Why Do People Save in Cash? Distrust, Memories of Banking Crises, Weak Institutions and Dollarization

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1   Summary

A central motivation for the analysis in this paper is why households in poorer countries hold sizeable shares of their assets in cash at home and not as income earning deposits at banks. Using household survey data we document this behavior and analyze its causes.

To exemplify the scope of the problem, Figure 1 depicts a measure of cash preferences of private persons in ten Central, Eastern and Southeastern European countries derived from a household survey (which will be discussed below). In some countries more than 50% of respondents report to prefer cash over bank deposits. Cash preferences are lowest in EU member states

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and highest in Southeastern European countries—these are also countries with a considerable extent of dollarization. One possible explanation for the cross-country differences could be that the density of banks varies across countries. To exclude this possibility, the comparison is also made for only those respondents who report to have a bank relationship. This does not change the overall finding. Another possibility could be that the quality of banks varies across countries which is unlikely given that Western European banks own between 72% (Poland) and 95% (Bosnia and Herzegovina) of banking assets in these countries.
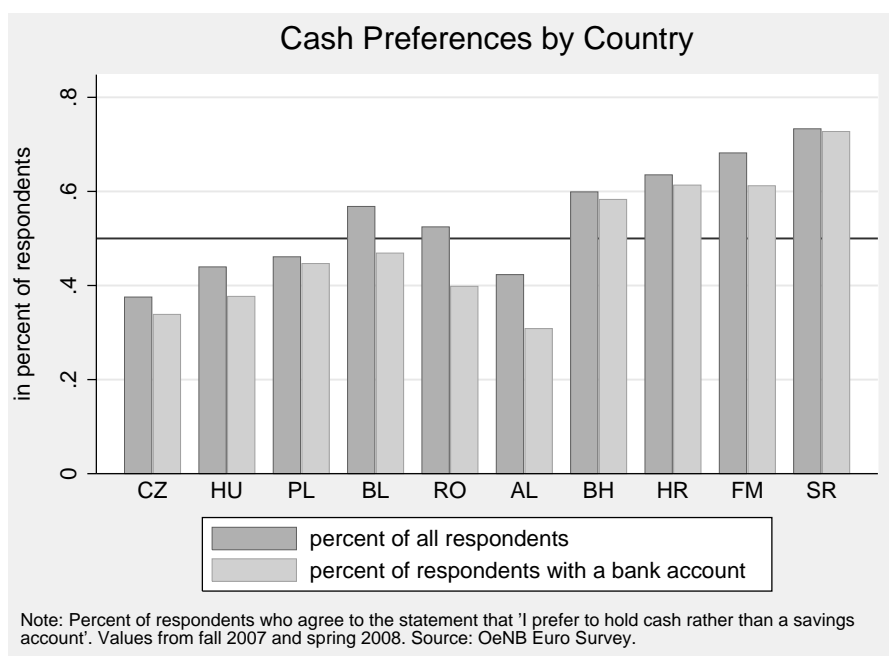

Figure 1:

A different but equally remarkable feature of the data is that there is substantial heterogeneity not only across but also within countries. For example, in all Southeastern European countries about 20% of respondents report to have no cash preference, while 39% answer that they have a high preference for cash relative to bank deposits (the remaining 41% report a medium cash preference). This heterogeneity in households' preferences in an otherwise rather similar institutional environment calls for an explanation.

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The low reliance on financial intermediaries for saving decisions bears various highly-relevant consequences: First, a low depth of financial intermediation hinders economic development by interfering with an optimal extent of risk sharing and hence lowering the efficiency of financial markets. Second, an intensive use of cash often goes hand in hand with dollarization. While dollarization per se poses difficult challenges for monetary policy, the task gets even more difficult if dollarization takes the form of currency substitution.[1] Third, a tendency against deposits and towards cash can quickly challenge the stability of the financial system in unstable times. This was evident during the heydays of the financial crisis of fall 2008 when sizeable deposits withdrawals occurred in Southeastern European countries but not in Central European countries.[2]

Against this background, we aim to answer two main questions: First, which individual-specific factors determine that individuals hold cash in preference over interest bearing monetary assets? Second, why are liquidity preferences strong in some countries and weak in others?

