

# Formal and informal household savings: how does trust in financial institutions influence the choice of saving instruments?

Beckmann, Elisabeth and Mare, Davide Salvatore

Foreign Research Division, Oesterreichische Nationalbank, Austria, Business School, Credit Research Centre, The University of Edinburgh, U.K, Development Research Group, World Bank Group, USA Abstract

1 August 2017

Online at https://mpra.ub.uni-muenchen.de/81141/ MPRA Paper No. 81141, posted 09 Sep 2017 05:17 UTC

# Formal and informal household savings: how does trust in financial institutions influence the choice of saving instruments?

# Elisabeth Beckmann<sup>a1</sup>, Davide Salvatore Mare<sup>b,c</sup>

<sup>a</sup> Foreign Research Division, Oesterreichische Nationalbank, Austria
 <sup>b</sup> Business School, Credit Research Centre, The University of Edinburgh, U.K.
 <sup>c</sup> Development Research Group, World Bank Group, USA

#### **Abstract**

We investigate whether trust in different financial institutions influences the choice of saving instruments. Is trust a significant determinant of household saving behavior? How does trust in different financial institutions affect the composition of household savings? Using unique survey data for ten emerging market economies in Central, Eastern and Southeastern Europe, we show that trust in the financial system increases the probability of holding formal savings and the diversification among formal saving instruments. Trust in the financial system and in foreign banks are significantly associated with holding contractual and capital market saving instruments. Trust in the safety of deposit has the largest positive effect on bank savings. Trust in domestic banks increases the likelihood of holding formal savings the most and trust in foreign banks decreases holdings of informal savings the most.

This draft: August 1, 2017

JEL-Classification: O16, G11, D12, D14, P34.

*Keywords*: Household finance; Formal savings; Informal savings; Trust in banks; Trust in the financial system.

<sup>\*</sup> This paper's findings, interpretations, and conclusions are entirely those of the authors and do not necessarily represent the views of the institutions they represent, the Oesterreichische Nationalbank or the Eurosystem of Central Banks, the World Bank, its Executive Directors, or the countries they represent.

<sup>&</sup>lt;sup>1</sup> Corresponding author: Foreign Research Division, Oesterreichische Nationalbank, Vienna, Austria. Tel.: +43 1 40420 5252, elisabeth.beckmann@oenb.at.

#### 1 Introduction

Household saving behavior is an important concern for policy makers because higher saving rates entail higher income growth (Beck, Levine & Loayza, 2000; Loayza, Schmidt-Hebbel & Servén, 2000; Levine, 2005), mitigate economic shocks for individuals (Browning & Lusardi, 1996) and contribute to maintaining living standards over retirement (Benartzi & Thaler, 2013). The choice of formal saving instruments is also of high policy concern because it can have a direct effect on income and wealth inequality (Panizza, 2015) and investment in human capital (Karlan, Ratan & Zinman, 2014). Nonetheless, household choice of saving instruments is not thoroughly investigated in the extant literature, particularly in developing countries.

The lack of national savings and strained state pension schemes have called for reform in many Central, Eastern and Southeastern European countries (The World Bank, 2014). These countries – like many – are characterized by ageing of society which drives up costs in the pension and healthcare systems, ultimately putting a strain on public finances and an emphasis on individuals' saving behavior. Furthermore, the region is also characterized by high informal savings (Beckmann, 2016; Demirguc-Kunt et al., 2015). The domestic accumulation of financial resources through the formal financial sector is fundamental for economic development (Beck, Levine & Loayza, 2000) because for instance it allows to exploit more and larger investment opportunities and it fosters the growth of private sector firms (Ayyagari, Demirgüç-Kunt & Maksimovic, 2010). In this context, recent studies have highlighted how in Central, Eastern and Southeastern European countries, the lack of trust has favored cash preferences over formal savings (Stix, 2013; Brown & Stix, 2015). It follows that it is paramount for policy makers in this region to understand whether trust is a significant variable in the choice of saving instrument.

Is trust a significant determinant of household saving behavior? Does trust in different financial institutions matter for the composition of household savings? We answer these questions using unique household survey data for a sample of ten Central, Eastern and Southeastern European emerging market economies. We find that trust in different financial institutions is positively and significantly related to the likelihood to save formally. In line with this result, higher levels of trust imply a lower likelihood to hold informal savings. Trust in banks increases the probability of formal savings, particularly bank savings. However, trust in deposit safety has a stronger and differential impact than trust in banks on the probability to hold savings at banks. We find that households who distrust banks not only resort to informal savings but also to formal non-bank savings if they trust the stability of the financial system.

The determinants of households' saving behavior have been widely investigated in the economics literature, which shows that a large number of factors may affect households' saving behavior. Our selected sample of emerging market economies allows us to bridge two themes of this research. Specifically, on the one hand previous research has shown that trust is an important determinant of participation in the stock market and risky financial assets in advanced economies; on the other hand, it has shown that lack of trust in banks is an important determinant of informal savings in transition economies and developing countries.

Empirical evidence on households' participation in capital markets is limited to advanced economies (Panizza, 2015) and shows that actual participation in capital markets is very low, especially in Europe (Arrondel et al., 2014). This lack of participation has inter alia been explained by trust in financial markets. The seminal paper by Guiso et al. (2008) investigates the role of general trust and shows that less trusting individuals are less likely to buy stocks. Similarly, El-Attar and Poschke (2011) advocate that lack of trust reduces investment particularly in risky assets. By the same token, Balloch et al. (2015) suggest that

stock market literacy and trust affect the probability of participation in the stock market and the share of investment in stocks. Delis and Mylonidis (2015) confirm the importance of trust and argue that happiness is another key driver of the decision to participate in stock markets. On the other hand, trust - or rather the lack of it - has been highlighted as one of the key determinants for non-participation in formal savings. Stix (2013) concludes that lack of trust and previous experience of banking crises explain the continuously high preference for saving in cash in transition European economies. Recent studies suggest that trust should be differentiated by type of financial institution. Jin et al. (2016) show that the proportion and likelihood of foreign ownership in listed firms in China increases with the level of social trust. Filipiak (2016) analyses savings patterns in India and conclude that geographic proximity is highly relevant for trusting different types of financial institutions.

We contribute to the extant literature on household saving behavior by presenting evidence on household choice of saving instruments in ten emerging market economies. To the best of our knowledge, this is the only data set which simultaneously includes evidence on informal savings, bank, contractual and capital market savings. The novel feature of our study is to differentiate trust by type of institution, specifically disentangling trust in banks, in the safety of deposits and in the financial system. Thus we are able to link two strands of the literature – the importance of trust for capital market investment and the importance of trust for the choice of formal versus informal savings – pinning down the effect of trust on households' choice among different saving instruments.

The remainder of the paper is organized as follows. First, we describe the data and variables (section 2), and the empirical design (section 3). Next, we present our results (section 4) and robustness checks (section 5). Conclusions are summarized in section 6.

#### 2 Data and variables

In this section, we outline our data (section 2.1), how we measure households' saving behavior (section 2.2) and trust (section 2.3), and describe other relevant determinants of household savings (section 2.4).

#### 2.1 Data: OeNB Euro Survey

The main data source for the analysis is the "OeNB Euro Survey" conducted by the Austrian central bank since 2007 on a regular basis as a repeated cross-sectional survey in ten Central, Eastern and Southeastern European countries: 6 European Union (EU) Member States which are not part of the euro area (Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania) and four (potential) candidate countries (Albania, Bosnia and Herzegovina, FYR Macedonia, Serbia).

In each country and wave, a nationally representative sample of 1000 individuals aged 15 years or older is polled based on multistage random sampling procedures. For the purpose of this analysis, we exclude respondents who are younger than 18 as these will probably lack experience in significant saving decisions. Data weighting is used to ensure a nationally representative sample for each country. Sampling weights use population statistics on gender, age and region and, where available, education and socioeconomic status as well as ethnicity.

We employ data from 2 surveys conducted in fall 2012 and 2013, as these two waves include all of our main variables of interest as well as a full comprehensive set of necessary control variables. Thus, our analysis focuses on 10 countries and around 20,000 individuals.

4

<sup>&</sup>lt;sup>1</sup> Further details on the survey can be found at: <a href="https://www.oenb.at/en/Monetary-Policy/Surveys/OeNB-Euro-Survey.html">https://www.oenb.at/en/Monetary-Policy/Surveys/OeNB-Euro-Survey.html</a>.

#### 2.2 Measuring household saving behavior

We measure household savings behavior looking at the percentage of households that hold a diverse set of financial saving instruments conditional on having any savings.<sup>2</sup> The central variables of our analysis are based on two questions reported in Table 1.

#### < Insert Table 1 about here >

Using the responses to the above questions, we employ six binary variables of households' saving instrument choice: *cash* takes the value of one if the respondent has savings but *only* saves in cash; *formal savings* measures whether the respondent has any savings excluding cash; *bank savings* captures whether the respondent has savings in a savings deposit or current account; *contractual savings* shows whether the respondent saves using a life insurance or pension fund; *capital market savings* measures whether the respondent has stocks, mutual funds or bonds; finally, *more than 1 formal savings* indicates whether the respondent holds more than one of the above-mentioned saving instruments excluding cash. We consider cash as an indicator of informal savings as the amounts are saved outside the formal financial system.

#### < Insert Figure 1 about here >

Figure 1 shows the saving instruments held by respondents who currently have any savings. It suggests that the choice of formal versus informal saving instruments is negatively correlated and that bank savings and contractual savings are highly correlated. Table 2 provides additional evidence on this descriptive results.

#### < Insert Table 2 about here >

As the question in Table 1 suggests, contrary to household wealth surveys, OeNB surveys contain information on the existence of savings and assets but not on the amounts.

<sup>&</sup>lt;sup>2</sup> For a discussion of measures of private savings, see Loayza and Shankar (2000).

