reform.

Table 2 presents difference-in-differences (DiD) estimates with a full set of controls for age, gender, education, labour market status, benefit status, house ownership,

ethnic origin, and number of people and dependent children in the household. The natives are used as controls while immigrants form the treatment group. We simply split the sample into two halves, with pre-treatment years defined as 1997-1998 and post-treatment defined as 2004-2006 inclusive.[6]

We focus on the coefficient of the interaction between the immigration dummy and the post-reform dummy (i.e. the DiD term in Table 2), which measures the "average treatment effect" after differencing out the effect. Comparing to natives, immigrants save less, have higher loan repayment and remit less, as a result of the reform. However, only the first effect is statistically significant at the 5% level. This suggests the introduction of the new citizenship law in 2000 causes a statistically significant decrease in savings relative to what it would have been in the absence of the reform. The decreases in savings are also economically significant, at €49 per month for savings. On the other hand, the reform itself appears to have no effect on adjusted household net income. These results are consistent with the view that the relaxation of immigration control in general and the easing of the requirements for naturalization in particular have significantly weakened precautionary savings for immigrants. In other words, a change in the legal status in favour of the immigrants reduces the level of uncertainty which in turn changes their savings behaviour.

4.3 Parametric Estimation

Economists as well as policymakers are not only interested in (changes in) the absolute levels of savings and remittances, but also in the (changes in) the relative levels of savings, often measured as a share of net income. In particular, a measure of key

[6] Leaving out the transition period of 1999-2003 allows for anticipations as well as lags in the naturalization process (often taking more than 1 year).

importance is the marginal propensity to save (MPS), which refers to the increase in saving that result from a marginal increase in income.

Table 3 shows the random-effect Tobit estimates, which not only allow for left censoring of savings, but also take advantage of the panel nature of our data, for the 3 alternative definitions of savings. In the following we will just focus on the change in the MPS differential between natives and immigrants arising from the introduction of the new citizenship law, which are captured by the 3-way interaction between the immigrant dummy, the post-reform dummy and the continuous measure of household net income. The MPS for natives pre-reform is in the range of 17.7% to 18.3% depending on which measure is used. The MPS for immigrants is more than 50% (around 10-11 percentage points) higher across all measures of savings in the base period, consistent with a much stronger motive for precautionary savings. There is a general decrease in MPS in the magnitude of 1-2 percentage points across both subsamples post-reform. However, the MPS for immigrants as a whole has suffered an additional large and statistically significant drop, in the range of 7.4 to 7.8 percentage points. Indeed, this implies that the MPS gap in favour of immigrants pre-reform was closed by about two thirds if the narrowest definition of savings is used. When loan repayments and remittances are treated as savings, the gap could be reduced by as much as 80%.

4.4 Sensitivity analysis

We have carried out various robustness checks (not reported to save space but are available upon request) to make sure our findings are not sensitive with respect to the choice of the transition years. In the following we will focus on the validity of the natural experiment and test whether the causal effect indicated by the difference-in-difference

model might be due to some remaining heterogeneity among immigrants. The idea was to repeat the difference-in-differences exercises by comparing the same control group of natives to immigrants who had already acquired German citizenship by 1998 (i.e. before the reform). If the nationality law which was introduced in 2000 was found to affect savings and remittances behaviour for immigrants who had already acquired German citizenship by 1998, then the causal effects we have found in the previous sections will be questionable.

Table 4 shows that the 2000 reform has had no effect whatsoever on immigrants who had already been naturalized by the time of the reform. This exercise clearly demonstrates that the causal effect we have identified is not driven by some remaining heterogeneity between naturalized immigrants and foreigners (over and above the difference in legal status) and hence lends strong support to the validity of natural experiment.

5. Conclusions

This paper analysed the savings behaviour of natives and immigrants in Germany using the German Socio-Economic Panel (GSEOP) data. We found that savings reported by natives are 80% higher than that by immigrants on average, and natives are 50% more likely to have positive savings than immigrants. However, the savings gap is largely reduced once we take loan repayments and remittances into account. Moreover, controlling for a full set of individual and family characteristics, we found that the marginal propensity to save for immigrants is actually about 50% higher than natives.

We then moved on to estimate the importance of precautionary savings using a natural experiment arising from a change in the nationality law in Germany in 2000. Using a difference-in-differences approach, we found that the easing of the requirements for naturalization has caused significant reductions of savings for immigrants who are directly affected by the reform, in the magnitude of €50 per month, comparing to the pre-reform period. On the other hand, the change in legislation does not affect the differential between natives and immigrants in loan repayments or total net income. Our parametric specification also suggests that the introduction of the new nationality law reduces the gap between natives and immigrants in marginal propensity to save by 65% to 80%, depending on the measure of savings used.