A stylized model framework is proposed and tested, employing microeconometric information about up to 17.000 individuals from 10 countries. The OeNB Euro Survey, from which this information is derived, provides data on cash preferences, on actual portfolio behavior and on a rich set of theoretically informed explanatory variables. The model framework combines three strands of established literature: (i) Cash preferences depend on factors predicted by transaction and precautionary demand for money models à la Baumol (1952), Tobin (1956, 1958) and Miller and Orr (1966). (ii) We analyze the role of trust, following the findings of Guiso et al. (2004) who show that demand for financial products is closely linked to trust and social capital in Italy. Moreover, we focus on an additional behavioral aspect: the role of memories of past banking problems. This is important given that pe-

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[1]In this case, the informational content of statistical aggregates are blurred making it more difficult for monetary authorities to observe the reaction to their policy actions. Also, taxes evasion is easier if transactions are settled in foreign currency.

[2]From October 2008 to March 2009, deposits declined (on an exchange rate adjusted basis) by 15% in Serbia, 13% in Albania, 9% in Bosnia and Herzegovina and 3% in Croatia. In Poland, Hungary and the Czech Republic, deposits increased by between 6% and 14%.

riods of financial distress of the banking system occurred in all countries in our sample (Laeven and Valencia, 2008). The literature has shown that such crisis experience has a long-lasting impact on financial decisions (Mudd and Valev, 2009; Osili and Paulson, 2008). (iii) The relative return of currency holdings are affected by the possibility to hold a "stable" foreign currency. Therefore, we account for factors which have been identified as important in the currency substitution literature, in particular inflation and depreciation expectations (Engineer, 2000; Seater, 2008).

The estimation results largely confirm prior expectations and are robust to using either self-reported cash preferences or observed portfolio behavior as dependent variables and to changes in the empirical specification.

The lack of trust in banks is a key factor driving cash preferences. This conclusion is based on several measures of trust in banks, including the perceived safety of deposits, a more general notion of trust in banks as well as concerns about the stability of the entire financial system. The effect of trust in banks or the effect of doubts about the safety of deposits are economically important: Distrust in banks increases (i) liquidity preferences and (ii) reduces ownership of savings deposits by 8 percentage points which is about one third of observed sample means.

That trust in banks is important is probably less of a surprise – it corresponds with Tobin (1958)'s discussion of cash preferences: "If cash is to have any part in the composition of investment balances, it must be because of expectations or fears of loss on other assets" (p. 68, *ibid.*). However, what is more is that this distrust is still prevalent although bank ownership is now dominated by Western European banks. In our view this implies that history is at work. This is directly confirmed by an independent effect of memories of past banking problems which also contribute sizably to explaining differences across individuals and which is also in line with previous literature (Mudd and Valev, 2009; Osili and Paulson, 2008). To ascertain that this effect is not driven by reverse causality we conduct instrumental variable estimations which show that result are unaffected, qualitatively.

The results confirm that the extent of cash preferences is closely linked to dollarization. This assessment is not only based on an aggregate cross-

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country comparison but also on the finding that doubts about the stability of the local currency (i.e. through inflation or depreciation expectations) lead to higher cash preferences. Apparently, the "safe" foreign currency is used as a store of value.

Several other factor are found to be important. First, the density of the bank branch network matters. Second, in line with predictions from the literature, results confirm that higher transactions costs (brokerage fees) contribute to higher cash preferences. Third, we observe relatively higher cash balances, on average, in environments with weak tax authorities, i.e. when cash payments are frequently used to avoid taxes.

After having established that trust is a key element in explaining interpersonal differences in cash preferences, we study whether regional variations in trust can contribute in explaining the regional variation in cash preferences. We find that this is the case: In line with results reported in Guiso et al. (2004), stronger legal institutions (i.e. stronger legal enforcement), which mitigates the effect of a lack of trust, exert a dampening effect on cash preferences. We note that the role of trust in banks in explaining regional variation in cash preferences is not due to reverse causality. By utilizing a measure of trust in banks that was collected in 2006, we show that current cash preferences are influenced by this historic trust measures.