Thus, percentages reflect participation rates only and not amounts invested in the respective assets. A further difference in comparison to household wealth surveys is that the questionnaire focuses on individuals rather than households. However, the questionnaire partly accounts for this issue by asking whether individuals hold financial assets alone or together with their partner. Moreover, in contrast to wealth surveys, we do not impute missing values but assume that non-response is random. For household income, we take this into account by including a dummy variable for those respondents who refuse to answer the question on income. Beckmann (2016) shows that the Euro Survey measures of saving are in line with aggregate stock and flow measures of household savings as well as indicators of household savings from the Global Findex (Demirguc-Kunt, Klapper, Singer & Van Oudheusden, 2015). In addition, previous analyses have shown that Euro Survey-based indicators provide an accurate match with aggregate data (see for instance Brown and Stix, 2015).

#### 2.3 Measuring trust

Trust has been defined as the confidence that money is safely invested. This encompasses two aspects. Firstly, the security that money will not be stolen. This is a concern even for those investors that operate in an environment where investor protection exists and law enforcement is high (see for instance Filipiak, 2016 and Gennaioli, Shleifer & Vishny, 2015). Secondly, trust may vary depending on not only personal characteristics, but also on type of financial institution (Guiso et al., 2008; Stix, 2013). Therefore, we employ four indicators to capture the different level of trust in different financial institutions: trust in the safety of deposits, trust in domestically owned banks, trust in foreign owned banks and trust in the stability of the financial system in general.

Figure 2 shows the percentage of respondents and their trust in the different financial institutions. Trust in the stability of the financial system is highest, followed by trust in

deposit safety. In all countries, except Albania, Bosnia and Herzegovina and FYR Macedonia, trust in domestically owned banks is higher than trust in foreign owned banks.

Although it is beyond the scope of this paper to analyze the determinants of trust itself, we shed some light on the interdependence of the different measures of trust to motivate their separate inclusion in the analysis (Table 3). First, looking at the multiple correlation coefficients, we notice that the measures are linearly interdependent, especially trust in domestically owned banks. Nonetheless, the non-parametric ANOVA statistic denotes that the measures convey different information as samples are not stochastically dominated. The results from the pairwise correlation analysis show that our measures of trust fall into two groups. Trust in domestic and foreign banks are strongly and positively correlated. The correlation between trust in the stability of the financial system and trust in deposit safety is the second "strongest" and stronger than the correlation between trust in banks and trust in deposit safety as well as trust in financial stability and trust in deposit safety.

#### < Insert Table 3 about here >

#### 2.4 Other control variables

We control for a rich set of behavioral and demographic characteristics as well as indicators of transaction costs. All our estimations include information on sociodemographics which have been shown to influence the choice of saving instruments: age, gender, size of household, whether there are any children in the household, marital status and whether the respondent is in charge of managing household finances (Sunden & Surette, 1998; Love, 2010; Halko, Kaustia, & Alanko, 2012; Beckmann, Hake, & Urvova, 2013).

Following Palia et al. (2014) we further control for factors affecting background risk – the labor market status, ownership of housing and private business. We also account for education and, in robustness analyses, for financial literacy (van Rooij, Lusardi & Alessie, 2011; Balloch, Nicolaei & Philip, 2015). In addition, taking into account the findings by

Guiso et al. (1996), our estimations include information whether the respondent has a loan or plans to take out a loan.

Karlan et al. (2014) highlight that *inter alia* transaction costs may hinder the adoption of formal saving products. Following Brown et al. (2015), we proxy for transaction costs by including geographic proximity to the nearest banks (see Beckmann, Reiter & Stix, 2016 for a detailed account on how these data are compiled). We further include information on light intensity at night which is a useful proxy for local economic activity (Henderson, Storeygard & Weil, 2012).

Finally, following the recent paper by Balloch et al. (2015) we control for a wide range of behavioral characteristics including risk aversion, expectations and trust in other non-financial institutions which allows us to isolate the effect of trust in financial institutions.

Different country-specific institutional settings and cultural characteristics may exert a significant impact on the prominence and relevance of different savings motives (Loayza, Schmidt-Hebbel, & Servén, 2000; Grigoli, Herman, & Schmidt-Hebbel, 2014). Interacted country-survey fixed effects control for country-specific characteristics such as differences in deposit insurance schemes (Prean & Stix, 2011) and the presence of public pension schemes which may lower private saving rates (Le Blanc et al., 2015).

The complete list of variables along with their definition and descriptive statistics appear in Table 4.

#### < Insert Table 4 about here >

### 3 Econometric specification

We employ a probit model to determine the likelihood that households hold saving instruments. Conditional on having any savings, we relate trust and other determinants to indicators of different saving instruments, namely cash, formal savings, bank savings, contractual savings (life insurance or pension fund), capital market savings (stocks, mutual

funds or bonds) and a measure of diversification of the saving portfolio. For each outcome variable, we run separate regressions where we include each measure of trust separately along with a full set of control variables.

In order to analyze which factors drive household saving behavior and the choice of saving instruments, we relate the indicators of saving behavior  $S_{h,c}$  of household h in country c, to measures of trust  $(TRUST_h)$  and household characteristics  $(X_h)$ , controlling for country level determinants. We also include interacted country and survey wave fixed effects to account for dynamic changes at the country level between the two-surveys. Our model specification is as it follows:

$$S_{h,c} = \beta_1 TRUST_h + \sum_{i=1}^n \delta_i X_h^i + \alpha_{cw} + \varepsilon_{h,cw}, \tag{1}$$

where households and countries are indexed by h and c, respectively; S is a variable associated to households' saving behavior, namely formal savings, savings in cash only, banks savings, contractual savings, capital market savings, and more than 1 formal saving instrument; TRUST is a variable related to trust in institutions, specifically in the stability of the financial system, in deposits safety, in domestic banks, in foreign banks and in central banks; X are the set of household characteristics;  $\alpha_{cw}$  are interacted country and survey wave fixed effects;  $\epsilon$  are robust standard errors clustered at the primary sampling unit and time level.

Given that a large fraction of households do not save, our regression might suffer from selection bias (Palia, Qi, & Wu, 2014). Following Shum and Faig (2006), we exclude households that do not have sufficient funds to save. We estimate probit models and calculate average marginal effects for participation in savings and saving instruments for each of the dependent variables.

We check for the robustness of our results by estimating a Heckman selection model. Following Allen et al. (2012), we jointly estimate the probability of having savings and the

probability of holding specific asset categories. Selection equation (2) accounts for the incidence of having any savings:

$$P(AS = 1) = \Phi_{AS}(\beta_1 TRUST_{AS} + \sum_{i=1}^{n} \delta_i X_{AS}^i + u_{AS}), \tag{2}$$

whereas the outcome equation (3) measures the choice of saving instrument, conditional on having any savings:

$$P(S = 1 \mid AS = 1) = \Phi_{S}(\beta_{1}TRUST_{S} + \sum_{i=1}^{n} \delta_{i}X_{S}^{i} + u_{S}), \tag{3}$$

It is assumed that the error terms are normally distributed,  $u_{AS} \sim N(0,1)$ ,  $u_S \sim N(0,1)$ , with correlation  $corr(u_{AS}, u_S) = \rho$ .

As our sample of countries is diverse, we further check for the robustness of our results by dropping one country at a time from the analysis. We also allow the effect of unobserved dependencies to vary by repeating the estimations with standard errors clustered at the regional and country level.

#### 4 Results

Conditional on having any savings, we relate trust and other determinants to indicators of different saving instruments. For each outcome variable, we report separately the results of the regressions where we include each measure of trust one at a time along with a full set of control variables.

#### < Insert Table 5 about here >

How does trust in different financial institutions affect the probability to hold certain saving instruments? Table 5 reports the results for the relevant trust variables only.<sup>3</sup> Trust in the stability of the financial system is positively related to the likelihood to hold formal savings and negatively related to informal savings (cash). The average marginal effect is stronger for holding more than one formal saving instrument (6.4 percentage points) and bank

<sup>&</sup>lt;sup>3</sup> The full set of results appears in Appendix.

savings (4.4 percentage points). Trusting the financial system also increases the likelihood of holding contractual savings and capital market savings. Furthermore, households are less likely to hold cash if they trust the financial system (decrease of 3.2 percentage points).

Compared to trust in financial stability, trust in deposits safety has a stronger effect on the likelihood to hold savings with banks. The average marginal effect is higher than in the previous case (5.6 percentage points versus 4.4 percentage points) and the highest compared to the average marginal effects associated to the other saving products. Households are 4.0 percentage points more likely to hold formal savings and 3.4 percentage points less likely to save in cash. We notice a decrease in the marginal effect associated with holding more than one formal saving instrument to 2.4 percentage points. Furthermore, the marginal effects for contractual savings and capital savings are not statistically significant. It follows that trust in deposits safety appears to be more related to the likelihood that households save at banks and save formally instead of incentivizing households to diversify across saving products.

Marginal effects of trust in domestic banks on the different set of savings products confirm the same pattern noticed for trust in deposit safety. In this case the magnitude of the effects is lower except for the likelihood of holding formal savings that is now 4.3 percentage points. Interestingly, when we analyze trust in foreign banks, there is a significant impact on contractual savings (3.7 percentage points) and capital savings (1.8 percentage points). Moreover, both measures of trust contribute to decreasing the likelihood of holding informal savings (minus 3.2 and 3.6 percentage points for trust in domestic banks and trust in foreign banks, respectively).

Setting the marginal effects into perspective with the sample probability of the respective dependent variable, shows that all the estimated effects are also economically significant.

We do not discuss results on the remaining control variables in detail but note that these are in line with previous research (Table A1). Education, employment and income significantly affect the choice of saving instruments. Indicators of wealth (ownership of further real estate) show a significant positive effect on participation in capital markets and diversification of formal savings. Furthermore, the choice of saving instruments is also determined by households' indebtedness. Households with a loan are more likely to save formally, hold contractual savings and hold a diversified formal savings portfolio. Local economic activity as proxied by nightlight intensity positively affects the probability of holding bank savings and contractual savings. After controlling for local economic activity, physical access to financial intermediaries does not play a significant role for the decision to save in cash. However, households which live further away from a bank are more likely to hold contractual and capital market savings and diversify their saving portfolio. Finally, looking at behavioral characteristics we find that risk aversion does not affect participation in specific saving instruments. Trust in national and international institutions likewise does not have a significant impact with a notable exception. Respondents who trust the European Union are more likely to invest in capital markets and diversify their savings. Confirming the results of Stix (2013) and Brown and Stix (2015), we show that the experience of previous economic crises significantly affects the choice of saving instruments.