Our results are robust with respect to a number of sensitivity checks. In particular, we have shown that the 2000 reform has had no effect on immigrants who had already acquired German citizenship by the time the law was introduced. This exercise clearly demonstrates that the causal effect we have identified is not driven by some remaining heterogeneity between naturalized immigrants and foreigners and hence lends strong support to the validity of natural experiment. Put together, our findings suggest that much of the differences in terms of the savings behaviour between natives and immigrants are driven by the precautionary savings arising from the uncertainties about future income and legal status rather than cultural differences.

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Figure 1: Acquisition of German Citizenship by Foreigners, 1997-2006

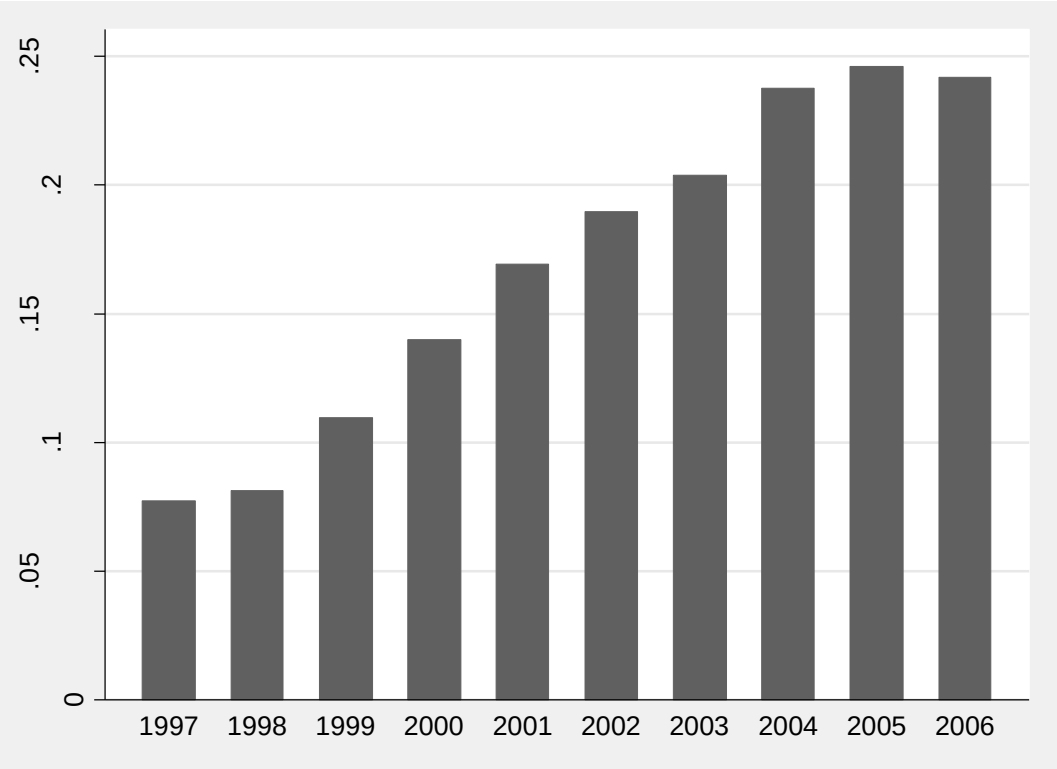

Figure 2: Mean Savings, Loan Repayments and Remittances over Time by Legal Status