A central finding of Guiso et al. (2004) is that social capital, i.e. social norms prevailing in a society, affects financial decisions. Employing several different indicators of social capital, we test this contention in an international context and do not find evidence that social capital is affecting cash preferences. Hence, we conclude that while trust is very important for financial decisions, it is institution-specific trust and not social capital which seems to matters.

Ostensibly, the paper's motivation is driven by the economic policy question about the factors which determine why households prefer to hold cash and this paper contributes to the literature in this respect. Although we analyze this question employing data from European transition countries, the scope of the problem is significantly broader. Available household microdata show that households' use of basic financial services provided by financial

institutions (i.e. checking or savings accounts) is very low in developing and transition economies (Claessens, 2006). Even for the U.S., Mulligan and Sala-i Martin (2000) note that in 1983 almost 60 percent of households held no financial assets other than currency and checking accounts. The puzzle is that the use of banking products is low although access to financial intermediaries is available.

We contribute to the explanation of this puzzle by providing evidence from the microlevel about whether the high cash intensity of poorer countries as the U.S. is also driven by high set-up costs, as found by Mulligan and Sala-i Martin (2000), or whether other explanations are more important. By doing so, the paper builds upon results of Guiso et al. (2004) for Italy. We confirm their results (concerning cash holdings) for a broader set of countries and show that differences in trust in banks contributes in explaining cross-country differences in cash preferences. However, we do not find evidence that social capital is important.

There are other papers which focus on trust and portfolio behavior as well. Guiso et al. (2008) show that trust explains stock market participation. Knell and Stix (2009) show that trust in banks affects portfolio behavior in Austria. Coupé (2011) analyzes the impact of trust in banks on cash holdings in the Ukraine whose findings concerning the role of trust in banks are in some respect very similar to ours. The results concerning the role of memories of past banking problems obtained in this paper is in line with Mudd and Valev (2009)who find that Bulgarians who lost money in the banking crisis of 1996 were still more likely to predict a banking crisis in 2008. We show that memories affect the portfolio composition, as do Osili and Paulson (2008). Beck and Brown (2011) focus on adoption of banking products in transition economies. We provide evidence that the use of banking products is a mere mirror image of the use of cash, hence the paper is potentially closely related. However, Beck and Brown (2011) focus on cross-country differences of supply side effects, i.e. the impact of banking sector reforms. In contrast, we focus on demand side effects and neglect supply side effects.[3] Moreover, Beck and

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[3]More specifically, we control for supply side effects in the regressions but do not interpret these results. The main reason is that we only have data on ten countries, while

Brown (2011) do not analyze the role of trust.

Beck and Brown (2011) analyze a sample of 27 countries which contains more heterogeneity in supply side characteristics.

2 Conceptual Framework

Our aim is to model preferences for cash. To choose the right explanatory variables we first develop a simple conceptual framework. This framework combines findings from three strands of the literature: transaction and precautionary money demand models, behavioral aspects (i.e. trust) and results from dollarization models.

Transaction and Precautionary Demand. We assume that agent i holds cash for transaction and for precautionary purposes. Accordingly, we refer to the inventory approach to the transaction demand for money in the tradition of Baumol (1952) and Tobin (1956) as well as to models of precautionary demand for cash of Miller and Orr (1966) and Tobin (1958). In these models, the consumer chooses optimal cash balances in order to trade off the time and brokerage costs of transactions against the cost of holding money instead of an alternative interest-earning asset. The determinants of optimal cash demand tr_i are the scale of transactions, the time costs of withdrawals, the cost of portfolio adjustment, the risk of theft and the nominal interest rate. Moreover, liquidity preferences are also likely to be driven by precautionary motives. This could be either rationalized by uncertainties regarding net disbursements or by uncertainties regarding the expected nominal interest rate. In particular in the latter case, stressed by Tobin (1958), risk-avoiding behavior and hence risk aversion will be a determinant of cash preferences.