#### < Insert Table 6 about here >

To assure that these results are not driven by sample selection, we repeat these estimations using a Heckman selection probit model. Results, displayed in Table 6, confirm our previous findings and show even stronger effects of trust on holding cash, formal savings and bank savings. The selection bias turns out to be significant for contractual savings. This is likely related to the fact that life insurance in some countries is a prerequisite for taking out a loan and thus the distinction between "savers" holding life insurance and borrowers holding

life insurance is important. However, with the exception of contractual savings and holding more than one saving instrument, the selection bias is not statistically significant at the 10% level.

#### < Insert Table 7 about here >

Hitherto, we have focused only on how trust affects participation in each saving instrument separately. The interaction between trusts in different financial institutions may have a significant impact on the choice of saving instruments. In Table 7 we look at the saving behavior of respondents who state they do not trust banks (neither domestic nor foreign). For these respondents we find that if they trust in the stability of the financial system they are still significantly less likely to save in cash, significantly more likely to have formal savings and also bank savings. Interestingly, we also find respondents who distrust banks are significantly more likely to invest in contractual savings; and there is also a positive and significant impact on the likelihood of holding a diversified formal savings portfolio. This result suggests a substitution effect between formal saving products and shows that lack of trust in banks does not automatically lead to informal savings even in countries with a fairly recent history of economic turbulence and banking crises during transition. The results for trust in deposit safety indicate a significant role for government policies, especially for deposit insurance when trust in banks is low. Respondents who distrust banks are still 3.9 percentage points more likely to save formally and 5.5 percentage points more likely to save at banks if they trust the safety of deposits.

#### < Insert Table 8 about here >

In a final step, we exploit the fact that respondents rank the various saving instruments according to the amount invested and investigate how trust affects the allocation of savings across saving products. Table 8 reports the results where the trust variables explain whether a specific saving instrument receives the highest allocation of savings. Our previous findings

hold and are even stronger if we focus on those cases where cash / bank savings constitute the most important saving instrument. For contractual and capital market savings the effect of trust turns statistically insignificant.

#### 5 Robustness tests

Several robustness tests were conducted. In their recent paper, Balloch et al. (2015) find that trust and financial literacy are two distinct but simultaneous channels explaining participation in the stock market. While our data does not include indicators of financial literacy related to participation in specific savings instruments, we can nevertheless control for general indicators of financial literacy following Lusardi and Mitchell (2014). We do not include these in the baseline estimations because of the potential endogeneity with the choice of saving instruments. Table 9 shows that results for our trust variables are qualitatively the same after controlling for financial literacy. As expected, financial literacy is positively and significantly correlated with the probability of holding formal or bank savings.

#### < Insert Table 9 about here >

We use a number of alternative specifications to test the robustness of our results.<sup>4</sup> The choice of saving instruments for households with loans may differ significantly from that of other households therefore we repeat estimations excluding respondent who have a loan. Furthermore, our sample of countries is fairly diverse hence we check whether the results are driven by a particular country by repeating the estimations excluding one country at a time. We also allow for the effect of unobserved dependencies to vary by repeating estimations with standard errors clustered at the regional and at the country level respectively. Finally, we utilize instrumental variable estimations to address the potential endogeneity of trust.

the authors upon request.

<sup>&</sup>lt;sup>4</sup> For the sake of space we do not report these additional estimations in the paper. The results are available from

Specifically, we employ trust in the police as an instrument for trust in financial institutions.

None of these changes in the model specification affect our main results.

#### **6** Conclusions

In this article we empirically assess whether trust affects households' saving behavior. Households' saving behavior is defined as the percentage of households that hold a diverse range of saving instruments, such as cash, bank savings, contractual savings and capital market savings. We distinguish between trust in the stability of the financial system, deposit safety, domestic banks and foreign banks.

We conclude that the set of trust measures significantly increases the likelihood that households hold formal saving instruments and decreases informal holdings. Household composition of savings shows a different magnitude of response depending on the trust measure. Trust in the stability of the financial system matters most for diversification increasing the likelihood to hold contractual savings (3.8 percentage points), capital market savings (2.2 percentage points), and jointly several formal saving products (6.4 percentage points). We also show that trust in the financial system and in foreign banks are significantly associated with household choice of contractual and capital market saving instrument. Trust in the safety of deposits has the highest average marginal effect for bank savings (5.6 percentage points). Finally, trust in domestic banks increases the most the likelihood of holding formal savings (4.3 percentage points) and trust in foreign banks decreases the most holdings of informal savings (by 3.6 percentage points). We therefore conclude that trust in different financial institutions significantly affects household saving behavior.

Savings are a safety buffer for individual households and can supplement public benefits in order to maintain adequate levels of overall welfare in old age. Preserving households trust in different financial institutions contributes to different allocative decisions and encourage households to save formally. Under-diversification of savings can entail a

large cost for middle-income households (Panizza, 2015) therefore policies that enhance trust in the financial system could lead to positive welfare effects.

### Acknowledgements

We are grateful to Peter Backé, Robert Cull and Norman Loayza for valuable comments. We also would like to thank Helmut Stix for his invaluable input in the design of the questionnaire. We also wish to thank conference participants at the FEBS 2016 international conference and MBF 2016 for constructive suggestions. All errors and omissions rest with the authors.

#### References

- Allen, F., Demirgüç-Kunt, A., Klapper, L. F., & Martinez Peria, M. S. (2012). *The foundations of financial inclusion: Understanding ownership and use of formal accounts*. The World Bank. Washington DC, USA: World Bank Policy Research Working Paper 6290.
- Arrondel, L., Bartiloro, L., Fessler, P., Linder, P., Mathä, T. Y., Rampazzi, C., & Vermeulen, P. (2014). *How do households allocate their assets? Stylised facts from the Eurosystem Household Finance and Consumption Survey.* European Central Bank. Frankfurt, Germany: European Central Bank Working Paper Series 1722.
- Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2010). Formal versus informal finance: Evidence from China. *Review of Financial Studies*, 23(8), 3048-3097.
- Balloch, A., Nicolaei, A., & Philip, D. (2015). Stock market literacy, trust, and participation. *Review of Finance*, 19, 1925-1963.
- Beck, T., Levine, R., & Loayza, N. (2000). Finance and the sources of growth. *Journal of Financial Economics*, 58(1), 261-300.
- Beckmann, E. (2016). Household savings and shared prosperity: evidence on Central Eastern and Southeastern Europe. The World Bank. Washington DC, USA: World Bank Policy Research Working Paper.
- Beckmann, E., Hake, M., & Urvova, J. (2013). *Determinants of households' savings in Central, Eastern and Southeastern Europe*. The Oesterreichische Nationalbank. Vienna, Austria: Focus on European Economic Integration Q3/13.
- Beckmann, E., Reiter, S., & Stix, H. (2016). *The banking landscape of households in Central, Eastern and Southeastern Europe*. The Oesterreichische Nationalbank. Vienna, Austria: Focus on European Economic Integration, forthcoming.
- Benartzi, S., & Thaler, R. (2013). Behavioral economics and the retirement savings crisis. *Science*(339), 1152-1153.
- Brown, M., & Stix, H. (2015). Euroization of bank deposits. *Economic Policy*, 81, 95-139.
- Brown, M., Guin, B., & Kirschenmann, K. (2015). Microfinance banks and financial inclusion. . *Review of Finance*, 1-40. doi:10.193/rof/rfv026
- Browning, M., & Lusardi, A. (1996). Household saving: Micro theories and micro facts. *Journal of Economic Literature*, 34(4), 1797-1855.
- Delis, M., & Mylonidis, N. (2015). Trust, happiness, and households' financial decisions. *Journal of Financial Stability*, 20, 82-92.

- Demirguc-Kunt, A., Klapper, L., Singer, D., & Van Oudheusden, P. (2015). *The Global Findex Database 2014: Measuring Financial Inclusion around the World.* The World Bank. Washington DC, USA: Policy Research Working Paper 7255.
- El-Attar, M., & Poschke, M. (2011). Trust and the choice between housing and financial assets: Evidence from spanish households. *Review of Finance*, 15(4), 727-756.
- Filipiak, U. (2016). Trusting financial institutions: Out of reach, out of trust? *The Quarterly Review of Economics and Finance*, 59, 200-214.
- Gennaioli, N., Shleifer, A., & Vishny, R. (2015). Money Doctors. *The Journal of Finance*, 70(1), 91-114.
- Grigoli, F., Herman, A., & Schmidt-Hebbel, K. (2014). *World saving*. The International Monetary Fund. Washington DC, USA: IMF Working Paper 14/204.
- Guiso, L., Jappelli, T., & Terlizzese, D. (1996). Income risk, borrowing constraints, and portfolio choice. *American Economic Review*, 86(1), 158-172.
- Guiso, L., Sapienza, P., & Zingales, L. (2008). Trusting the stock market. *The Journal of Finance*, 63(6), 2557-2600.
- Halko, M. L., Kaustia, M., & Alanko, E. (2012). The gender effect in risky asset holdings. *Journal of Economic Behavior & Organization*, 83(1), 66-81.
- Henderson, V., Storeygard, A., & Weil, D. (2012). Measuring economic growth from outer space. *American Economic Review*, 102(2), 994-1028.
- Jin, D., Wang, H., Wang, P., & Yin, D. (2016). Social trust and foreign ownership: Evidence from qualified foreign institutional investors in China. *Journal of Financial Stability*, 23, 1-14.
- Karlan, D., Ratan, A., & Zinman, J. (2014). Savings by and for the Poor: A Research Review and Agenda. *Review of Income and Wealth*, 60(1), 36-78.
- Le Blanc, J., Porpiglia, A., Teppa, F., Zhu, J., & Ziegelmeyer, M. (2015). *Household saving behaviour and credit constraints in the euro area*. European Central Bank. Frankfurt, Germany: ECB Working Paper 1790.
- Levine, R. (2005). Finance and growth: theory and evidence. In P. Aghion, & S. Durlauf, *Handbook of Economic Growth* (Vol. 2, pp. 865-934). San Diego, CA, USA: North Holland.
- Loayza, N., & Shankar, R. (2000). Private saving in India. *The World Bank Economic Review*, 14(3), 571-594.
- Loayza, N., Schmidt-Hebbel, K., & Servén, L. (2000). What drives private saving across the world? *Review of Economics and Statistics*, 82 (2), 165-181.