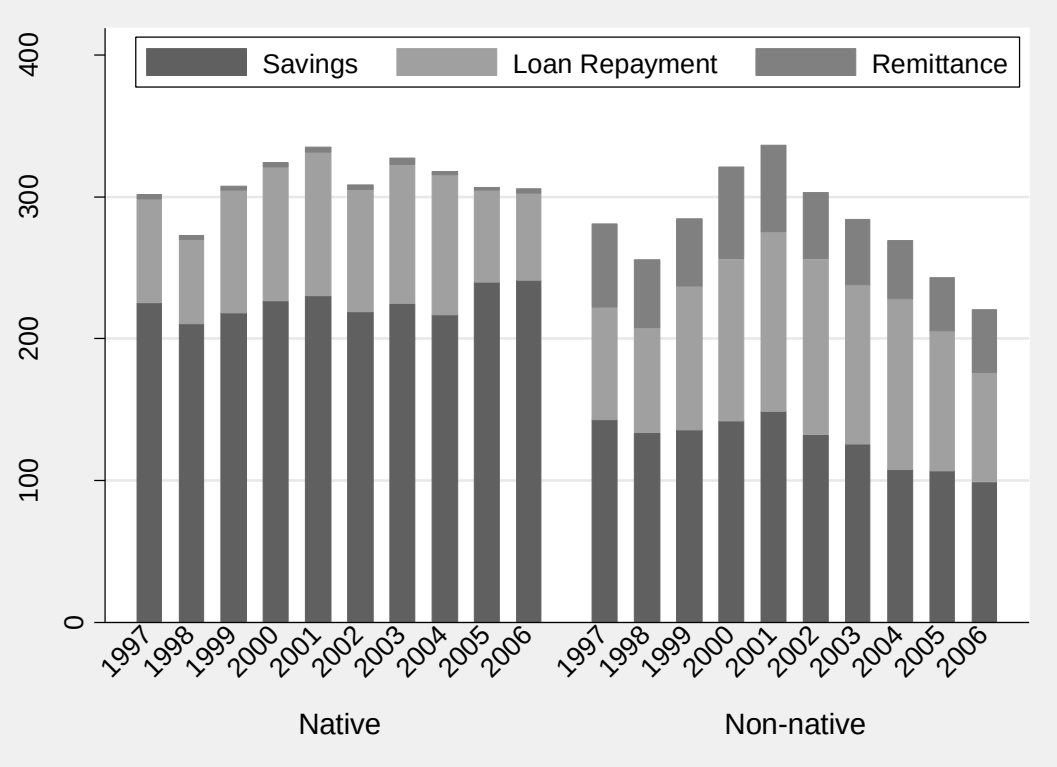

Table 1: Summary statistics

	Natives		*Immigrants*	
	Mean	*Standard Error of Mean*	*Mean*	*Standard Error of Mean*
Household Net Income (€/month)	2509.7	12.6	2089.5	24.2
Saving0 (€/month)	225.7	3.2	123.8	6.4
Prop. with positive saving0 (%)	59.7	0.4	40.8%	1.2
Saving1 (€/month)	296.9	3.6	210.9	8.3
Prop. with positive saving1 (%)	70.4	0.4	54.7	1.2
Saving2 (€/month)	299.8	3.6	259.1	9.5
Prop. with positive saving2 (%)	70.7	0.4	63.2	1.2
Age	43.3	0.1	45.5	0.3
Years of Education	12.2	0.0	10.1	0.1
Household size	2.56	0.01	3.35	0.04
Number of children under 16	0.76	0.01	1.16	0.03
Female (%)	38.5	0.4	21.8	1.0
Married (%)	57.3	0.4	81.8	0.9
Employed (%)	75.7	0.4	63.0	1.2
Unemployed (%)	5.3	0.2	16.2	0.9
Receiving Social Assistance (%)	2.4	0.1	5.7	0.6
Own House (%)	46.1	0.4	16.3	0.9
Foreigner (%)	-	-	85.1	0.9
Turkish (%)	-	-	59.0	1.2
Former Yugoslavia (%)	-	-	32.6	1.1
Obs (person-waves)	14153		1741	

Note: The definitions of savings are given in the data section on page 11.

Table 2: Difference-in-differences Estimates with Controls

	Savings	*Loan Repayments*	*Remittances*	*Household Net Income*
Immigrant	-39.516	-6.411	**34.356**	**-359.307**
	(27.152)	(28.230)	(9.303)	(95.083)
Post reform	10.121	**11.006**	-1.110	**345.529**
	(6.497)	(4.158)	(0.809)	(22.755)
Immigrant*Post-reform (DiD)	**-49.061**	14.662	-10.841	-74.828
	(15.358)	(11.707)	(7.128)	(54.467)
Age	-4.301	**4.934**	-0.825	**41.794**
	(2.677)	(1.426)	(0.531)	(9.459)
Age square	0.062	**-0.061**	0.012	**-0.329**
	(0.032)	(0.016)	(0.007)	(0.116)
Female	**-20.443**	-7.399	-0.474	-63.011
	(8.973)	(4.981)	(1.045)	(32.523)
Married	**69.803**	**17.574**	**6.141**	**219.295**
	(11.788)	(6.009)	(1.689)	(43.261)
Years of Education	**30.421**	-0.372	**1.257**	**142.728**
	(2.185)	(1.039)	(0.356)	(7.286)
Turkish	39.620	1.582	**1.642**	**-138.557**
	(27.924)	(30.426)	(10.317)	(50.753)
Former Yugoslavia	49.386	**17.551**	**49.255**	93.881
	(30.660)	(31.679)	(14.989)	(61.844)
Employed	**68.152**	**26.796**	**5.086**	**444.891**
	(10.641)	(4.818)	(1.728)	(36.713)
Unemployed	**-36.238**	**-12.381**	1.482	**-238.205**
	(10.719)	(6.132)	(3.537)	(40.365)
Receiving Social Assistance	**-11.866**	**-30.093**	-7.097	**-217.399**
	(11.299)	(7.146)	(1.874)	(49.579)
Own House	**78.975**	-25..196	-2.566	**330.745**
	(8.340)	(5.338)	(1.279)	(33.657)
Household size	**28.227**	**1.421**	-1.856	**559.584**
	(7.567)	(3.331)	(1.130)	(28.264)
Number of children under 16	**-56.334**	7.828	1.169	**-353.488**
	(8.432)	(4.065)	(1.036)	(31.920)
Constant	**-236.123**	**-44.883**	**-3.404**	**-2309.827**
	(55.567)	(28.775)	(6.892)	(186.415)
Obs (person-waves)	15384	15384	15384	15384
Adj-R^2	0.115	0.017	0.073	0.348