Trust. Guiso et al. (2004) sketch a model about the link between trust and financial decisions. The expected return of an investment (e.g. saving via a savings deposit at a bank) of agent i depends on the probability that a broker or a bank will abscond, collapse or not fulfill its promises. The broker's incentive to abscond depends negatively on the strength of legal enforcement X^J and on the size of social networks and norms (trust) T^J prevailing in area J. This implies that the demand of agent i for a financial product $D_i = l(X^J, T^J, \phi_i)$ is increasing in the level of legal enforcement X^J

and in the level of social capital (trust) T^J. Moreover, the demand depends on personal characteristics ϕ_i which might affect the investment decision, like risk aversion.

We extend this stylized framework by positing that the demand for a financial product depends on an individual specific estimate of the probability that a broker will abscond. This individual specific estimate depends on two elements. First, it depends on the perceived safety of savings deposits s_i. Second, it depends on agents' memories of past banking crisis m_i. The importance of such behavioral aspects in financial decisions is now well established (e.g. Rotemberg, 2010). Also, Osili and Paulson (2008) show that the experience of crisis (in their host countries) exerts a long-lasting and substantial impact on how immigrants invest in the U.S. Integrating these two elements in the above framework implies that the demand of agent i for a financial product is given by $D_i = l(s_i, m_i, X^J, T^J, \phi_i)$.

Note that this framework allows testing the proposition of Guiso et al. (2004) that social capital is affecting the investment decision against the alternative that it is institutional specific trust or an institutional specific default probability (s_i) which is driving investment decisions. This is not only of mere academic interest, it has also direct policy implications. If people's resilience to rely on financial intermediaries is caused by a lack of trust in banks then it is in principle possible to set policy measures geared towards strengthening trust in banks (e.g. through banking regulation, depositor protection). In contrast, social capital is deprived of policy interventions.

Dollarization. One particular feature of countries in transition is dollarization, i.e. where a stable currency is used for transactions alongside the domestic currency (e.g. Craig and Waller, 2004). A lower rate of inflation of the foreign currency or an unexpected depreciation of the domestic currency makes the foreign currency also appealing as a store of value (e.g. Engineer, 2000; Seater, 2008). In the simplest scenario, in which agents can only hold currency or depositable accounts, this implies that agents have a choice among four assets. The literature has demonstrated that this greatly complicates models of financial decisions. E.g. Poloz (1984, 1986) find that

the demand for currency substitution depends on several factors including the expected rate of depreciation, the fraction of domestic economic activity which is carried out in foreign currency or the level of openness of an economy. In addition, no clear prediction concerning the direction of how the expected rate of depreciation affects demand for currency substitution can be made, as it depends on the specific parameter constellation. Engineer (2000) and Seater (2008)'s model predicts that currency substitution increases with inflation.

A particular influencing factor of currency substitution can be seen in conversion costs. Engineer (2000) develops a model where the domestic currency has lower transaction costs but also has a higher inflation. This results in domestic currency being used for daily small values transactions whereas dollars are hoarded for occasional large expenditures. A very similar conclusion is reached by Seater (2008) who also shows that the the incentive for currency substitution increases with transaction costs of domestic money.[4]

Apart from inflation, from the exchange rate and from transaction costs, many more results have been produced in the literature, i.e. about the relationship between income and the demand for currency substitution. As the focus of our paper is on overall demand for currency and not on the demand of domestic versus foreign currency we abstract from these issues but rather note that the overall demand for currency increases with the demand for currency substitution d_i. If foreign currency can be used for domestic transactions then this increases the return of cash holdings relative to a situation where only domestic currency is being used. In accordance with findings from the dollarization literature, we posit that the size of the relative return depends on inflation expectations, depreciation expectations and conversion costs.

Putting these three elements—transaction cost arguments, trust and dollarization—together yields the following demand for currency function,

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[4]These predictions overlap with findings of Mulligan and Sala-i Martin (2000) who stress the importance of fixed costs for the adoption of interest-bearing financial instruments. In a dollarized economy, the presence of such fixed costs would increase the demand for currency substitution.

$$D_i = f(tr_i, s_i, m_i, X^J, T^J, d_i, \phi_i), \qquad (1)$$

which will be used to choose an empirical model.[5]