- Love, D. A. (2010). The effects of marital status and children on savings and portfolio choice. *Review of Financial Studies*, 23(1), 385-432.
- Lusardi, A., & Mitchell, O. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*, 52(1), 5-44.
- Palia, D., Qi, Y., & Wu, Y. (2014). Heterogeneous Background Risks and Portfolio Choice: Evidence from Micro-level Data. *Journal of Money, Credit and Banking, 46* (8), 1687-1720.
- Panizza, U. (2015). Billions on the Sidewalk: Improving Savings by Reducing Investment Mistakes (No. 18-2015). Economics Section, The Graduate Institute of International Studies. Graduate Institute of International and Development Studies. Geneva, Switzerland: Working Paper No. HEIDWP18-2015.
- Prean, N., & Stix, H. (2011). The effect of raising deposit insurance coverage in times of financial crisis Evidence from Croatian microdata. *Economic Systems*, 35(4), 496-511.
- Shum, P., & Faig, M. (2006). What explains household stock holdings? *Journal of Banking & Finance*, 30(9), 2579-2597.
- Stix, H. (2013). Why do people save in cash? Distrust, memories of banking crises, weak institutions and dollarization. *Journal of Banking & Finance*, *37*(11), 4087-4106.
- Sunden, A. E., & Surette, B. J. (1998). Gender differences in the allocation of assets in retirement savings plans. *The American Economic Review*, 88(2), 207-211.
- The World Bank. (2014). The inverting pyramid: pension systems facing demographic challenges in Europe and Central Asia. Washington DC, USA: The World Bank.
- van Rooij, M., Lusardi, A., & Alessie, R. (2011). Financial literacy and stock market participation. *Journal of Financial Economics*, 101(2), 449–472.

#### **Tables**

#### Table 1: Measures of household saving behavior

This table reports the survey questions used to construct the variables for the choice of saving instruments.

1) [ASK ALL] There are several ways in which one can hold savings. For example, one can hold cash, use bank accounts, have life insurances, hold mutual funds, pension funds, etc. Do you currently have any savings? Please refer to savings you hold personally or together with your partner.

Yes / No / Don't Know / No Answer

2) [If 1=Yes] Please take a look at this card that lists various savings instruments – could you please select the ones you are currently using and rank them according to the amounts you have saved on the respective instrument.

- Cash
- Current Account / transaction account / wage card
- Savings deposits / savings accounts (in foreign or in [LOCAL CURRENCY])
- Life insurance
- Mutual funds
- Stocks
- Pension funds (voluntary contributions)
- Bonds
- Other (e.g. gold)
- Do not know
- No answer

# **Table 2: Spearman rank correlation of saving instruments**

The table reports Spearman rank correlations between the choices of saving instruments. \* represents statistical significance at the 5% level.

	Cash	Formal savings	Bank savings	Contractual savings	Capital market savings
Cash	1				
Formal savings	-0.91*	1			
Bank savings	-0.79*	0.87*	1		
Contractual savings	-0.25*	0.27*	0.08*	1	
Capital market savings	-0.13*	0.14*	0.07*	0.22*	1

#### **Table 3: Linear interdependence - Trust in financial institutions**

The table reports the multiple correlation coefficient, the p-value of the Kruskal-Wallis test and the Spearman rank correlation coefficients between the different measures of trust. We exclude from this analysis respondents that did not provide an answer or answered "do not know". The column "multiple correlation" report the measure of how well a given trust measure can be predicted using a linear function of the remaining trust variables. Higher values indicate a higher predictability of the variable. The column ANOVA F-test reports the p-value of the non-parametric ANOVA model testing whether the trust variables originate from the same distribution. The null hypothesis is stochastic dominance between the samples. \*represent statistical significance at the 5% level.

	multiple correlation	ANOVA p-value	financial stability	deposit safety	domestically owned banks	foreign owned banks
financial stability	0.52	0.00	1			_
deposit safety	0.52	0.00	0.47*	1		
domestically owned banks	0.70	0.00	0.36*	0.37*	1	
foreign owned banks	0.68	0.00	0.33*	0.33*	0.67*	1

**Table 4: Variables definition** 

Variables	Description
Dependent Variables	
cash	Binary variable derived from survey question presented in Table 1, takes on value one if respondent has savings but only saves in cash, zero otherwise.
formal	Binary variable derived from survey question presented in Table 1, takes on value one if respondent has any formal savings (current account, savings deposit, life insurance, mutual funds, stocks, pension funds, bonds), zero otherwise.
bank	Binary variable derived from survey question presented in Table 1, takes on value one if respondent has any savings using a current account or savings deposit, zero otherwise.
contractual	Binary variable derived from survey question presented in Table 1, takes on value one if respondent has any savings invested in a pension fund or life insurance, zero otherwise.
capital	Binary variable derived from survey question presented in Table 1, takes on value one if respondent has any savings invested in stocks, bonds or mutual funds, zero otherwise
>1 formal	Binary variable derived from survey question presented in Table 1, takes on value one if respondent has savings and holds more than one formal saving instrument (current account, savings deposit, life insurance, mutual funds, stocks, pension funds, bonds), zero otherwise
cash highest	Binary variable derived from survey question presented in Table 1, takes on value one if respondent has the highest amount of his/her savings in cash, zero otherwise.
bank highest	Binary variable derived from survey question presented in Table 1, takes on value one if respondent has the highest amount of his/her savings in a current account or savings deposit, zero otherwise.
contractual highest	Binary variable derived from survey question presented in Table 1, takes on value one if respondent has the highest amount of his/her savings invested in life insurance or pension funds, zero otherwise.
capital highest	Binary variable derived from survey question presented in Table 1, takes on value one if respondent has the highest amount of his/her savings invested in stocks, bonds or mutual funds, zero otherwise.
Trust in financial institutions	
financial system stable	Derived from question "Currently, banks and the financial system are stable in [MY COUNTRY]." Respondents could agree on a scale from 1 (strongly agree) to 6 (strongly disagree). Dummy variable, answers from 1 to 3 are defined as one.
deposits safe	Derived from question "Currently, depositing money at banks is very safe in [MY COUNTRY]." Respondents could agree on a scale from 1 (strongly agree) to 6 (strongly disagree). Dummy variable, answers from 1 to 3 are defined as one.
trust domestic banks, trust foreign banks	Based on question "I would like to ask you a question about how much trust you have in certain institutions. For each of the following institutions, please tell me if you tend to trust it or tend not to trust it. 1 means 'I trust completely', 2 means 'I somewhat trust', 3 means 'I neither trust nor distrust', 4 means 'I somewhat distrust' and 5 means 'I do not trust at all'. (a) domestically owned banks (b) foreign owned banks". Dummy variable coded as one if respondents somewhat or completely trust, zero else.

Variables	Description
Other explanatory variables	*
age, age squared	Age of respondent, age squared of respondent.
female	Binary variable, one if respondent is female.
1 person hh, 2 person hh	Binary variables indicating size of household: 1 person, 2 persons, 3 or more persons. Omitted category: 3 or more persons household.
children	Binary variable, one if there are any children in the household.
married	Binary variable, one if the respondent is married.
manages hh finances	Binary variable based on the question "Who is in charge of household finances?" coded as one for answers "I am" and "I am together with my partner", zero otherwise.
Muslim	Binary variable, one if the respondent is Muslim.
income (refused, low, medium, high)	Binary variables which take value one for each net household income terciles (high, medium, low). Sample values are used to construct terciles. For those respondents who did not give an answer an additional dummy variable is defined (refused income). Omitted category: income low.
regular income in euro	Binary variable; one if the respondent regularly receives income in euro.
receives remittances	Derived from answers to the question "Do you personally or your partner receive any money from abroad? E.g. from family members living or working abroad, pension payments, etc.?" Binary variable coded as one if answer is "yes, regularly" or "yes, infrequently", else zero.
employed, self-employed, retired	Binary variable coded as one if respondent belongs to selected occupational category.
education (secondary, tertiary)	Binary variables; degree of education (tertiary level, medium level and primary education). Omitted category: Primary education
risk averse	Derived from question "In financial matters, I prefer safe investments over risky investments." Respondents could agree on a scale from 1 (strongly agree) to 6 (strongly disagree). Dummy variable, answers from 1 to 3 are defined as one. Binary variable coded as one if respondent has a loan. Derived from the question "Do you, either personally or together with
loan	your partner, have any loans?" Answers are "No." "Yes, my loans are solely denominated in foreign currency." "Yes, my loans are predominantly denominated in foreign currency." "Yes, about equal amounts of loans in local and foreign currencies." "Yes, my loans are predominantly denominated in local currency." "Yes, my loans are solely denominated in local currency."
plan loan	Binary variable derived from the question "Do you plan to take out a loan within the next year and if so in what currency?" Answer "No" is coded as zero, answers "Yes, in local currency", "Yes, in euro", "Yes, in Swiss franc" and "Yes, in other foreign currency" are coded as one. Answers "Don't know" and "No answer" are coded as missing.
exp econ sit better	Derived from question "Over the next five years, the economic situation of my country will improve." Respondents could agree on a scale from 1 (strongly agree) to 6 (strongly disagree). Binary variable, answers from 1 to 3 are defined as one. Proxy for local economic activity based on Henderson et al.(2012). Light intensity at night in a 20km radius around the
log(nightlight)	centroid of the primary sampling unit where the household is located. This indicator is measured on a scale ranging from 0 to 63; a greater value indicates higher light intensity. Data are from version 4 DMSP-OLS nighttime lights time series, satellite F18 for both 2012 and 2013.
log(distance to bank)	Distance from the centroid of the primary sampling unit where the household is located to the nearest bank branch. Calculated based on the bank branch data collected by Beckmann et al. (2016).