Notes: Standard errors in parenthesis. Bold difference estimates indicate statistical significance at the 5% level.

Table 3: Random-Effect TOBIT Estimates with Alternative Savings Measures

	Saving0	***Saving1***	***Saving2***
Immigrant	**-283.957**	**-257.832**	**-178.621**
	(75.102)	(69.750)	(68.910)
Post-reform	-18.006	-22.079	-23.449
	(15.840	(16.593)	(16.762)
Net Income (**MPS**)	**0.177**	**0.184**	**0.183**
	(0.005)	(0.005)	(0.005)
Immigrant * Post-reform	88.535	**126.728**	**117.694**
	(63.796)	(63.764)	(61.866)
Immigrant * Net Income	**0.112**	**0.099**	**0.098**
	(0.019)	(0.019)	(0.019)
Post-reform * Net Income	**-0.018**	-0.008	-0.008
	(0.005)	(0.006)	(0.006)
*Immigrant * Post-reform* Net Income*	**-0.075**	**-0.074**	**-0.078**
	(0.025)	(0.026)	(0.025)
Age	**-16.473**	4.916	-5.031
	(3.483)	(3.469)	(3.503)
Age square	**0.189**	0.038	0.044
	(0.039)	(0.039)	(0.040)
Female	-13.677	**-24.375**	**-24.907**
	(12.749)	(12.119)	(12.283)
Married	**110.986**	**100.78**	**105.589**
	(12.921)	(12.920)	(13.056)
Years of Education	**20.400**	**11.786**	**13.395**
	(2.129)	(2.076)	(2.098)
Turkish	22.002	27.244	26.381
	(66.766)	(60.822)	(60.579)
Former Yugoslavia	40.586	53.256	**115.102**
	(69.445)	(63.348)	(63.090)
Employed	**87.703**	**92.404**	**97.196**
	(12.601)	(12.823)	(12.926)
Unemployed	**-105.830**	**-68.355**	**-55.589**
	(21.617)	(20.627)	(20.555)
Receiving Social Assistance	**-102.495**	**-121.79**	**-132.272**
	(32.241)	(30.045)	(30.054)
Own House	20.626	**-24.491**	-27.002
	(10.993)	(10.994)	(11.119)
Household size	**-64.225**	**-64.390**	**-64.807**
	(7.606)	(7.725)	(7.778)
Number of children under 16	**-16.519**	-0.754	-0.538
	(8.153)	(8.296)	(8.349)
Constant	**-213.868**	**-195.037**	**-220.451**
	(72.08)	(71.974)	(72.748)
Obs (person-waves)	15384	15384	15384
Rho	0.476	0.350	0.353
Log likelihood	**-69687.699**	**-82722.109**	**-54151.675**

Notes: Standard errors in parenthesis. Bold cases indicate statistical significance at the 5% level. Saving1 include loan repayments while saving2 include both loan repayments and remittances.

Table 4: Simple Difference-in-differences Estimates With Controls, Natives vs Naturalized Immigrants

	Savings	*Loan Repayments*	*Remittances*	*Household Net Income*
Immigrant	-21.701	**-25.875**	**17.390**	**-306.355**
	(13.225)	(8.266)	(3.417)	(48.098)
Post reform	9.765	**10.710**	-0.921	**345.807**
	(6.504)	(4.156)	(0.805)	(22.803)
Immigrant*Post-reform (DiD)	-11.976	15.144	-7.398	-39.991
	(21.881)	(12.350)	(4.445)	(68.913)
Constant	**-235.186**	**-57.287**	-2.000	**-2356.490**
	(56.118)	(28.741)	(5.764)	(190.298)
Obs (person-waves)	14726	14726	14726	14726
Adj-R^2	0.116	0.014	0.018	0.347

Notes: Standard errors in parenthesis. Bold difference estimates indicate statistical significance at the 5% level. Control variables include age, age squared, gender, education, labour market status, benefit status, house ownership, ethnic origin, and number of people and dependent children in the household (see Table 2).