Variables	Description
internet	Binary variable, one if the respondent has access to the internet at home.
own house, own other real estate	Binary variables, one if the household owns its primary residence or other real estate.
trust in government, trust in EU	Based on question "I would like to ask you a question about how much trust you have in certain institutions. For each of the following institutions, please tell me if you tend to trust it or tend not to trust it. 1 means 'I trust completely', 2 means 'I somewhat trust', 3 means 'I neither trust nor distrust', 4 means 'I somewhat distrust' and 5 means 'I do not trust at all'. (a) the government (b) the European Union". Dummy variable coded as one if respondents somewhat or completely trust, zero else.
financial loss during previous crises	Binary variable based on question "If you think back in time to periods of economic turbulences that happened prior to 2008, e.g. very high inflation, banking crisis or restricted access to savings deposits. At that time, did you personally incur a financial loss due to such events?" Answers "No, I had no savings then" and "No, I did not incur a financial loss." coded as zero "Yes" coded as one.

Table 5: Saving instruments and trust in financial institutions

This table presents estimates obtained from probit models. Each specification represents a separate regression where we report the average marginal effects for trust variables only. We employ six dependent variables (cash only, formal savings, bank savings, contractual savings, capital market savings, >1 formal saving). All estimations include the full set of control variables reported in Table 4 as well as country-time-fixed effects. Standard errors clustered at the primary sampling and survey wave appear in parentheses. P(DepVar) denotes the sample probability of the respective dependent variable. N denotes the number of observations. \*, \*\*, and \*\*\* represent statistical significance at 10%, 5%, and 1% levels, respectively.

	Dependent	cash	formal	bank	contractual	capital	>1 formal
	variable					_	
Specification 1	financial system	-0.032***	0.032**	0.044***	0.038***	0.022**	0.064***
	stable	(0.012)	(0.013)	(0.015)	(0.014)	(0.009)	(0.013)
	Log-L	-1745.9	-1855.9	-2181.8	-1819.8	-975	-1630.8
	P(DepVar=1)	0.16	0.81	0.76	0.23	0.07	0.18
	N	4801	4801	4801	4801	4717	4801
Specification 2	deposits safe	-0.034***	0.040***	0.056***	0.002	0.011	0.024**
-	•	(0.011)	(0.012)	(0.013)	(0.012)	(0.008)	(0.011)
	Log-L	-1723.1	-1832.4	-2163	-1821.1	-972.5	-1631.4
	P(DepVar=1)	0.16	0.81	0.76	0.23	0.07	0.17
	N	4769	4769	4769	4769	4686	4769
Specification 3	trust domestic	-0.032***	0.043***	0.047***	0.009	0.009	0.022*
•	banks						
		(0.012)	(0.012)	(0.014)	(0.013)	(0.008)	(0.012)
	Log-L	-1763.1	-1872.7	-2203.7	-1837	-974.9	-1648.6
	P(DepVar=1)	0.17	0.81	0.76	0.23	0.07	0.17
	N	4830	4830	4830	4830	4745	4830
Specification 4	trust foreign	-0.036***	0.034***	0.040***	0.026*	0.018**	0.037***
•	banks						
		(0.012)	(0.012)	(0.014)	(0.013)	(0.008)	(0.013)
	Log-L	-1746.5	-1857.6	-2183	-1822.3	-961	-1630.4
	P(DepVar=1)	0.16	0.81	0.76	0.23	0.07	0.18
	N	4797	4797	4797	4797	4712	4797

Table 6: Saving instruments and trust in financial institutions - Heckman selection model

This table presents estimates obtained from Heckman selection probit models. Each specification represents a separate regression where we report the marginal effects at the mean for trust variables only. We employ six dependent variables (cash only, formal savings, bank savings, contractual savings, capital market savings, >1 formal saving). All estimations include the full set of control variables of Table 4 as well as country-time-fixed effects. Standard errors clustered at the primary sampling and survey wave appear in parentheses. N(selection) denotes the number of observations in the selection equation, N(outcome) denotes the number of observation of the outcome equation. P(DepVar) denotes the sample probability of the respective dependent variable. Rho denotes the correlation between the selection and the outcome equation. P-Value denotes the significance of Rho. \*, \*\*, and \*\*\* represent statistical significance at 10%, 5%, and 1% levels, respectively.

	Dependent variable	cash	formal	bank	contractual	capital	>1 formal
Specification 1	financial	-0.040*	0.042**	0.057***	0.028***	0.007**	0.039***
_	system stable	(0.016)	(0.017)	(0.019)	(0.010)	(0.003)	(0.008)
	Log-L	-5949.96	-7805.8	-8131.6	-7762.6	-6923.9	-7578.2
	N(selection)	11179	11179	11179	11179	11179	11179
	N(outcome)	4801	4801	4801	4801	4801	4801
	P(DepVar=1)	0.16	0.81	0.76	0.23	0.07	0.18
	Rho	-0.07	0.06	-0.16	0.93	0.6	0.99
	p-Value	0.79	0.87	0.62	0.00	0.33	0.21
Specification 2	deposits safe	-0.042***	0.052***	0.072***	0.004	0.003	0.015**
•	•	(0.014)	(0.015)	(0.017)	(0.009)	(0.003)	(0.007)
	Log-L	-7615	-7724.3	-8054.7	-7707.4	-6863.7	-7521.3
	N(selection)	11014	11014	11014	11014	11014	11014
	N(outcome)	4769	4769	4769	4769	4769	4769
	P(DepVar=1)	0.16	0.81	0.76	0.23	0.07	0.17
	Rho	-0.11	0.06	-0.18	0.94	0.5	0.97
	p-Value	0.71	0.88	0.59	0.00	0.37	0.03
Specification 3	trust domestic	-0.038***	0.055***	0.060***	0.01	0.002	0.014*
	banks	(0.015)	(0.016)	(0.018)	(0.010)	(0.003)	(0.007)
	Log-L	-7766.9	-7876.5	-8207.7	-7835.3	-6978	-7650.5
	N(selection)	11276	11276	11276	11276	11276	11276
	N(outcome)	4830	4830	4830	4830	4830	4830
	P(DepVar=1)	0.17	0.81	0.76	0.23	0.07	0.17
	Rho	-0.18	0.24	0.08	0.94	0.53	0.98
	p-Value	0.53	0.61	0.87	0.00	0.32	0.06
Specification 4	trust foreign	-0.044***	0.042**	0.049***	0.023**	0.005*	0.022***
	banks	(0.015)	(0.017)	(0.019)	(0.010)	(0.002)	(800.0)
	Log-L	-7692.6	-7803.7	-8129.2	-7763.5	-6906.1	-7574.3
	N(selection)	11174	11174	11174	11174	11174	11174
	N(outcome)	4797	4797	4797	4797	4797	4797
	P(DepVar=1)	0.16	0.81	0.76	0.23	0.07	0.18
	Rho	-0.2	0.24	0.25	0.94	0.72	0.98
	p-Value	0.47	0.60	0.72	0.00	0.38	0.02

# Table 7: Distrust in banks and its interaction with trust in financial stability and deposit safety

This table presents estimates obtained from probit models for the subsample of respondents who distrust banks. Each specification represents a separate regression. We employ six dependent variables (cash only, formal savings, bank savings, contractual savings, capital market savings, >1 formal saving). All estimations include the full set of control variables of Table 4 as well as country-time-fixed effects. Standard errors clustered at the primary sampling and survey wave appear in parentheses. P(DepVar) denotes the sample probability of the respective dependent variable. N denotes the number of observations. \*, \*\*, and \*\*\* represent statistical significance at 10%, 5%, and 1% levels, respectively.

	Dependent variable	cash	formal	bank	contractual	capital	>1 formal
Specification 1	financial system stable	-0.038** (0.018)	0.037** (0.019)	0.050** (0.022)	0.042** (0.020)	0.018 (0.015)	0.068*** (0.017)
	Log-L N P(DepVar=1)	-744.5 1936 0.19	-790.1 1936 0.78	-947.5 1936 0.72	-771.1 1838 0.26	-357.5 1579 0.08	-649.2 1838 0.18
Specification 2	deposits safe	-0.031* (0.017)	0.039** (0.018)	0.055*** (0.020)	-0.001 (0.020)	0.008 (0.013)	0.016 (0.017)
	Log-L N P(DepVar=1)	-734.1 1925 0.19	-780.3 1925 0.78	-940.6 1925 0.72	-774.5 1828 0.25	-356.1 1570 0.08	-652.4 1828 0.18

# Table 8: Trust in financial institutions and its effect on the amount allocated to saving instruments

This table presents estimates obtained from probit models. Each specification represents a separate regression. We employ four dependent variables which take the value one if the respondent names the respective saving instruments as the most important in terms of amounts saved: cash highest, bank savings highest, contractual savings highest, capital market savings highest. All estimations include the full set of control variables of Table 4 as well as country-time-fixed effects. Standard errors clustered at the primary sampling and survey wave appear in parentheses. P(DepVar) denotes the sample probability of the respective dependent variable. N denotes the number of observations. \*, \*\*, and \*\*\* represent statistical significance at 10%, 5%, and 1% levels, respectively.

	Dependent variable	cash highest	bank highest	contractual highest	capital highest
Specification 1	financial system	-0.058***	0.065***	-0.008	-0.003
•	stable	(0.017)	(0.018)	(0.008)	(0.005)
	Log-L	-2888.2	-3066.9	-941.6	-314.3
	Pseudo-R2	0.1	0.08	0.26	0.19
	N	4801	4801	4801	3790
	P(DepVar=1)	0.39	0.49	0.07	0.02
Specification 2	deposits safe	-0.055***	0.070***	-0.011	0
•	•	(0.015)	(0.017)	(0.008)	(0.005)
	Log-L	-2868.2	-3049.7	-934.2	-309.1
	Pseudo-R2	0.1	0.08	0.25	0.19
	N	4769	4769	4769	3624
	P(DepVar=1)	0.39	0.49	0.07	0.02
Specification 3	trust domestic	-0.068***	0.077***	0.002	0
•	banks				
		(0.017)	(0.017)	(0.008)	(0.005)
	Log-L	-2916.2	-3087.3	-944.6	-311.3
	Pseudo-R2	0.1	0.08	0.26	0.19
	N	4830	4830	4830	3809
	P(DepVar=1)	0.39	0.49	0.07	0.02
Specification 4	trust foreign	-0.055***	0.035**	0.014	0.005
•	banks	(0.016)	(0.017)	(0.009)	(0.005)
	Log-L	-2896.6	-3074	-939.9	-303.3
	Pseudo-R2	0.1	0.08	0.25	0.19
	N	4797	4797	4797	3650
	P(DepVar=1)	0.39	0.49	0.07	0.02

#### Table 9: Trust in financial institutions and financial literacy

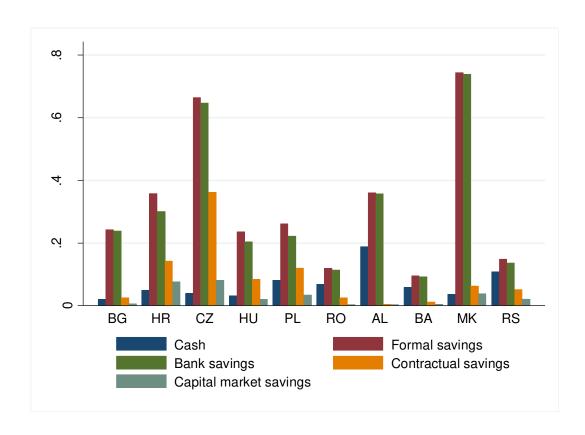
This table presents estimates obtained from probit models. Each specification represents a separate regression. We employ six dependent variables (cash only, formal savings, bank savings, contractual savings, capital market savings, >1 formal saving). All estimations include the full set of control variables of Table 4 as well as country-time-fixed effects. Standard errors clustered at the primary sampling and survey wave appear in parentheses. P(DepVar) denotes the sample probability of the respective dependent variable. N denotes the number of observations. \*, \*\*, and \*\*\* represent statistical significance at 10%, 5%, and 1% levels, respectively.

	Dependent	cash	formal	bank	contractual	capital	>1 formal
	variable					•	
Specification 1	financial system	-0.031**	0.031**	0.042***	0.036**	0.023**	0.062***
-	stable	(0.012)	(0.013)	(0.015)	(0.014)	(0.010)	(0.013)
	financially	-0.009			0.006	-0.003	0.005
			0.017***	0.021***			
	literate (0/3)	(0.006)	(0.006)	(0.007)	(0.007)	(0.004)	(0.006)
	Log-L	-1693.9	-1797.4	-2118.7	-1783.7	-965.4	-1601.3
	N	4689	4689	4689	4689	4606	4689
	P(DepVar=1)	0.16	0.81	0.76	0.23	0.07	0.18
Specification 2	deposits safe	-0.034***	0.038***	0.052***	-0.001	0.011	0.022*
		(0.011)	(0.012)	(0.013)	(0.012)	(0.008)	(0.011)
	financially	-0.007	0.015**	0.018***	0.006	-0.002	0.005
	literate (0/3)	(0.006)	(0.006)	(0.007)	(0.007)	(0.004)	(0.006)
	Log-L	-1670.4	-1774.3	-2100.5	-1781.2	-962.8	-1599.1
	N	4652	4652	4652	4652	4570	4652
	P(DepVar=1)	0.16	0.81	0.76	0.23	0.07	0.18
Specification 3	trust domestic	-0.029**	0.040***	0.043***	0.004	0.01	0.018
	banks	(0.012)	(0.012)	(0.014)	(0.013)	(0.008)	(0.012)
	financially	-0.007	0.015**	0.018***	0.006	-0.002	0.006
	literate (0/3)	(0.006)	(0.006)	(0.007)	(0.007)	(0.004)	(0.006)
	Log-L	-1707.8	-1811.8	-2138.7	-1796.4	-965.3	-1616.3
	N	4713	4713	4713	4713	4629	4713
	P(DepVar=1)	0.16	0.81	0.76	0.23	0.07	0.18
Specification 4	trust foreign	-0.034***	0.031**	0.034**	0.023*	0.019**	0.032**
	banks	(0.012)	(0.012)	(0.014)	(0.014)	(0.009)	(0.013)
	financially	-0.006	0.015**	0.019***	0.005	-0.003	0.005
	literate (0/3)	(0.006)	(0.006)	(0.007)	(0.007)	(0.004)	(0.006)
	Log-L	-1693.1	-1797.6	-2118.8	-1782	-951.5	-1598.8
	N	4681	4681	4681	4681	4597	4681
	P(DepVar=1)	0.16	0.81	0.76	0.23	0.07	0.18

# **Figures**

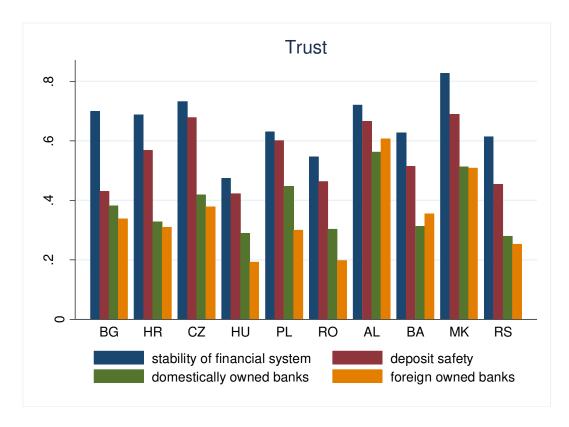
### Figure 1: Participation in saving instruments

This figure presents the percentage of savers who save using different saving instruments. Countries are denoted by the following acronyms: Bulgaria (BG), Croatia (HR), Czech Republic (CZ), Hungary (HU), Poland (PL), Romania (RO), Albania (AL), Bosnia Hercegovina (BA), Macedonia (MK) and Serbia (RS). Source: OeNB Euro Survey, 2012-2013. Note: All percentages are weighted by sampling weights.



#### Figure 2: Trust in financial institutions

This figure presents the percentage of respondents who say they trust in (i) the stability of the financial system, (ii) deposit safety, (iii) domestically owned banks, and (iv) foreign owned banks. Countries are denoted by the following acronyms: Bulgaria (BG), Croatia (HR), Czech Republic (CZ), Hungary (HU), Poland (PL), Romania (RO), Albania (AL), Bosnia Hercegovina (BA), Macedonia (MK) and Serbia (RS). Source: OeNB Euro Survey, 2012-2013. Note: All percentages are weighted by sampling weights.



# Appendix

# Table A1: Determinants of saving instrument participation

In these tables we report the full results of the probit estimations in Table 5 where we relate household savings to trust variables and other determinants. \*, \*\*, \*\*\* represent statistical significance at 10%, 5%, and 1% levels respectively.

Table A1: Savings Marginal Effects - Trust financial system

	-0.008***	formal	bank	contractual	capital	>1 formal 0.007***
age		0.007***	0.003	0.011*** (0.003)	0.004**	
age squared	(0.002) 0.008***	(0.002) -0.007***	(0.003) -0.004	-0.011***	(0.002) -0.004**	(0.003) -0.006**
age squared	(0.002)	(0.003)	(0.003)	(0.003)	(0.002)	(0.003)
Female	0.007	-0.013	-0.008	0.008	-0.019***	-0.003
	(0.010)	(0.010)	(0.011)	(0.011)	(0.007)	(0.010)
1 person hh	0.021	-0.021	-0.018	-0.052**	-0.006	-0.013
	(0.026)	(0.027)	(0.029)	(0.026)	(0.019)	(0.025)
2 person hh	-0.005	0.015	0.006	-0.007	-0.002	0.003
	(0.015)	(0.016)	(0.017)	(0.016)	(0.011)	(0.015)
children	-0.007	0.005	-0.004	0.014	0	0.013
a	(0.014) 0.044***	(0.014) -0.050***	(0.015) -0.056***	(0.014)	(0.010)	(0.014)
married	(0.016)	(0.017)	(0.018)	-0.024 (0.016)	-0.011 (0.011)	-0.022 (0.015)
manages hh finances	-0.023	0.033**	0.067***	0.001	0.005	0.007
manages in initiaees	(0.016)	(0.017)	(0.018)	(0.017)	(0.013)	(0.017)
Muslim	0.061***	-0.070***	-0.086***	0.045	0.034	0.032
	(0.019)	(0.021)	(0.024)	(0.033)	(0.021)	(0.031)
income refused	-0.002	-0.028*	-0.036**	-0.001	-0.001	-0.029*
	(0.015)	(0.016)	(0.018)	(0.017)	(0.011)	(0.015)
income low	0.066***	-0.078***	-0.094***	-0.040**	-0.025**	-0.087***
	(0.016)	(0.017)	(0.020)	(0.019)	(0.011)	(0.017)
income medium	0.033**	-0.042***	-0.043***	-0.033**	-0.017*	-0.056***
	(0.013)	(0.014)	(0.015)	(0.014)	(0.010)	(0.014)
regular income in euro	0.056**	-0.050*	-0.025	-0.013	0.021	0.026
	(0.025)	(0.027)	(0.030)	(0.031)	(0.018)	(0.026)
receives remittances	0.007	-0.003	-0.009	0.018	0.002	0.008
employed	(0.016)	(0.017) 0.050***	(0.020) 0.054***	(0.020) 0.050***	(0.013) 0.011	(0.019) 0.047***
спрюуси	(0.015)	(0.016)	(0.018)	(0.018)	(0.013)	(0.018)
self-employed	0.012	-0.003	-0.001	0.046***	0.022**	0.039***
sen employed	(0.015)	(0.016)	(0.018)	(0.016)	(0.011)	(0.015)
retired	-0.058**	0.052**	0.078***	-0.028	0.035**	0.021
	(0.023)	(0.024)	(0.027)	(0.026)	(0.018)	(0.026)
secondary education	-0.024	0.029*	0.046**	-0.002	0.034**	0.042*
	(0.016)	(0.016)	(0.019)	(0.022)	(0.014)	(0.022)
tertiary education	-0.070***	0.067***	0.074***	0.054**	0.060***	0.110***
	(0.019)	(0.019)	(0.022)	(0.023)	(0.016)	(0.023)
risk averse	-0.018	0.02	0.024	-0.004	-0.019*	-0.001
	(0.016)	(0.017)	(0.019)	(0.018)	(0.011)	(0.018)
have a loan	-0.032***	0.046***	0.013	0.072***	0.008	0.033***
plan a loan	(0.012) -0.021	(0.013) 0.039*	(0.013) 0.014	(0.011) 0.021	(0.008)	(0.011) 0.031*
pian a loan	(0.019)	(0.020)	(0.021)	(0.017)	(0.012)	(0.017)
exp econ sit better	-0.016	0.022*	0.021*	0.025**	0.012)	0.021**
exp ceon sit better	(0.011)	(0.012)	(0.013)	(0.012)	(0.008)	(0.011)
log(nightlight)	-0.008	0.014*	0.014	0.016*	0.004	0.001
	(0.008)	(0.008)	(0.009)	(0.009)	(0.006)	(0.008)
log(distance to bank)	0.001	0	-0.002	0.007***	0.005***	0.005**
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
internet	-0.022	0.034**	0.037**	0.045***	0.015	0.056***
	(0.014)	(0.014)	(0.016)	(0.016)	(0.012)	(0.017)
own house	-0.007	0.018	0.029	0.013	0.023*	0.013
	(0.016)	(0.017)	(0.020)	(0.017)	(0.014)	(0.017)
own other real estate	-0.007	0.009	0.004	-0.006	0.038***	0.036***
	(0.012)	(0.013)	(0.014)	(0.013)	(0.007)	(0.011) -0.004
trust in government	-0.002 (0.012)	0.001 (0.013)	0.011 (0.015)	-0.003 (0.014)	-0.006 (0.010)	(0.014)
trust in EU	0.001	(0.013)	0.012	0.007	0.019**	0.014)
and in De	(0.012)	(0.012)	(0.012)	(0.013)	(0.008)	(0.01)
financial loss during previous crises	-0.042***	0.041***	0.036**	0.035***	0.038***	0.058***
Ø r = 1.15 25 21300	(0.015)	(0.015)	(0.016)	(0.013)	(0.008)	(0.012)
financial system stable	-0.032***	0.032**	0.044***	0.038***	0.022**	0.064***
	(0.012)	(0.013)	(0.015)	(0.014)	(0.009)	(0.013)
Log-L	-1745.9	-1855.9	-2181.8	-1819.8	-975	-1630.8
Pseudo-R2	0.19	0.21	0.17	0.29	0.2	0.27
N	4801	4801	4801	4801	4717	4801
P(DepVar=1)	0.16	0.81	0.76	0.23	0.07	0.18

Table A1: Savings Marginal Effects	Trust deposi cash	t insurance formal	bank	contractual	capital	>1 formal
age	-0.008***	0.007***	0.003	0.013***	0.004**	0.008***
450	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)	(0.003)
age squared	0.009***	-0.007***	-0.004	-0.012***	-0.004**	-0.007**
	(0.002)	(0.003)	(0.003)	(0.003)	(0.002)	(0.003)
Female	0.004	-0.01	-0.006	0.007	-0.019***	-0.004
1 person hh	(0.010)	(0.010) -0.029	(0.011) -0.031	(0.011) -0.046*	(0.007) -0.005	(0.010) -0.011
i person ini	(0.026)	(0.027)	(0.029)	(0.026)	(0.019)	(0.026)
2 person hh	0.004	0.007	-0.005	-0.005	-0.005	0
	(0.015)	(0.015)	(0.017)	(0.016)	(0.011)	(0.015)
children	-0.003	0.004	-0.008	0.016	0.001	0.013
married	(0.014) 0.047***	(0.014) -0.050***	(0.015)	(0.015) -0.024	(0.010) -0.01	(0.014) -0.022
mamed	(0.016)	(0.017)	(0.018)	(0.016)	(0.011)	(0.015)
manages hh finances	-0.027*	0.032*	0.068***	0.001	0.005	0.009
	(0.016)	(0.017)	(0.018)	(0.018)	(0.013)	(0.017)
Muslim	0.057***	-0.064***	-0.081***	0.05	0.037*	0.033
	(0.019)	(0.021)	(0.024)	(0.034)	(0.021)	(0.033)
income refused	0.001	-0.027*	-0.037**	-0.005	0.001	-0.027*
income low	(0.015) 0.065***	(0.016) -0.075***	(0.018)	(0.017) -0.040**	(0.011) -0.025**	(0.015) -0.086***
moone low	(0.016)	(0.017)	(0.020)	(0.019)	(0.011)	(0.017)
income medium	0.035***	-0.040***	-0.043***	-0.034**	-0.016	-0.054***
	(0.013)	(0.014)	(0.015)	(0.015)	(0.010)	(0.014)
regular income in euro	0.059**	-0.053**	-0.028	-0.015	0.022	0.024
• • •	(0.025)	(0.027)	(0.030)	(0.031)	(0.018)	(0.027)
receives remittances	0.009	-0.005 (0.017)	-0.011 (0.020)	0.016	0.001	0.007
employed	(0.016) -0.050***	(0.017) 0.051***	0.054***	(0.021) 0.049***	(0.013) 0.013	(0.019) 0.048***
employed	(0.015)	(0.016)	(0.018)	(0.018)	(0.013)	(0.018)
self-employed	0.009	0.001	0.003	0.046***	0.022**	0.045***
	(0.015)	(0.016)	(0.018)	(0.017)	(0.011)	(0.015)
retired	-0.061***	0.060**	0.088***	-0.025	0.037**	0.027
1 2	(0.023)	(0.024)	(0.027)	(0.026)	(0.018)	(0.026)
secondary education	-0.025 (0.015)	0.033**	0.049*** (0.018)	(0.022)	0.037** (0.015)	0.041* (0.022)
tertiary education	-0.073***	0.074***	0.081***	0.055**	0.064***	0.109***
	(0.019)	(0.019)	(0.022)	(0.023)	(0.016)	(0.023)
risk averse	-0.021	0.022	0.024	0.006	-0.015	0.01
	(0.016)	(0.017)	(0.018)	(0.018)	(0.012)	(0.018)
have a loan	-0.029**	0.044***	0.011	0.071***	0.007	0.034***
plan a loan	(0.012) -0.022	(0.013) 0.036*	(0.013) 0.011	(0.011) 0.027	(0.008)	(0.011) 0.036**
pan a loan	(0.019)	(0.020)	(0.021)	(0.017)	(0.012)	(0.017)
exp econ sit better	-0.014	0.020*	0.02	0.032***	0.011	0.027**
	(0.011)	(0.012)	(0.013)	(0.012)	(0.008)	(0.011)
log(nightlight)	-0.008	0.015*	0.015	0.016*	0.004	0
	(0.008)	(0.008)	(0.009)	(0.009)	(0.006)	(0.008)
log(distance to bank)	(0.002)	(0.002)	-0.001 (0.002)	0.006*** (0.002)	0.004*** (0.002)	0.004** (0.002)
internet	-0.016	0.002)	0.033**	0.042**	0.013	0.053***
	(0.014)	(0.014)	(0.016)	(0.017)	(0.012)	(0.017)
own house	-0.003	0.015	0.029	0.011	0.023*	0.009
	(0.017)	(0.017)	(0.019)	(0.017)	(0.014)	(0.017)
own other real estate	-0.007	0.007	0.002	-0.007	0.038***	0.038***
	(0.012)	(0.013)	(0.014)	(0.013)	(0.007)	(0.011)
trust in government	-0.002 (0.012)	-0.001 (0.013)	0.008 (0.015)	-0.002 (0.014)	-0.008 (0.010)	-0.006 (0.013)
trust in EU	0.005	-0.002	0.013)	0.009	0.020**	0.022*
-	(0.012)	(0.013)	(0.014)	(0.013)	(0.008)	(0.011)
financial loss during previous crises	-0.047***	0.047***	0.042**	0.034***	0.039***	0.056***
	(0.015)	(0.015)	(0.016)	(0.013)	(0.008)	(0.012)
deposits safe	-0.034***	0.040***	0.056***	0.002	0.011	0.024**
LogI	(0.011)	(0.012)	(0.013)	(0.012)	(0.008)	(0.011)
Log-L Pseudo-R2	-1723.1 0.19	-1832.4 0.21	-2163 0.18	-1821.1 0.28	-972.5 0.2	-1631.4 0.26
	4769	4769	4769	4769	4686	4769
N						

Table A1: Savings Marginal Effects - Trust domestic banks									
	-0.007***	formal	bank	contractual	capital	>1 formal			
age	(0.002)	0.006** (0.002)	0.002 (0.003)	0.012*** (0.003)	0.004** (0.002)	0.007*** (0.003)			
age squared	0.002)	-0.006**	-0.003	-0.012***	-0.004**	-0.007**			
	(0.002)	(0.003)	(0.003)	(0.003)	(0.002)	(0.003)			
Female	0.007	-0.013	-0.008	0.007	-0.020***	-0.004			
	(0.010)	(0.010)	(0.011)	(0.011)	(0.007)	(0.010)			
1 person hh	0.027	-0.031	-0.027	-0.049*	-0.013	-0.015			
2 14	(0.026)	(0.027)	(0.029)	(0.026)	(0.019)	(0.025)			
2 person hh	-0.005 (0.015)	0.014 (0.016)	0.002 (0.017)	-0.003 (0.016)	-0.003 (0.011)	0.005 (0.015)			
children	-0.006	0.004	-0.007	0.016	(0.011)	0.015			
	(0.013)	(0.014)	(0.015)	(0.014)	(0.010)	(0.014)			
married	0.043***	-0.049***	-0.053***	-0.024	-0.012	-0.023			
	(0.015)	(0.016)	(0.018)	(0.016)	(0.011)	(0.015)			
manages hh finances	-0.025	0.034**	0.068***	0.004	0.006	0.012			
3.6 T	(0.016)	(0.017)	(0.018)	(0.018)	(0.013)	(0.017)			
Muslim	0.059*** (0.019)	-0.068*** (0.021)	-0.084*** (0.024)	(0.033)	0.033 (0.021)	0.03 (0.032)			
income refused	0.001	-0.028*	-0.039**	-0.001	-0.001	-0.026*			
meone refused	(0.016)	(0.016)	(0.018)	(0.017)	(0.011)	(0.015)			
income low	0.068***	-0.079***	-0.096***	-0.042**	-0.025**	-0.091***			
	(0.017)	(0.017)	(0.020)	(0.019)	(0.011)	(0.017)			
income medium	0.036***	-0.045***	-0.048***	-0.033**	-0.018*	-0.056***			
	(0.013)	(0.014)	(0.015)	(0.014)	(0.010)	(0.014)			
regular income in euro	0.057**	-0.051*	-0.026	-0.014	0.022	0.024			
raccives remitteness	(0.025)	(0.027) -0.004	(0.030) -0.011	(0.031)	(0.018) 0.003	(0.027)			
receives remittances	(0.016)	(0.017)	(0.020)	(0.021)	(0.013)	(0.019)			
employed	-0.054***	0.052***	0.056***	0.052***	0.013)	0.049***			
	(0.015)	(0.016)	(0.018)	(0.018)	(0.013)	(0.018)			
self-employed	0.013	-0.004	-0.003	0.049***	0.021*	0.046***			
	(0.015)	(0.016)	(0.018)	(0.017)	(0.011)	(0.015)			
retired	-0.056**	0.052**	0.080***	-0.021	0.035**	0.028			
	(0.023)	(0.024)	(0.027)	(0.026)	(0.018)	(0.026)			
secondary education	-0.022	0.025	0.040** (0.019)	-0.003	0.037***	0.038*			
tertiary education	(0.015)	(0.016) 0.065***	0.071***	(0.021) 0.055**	(0.014) 0.063***	(0.021) 0.107***			
ternary education	(0.018)	(0.019)	(0.022)	(0.023)	(0.016)	(0.023)			
risk averse	-0.023	0.024	0.028	0.007	-0.011	0.014			
	(0.016)	(0.017)	(0.018)	(0.018)	(0.012)	(0.018)			
have a loan	-0.032***	0.046***	0.011	0.071***	0.008	0.034***			
	(0.012)	(0.013)	(0.013)	(0.011)	(0.008)	(0.011)			
plan a loan	-0.025	0.039*	0.014	0.024	0.009	0.035**			
arm again ait hattan	(0.019)	(0.020) 0.024**	(0.021)	(0.017) 0.031**	(0.012)	(0.017) 0.028***			
exp econ sit better	-0.019* (0.011)	(0.012)	0.024* (0.013)	(0.012)	0.012 (0.008)	(0.011)			
log(nightlight)	-0.008	0.014*	0.015	0.015*	0.004	0.001			
	(0.008)	(0.008)	(0.009)	(0.009)	(0.006)	(0.008)			
log(distance to bank)	0.001	0	-0.002	0.007***	0.004***	0.004**			
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)			
internet	-0.022*	0.035**	0.039**	0.045***	0.015	0.058***			
I	(0.014)	(0.014)	(0.016)	(0.016)	(0.012)	(0.017)			
own house	-0.011 (0.017)	0.022 (0.017)	0.036* (0.019)	0.012 (0.017)	0.023* (0.014)	(0.012)			
own other real estate	-0.006	0.007	0.002	-0.008	0.038***	0.037***			
o wir other rear estate	(0.012)	(0.013)	(0.014)	(0.013)	(0.007)	(0.011)			
trust in government	0.006	-0.011	-0.002	-0.003	-0.008	-0.009			
	(0.013)	(0.014)	(0.015)	(0.014)	(0.010)	(0.014)			
trust in EU	0.007	-0.01	0.004	0.01	0.018**	0.020*			
	(0.012)	(0.013)	(0.014)	(0.013)	(0.008)	(0.012)			
financial loss during previous crises	-0.045***	0.043***	0.036**	0.033**	0.036***	0.053***			
trust domestic her les	(0.015)	(0.015)	(0.016)	(0.013)	(0.008)	(0.012)			
trust domestic banks	-0.032*** (0.012)	0.043*** (0.012)	0.047*** (0.014)	0.009 (0.013)	0.009 (0.008)	0.022* (0.012)			
Log-L	-1763.1	-1872.7	-2203.7	-1837	-974.9	-1648.6			
Pseudo-R2	0.19	0.21	0.17	0.29	0.2	0.26			
N	4830	4830	4830	4830	4745	4830			
P(DepVar=1)	0.17	0.81	0.76	0.23	0.07	0.17			

Table A1: Savings Marginal Effects	Trust foreig	gn banks				
	cash	formal	bank	contractual	capital	>1 formal
age	-0.007***	0.006** (0.002)	0.002	0.012***	0.004**	0.007***
age squared	(0.002) 0.007***	-0.006**	(0.003) -0.003	(0.003) -0.011***	(0.002) -0.004**	(0.003) -0.006**
age oquared	(0.002)	(0.003)	(0.003)	(0.003)	(0.002)	(0.003)
Female	0.007	-0.013	-0.006	0.007	-0.020***	-0.002
	(0.010)	(0.010)	(0.011)	(0.011)	(0.007)	(0.010)
1 person hh	0.02	-0.026	-0.024	-0.047*	-0.006	-0.008
2	(0.026)	(0.027)	(0.029)	(0.026)	(0.018)	(0.025)
2 person hh	-0.004 (0.015)	0.013 (0.016)	0.001 (0.017)	-0.005 (0.016)	-0.002 (0.011)	0.006 (0.015)
children	-0.007	0.005	-0.007	0.016	0.002	0.015)
	(0.014)	(0.014)	(0.015)	(0.014)	(0.010)	(0.014)
married	0.039**	-0.047***	-0.050***	-0.025	-0.011	-0.022
	(0.016)	(0.017)	(0.018)	(0.016)	(0.011)	(0.014)
manages hh finances	-0.021	0.030*	0.064***	0.004	0.004	0.008
	(0.016)	(0.017)	(0.018)	(0.018)	(0.013)	(0.017)
Muslim	0.058***	-0.067***	-0.083***	0.047	0.034*	0.032
income refused	(0.019)	(0.021) -0.031*	(0.024) -0.040**	(0.033) -0.005	(0.021) -0.004	(0.032) -0.031**
meone refused	(0.016)	(0.016)	(0.018)	(0.017)	(0.011)	(0.015)
income low	0.070***	-0.082***	-0.097***	-0.045**	-0.026**	-0.094***
	(0.017)	(0.017)	(0.020)	(0.019)	(0.011)	(0.017)
income medium	0.035***	-0.044***	-0.047***	-0.033**	-0.018*	-0.057***
	(0.013)	(0.014)	(0.015)	(0.014)	(0.010)	(0.014)
regular income in euro	0.057**	-0.047*	-0.023	-0.011	0.023	0.028
receives remittances	(0.025) 0.011	(0.027) -0.006	(0.030) -0.012	(0.031) 0.016	(0.018) 0.003	(0.027) 0.005
receives remittances	(0.016)	(0.018)	(0.020)	(0.021)	(0.013)	(0.019)
employed	-0.055***	0.052***	0.058***	0.049***	0.012	0.048***
1 .3	(0.015)	(0.016)	(0.018)	(0.018)	(0.013)	(0.017)
self-employed	0.013	-0.001	-0.001	0.052***	0.020*	0.046***
	(0.015)	(0.016)	(0.018)	(0.016)	(0.011)	(0.015)
retired	-0.055**	0.054**	0.084***	-0.025	0.031*	0.023
	(0.023)	(0.024)	(0.027)	(0.026)	(0.018)	(0.025)
secondary education	-0.021 (0.015)	0.027* (0.016)	0.044** (0.019)	-0.005 (0.021)	0.036** (0.014)	0.038* (0.021)
tertiary education	-0.069***	0.068***	0.076***	0.054**	0.063***	0.108***
terminy education	(0.019)	(0.019)	(0.022)	(0.023)	(0.016)	(0.023)
risk averse	-0.026	0.027*	0.032*	0.008	-0.013	0.014
	(0.016)	(0.016)	(0.018)	(0.018)	(0.012)	(0.018)
have a loan	-0.032***	0.047***	0.012	0.071***	0.009	0.035***
, ,	(0.012)	(0.013)	(0.014)	(0.011)	(0.008)	(0.011)
plan a loan	-0.036* (0.020)	0.048**	0.022	0.026	0.011	0.036**
exp econ sit better	-0.021*	(0.020) 0.027**	(0.021) 0.027**	(0.017) 0.032***	(0.012) 0.012	(0.017) 0.029***
exp econ su better	(0.012)	(0.012)	(0.013)	(0.012)	(0.008)	(0.011)
log(nightlight)	-0.008	0.013	0.014	0.015*	0.004	0.001
	(0.008)	(0.008)	(0.009)	(0.009)	(0.006)	(0.008)
log(distance to bank)	0.001	0	-0.002	0.006***	0.005***	0.004**
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
internet	-0.019	0.032**	0.036**	0.046***	0.013	0.055***
own house	(0.014) -0.015	(0.014) 0.024	0.039**	(0.016) 0.011	(0.012) 0.024*	(0.017) 0.011
own nouse	(0.016)	(0.017)	(0.019)	(0.017)	(0.013)	(0.017)
own other real estate	-0.006	0.008	0.002	-0.008	0.037***	0.035***
	(0.012)	(0.013)	(0.014)	(0.013)	(0.007)	(0.011)
trust in government	0.005	-0.005	0.003	-0.007	-0.011	-0.01
	(0.013)	(0.013)	(0.015)	(0.014)	(0.010)	(0.014)
trust in EU	0.013	-0.011	0.001	0.001	0.013	0.01
financial loss during providers still	(0.013)	(0.013)	(0.015)	(0.014) 0.038***	(0.008)	(0.012) 0.058***
financial loss during previous crises	(0.015)	0.046*** (0.015)	0.037** (0.016)	(0.013)	0.038*** (0.008)	(0.012)
trust foreign banks	-0.036***	0.013)	0.040***	0.026*	0.018**	0.012)
	(0.012)	(0.012)	(0.014)	(0.013)	(0.008)	(0.013)
Log-L	-1746.5	-1857.6	-2183	-1822.3	-961	-1630.4
Pseudo-R2	0.19	0.21	0.17	0.29	0.2	0.27
N	4797	4797	4797	4797	4712	4797
P(DepVar=1)	0.16	0.81	0.76	0.23	0.07	0.18