3 Data

3.1 Data Description

We use a data set collected by the Euro Survey project of the Austrian Central Bank (OeNB), which has carried out surveys among private individuals to collect information on the role of the euro in Central, Eastern and Southeastern Europe. The surveys have been conducted in five new EU member countries (Bulgaria, Romania, Poland, Hungary, and Czech Republic) as well as in five EU (potential) candidate countries (Croatia, Albania, Serbia, Bosnia and Herzegovina and FYR Macedonia). In each country about 1,000 randomly selected persons aged over 14 are interviewed in each survey wave. For the estimations in this paper we only use responses from persons above the age of 18 who are either employed or retired. This restriction was chosen to make sure that the sample only includes respondents who face economic choices concerning savings decisions. The survey has been repeated on a semiannual basis (in spring and fall) providing information from surveys carried out between spring 2009 and spring 2011. Some variables which will be used in estimations are only available for fewer survey waves.

The questionnaire consists of various blocks of questions. We will employ information on the first block of questions which concentrates on respon-

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[5]Although we present the three ingredients of our model framework as separate, they are closely connected. For example, Tobin (1958) assumes that the alternative interest bearing asset to cash is free of the risk of default. However, in this literature it is noted that cash preferences are linked to the probability that one incurs capital losses if financial wealth is invested in bank assets. In a sense, trust in banks reflects this probability of a capital loss. Also, uncertainty regarding the return of alternative assets, which has also been cited as a motivation for the existence of precautionary balances, is intimately related to inflation and exchange rate expectations in dollarized environments. Developing a full-fledged model which incorporates all these ingredients in a unified framework would be a worthwhile undertaking which however is beyond the scope of the present paper.

dents' assessment concerning his or her economic situation, the country's economic situation and inflation and exchange rate expectations. This part also includes questions about respondents' memories of past economic turbulences alongside questions about trust in various domestic institutions. The second block of the survey includes questions about saving behavior and the currency composition of personal savings and cash holdings. The last block gathers information on selected socio-demographic characteristics of respondents (age, income, education, etc.).

The central variable in our analyses is the self-reported preference for cash relative to saving deposits. This variable is measured by respondents' consent to the statement "I prefer to hold cash rather than a savings account". Answers range on a six-point scale from "very much agree" to "do not agree at all". The variable *cash preference* aggregates these responses to a three category variable (low, medium and high cash preference). For robustness tests, we will also use indicators about the actual portfolio of respondents. These variables include the ownership of a savings account and information on the importance of cash in overall financial portfolios.

The Appendix provides a definition of variables. Table A.2 summarizes descriptive evidence by country. Our data sample is characterized by significant heterogeneity. The countries covered in our analysis differ greatly not only with respect to size, GDP per capita and the institutional environment (EU membership) but also with respect to the degree of financial dollarization and cultural aspects, as exemplified by a history of Hapsburg and Ottoman influences (Becker et al., 2011).

According to the theoretical arguments, the relative importance of cash is driven by transaction and precautionary demand, by trust in banks and by the possibility to save in foreign currencies.

With regard to transaction and precautionary demand, the regressions control for income, education, households size and risk aversion. However, the fact that we model liquidity preferences and not directly demand for money affects the interpretation of some of the explanatory variables. First, the scale of transactions is typically modeled by consumption or by income. A scale elasticity of smaller than one, which is usually found in empirical

studies of demand for currency, implies that the cash to income (or consumption ratio) declines with income. Therefore, we expect that liquidity preferences will be decreasing function of income.[6] Second, liquidity preferences are also likely to be driven by precautionary motives. We account for this by positing that liquidity preferences depend on risk aversion. The data set does not contain direct measures of uncertainties regarding net disbursements. We will try to test for this effect by analyzing those who are self-employed and by including a variable which measures agents expectations regarding the financial situation in the next 12 months. In particular, the dummy variable *exp. fin. situation* measures whether respondents answer "don't know" concerning their expected financial situation. Finally, liquidity preferences are likely to be determined by the level of financial knowledge. The data set does not contain variables measuring financial literacy hence we will follow the literature (Mulligan and Sala-i Martin, 2000) and use the level of education as a proxy.

Bank density is, depending on data availability, either proxied by the size of the municipality or by a measure of the distance to banks. Specifically, respondents were asked to indicate their consent on a six point scale to the statement that "for me, it takes quite a long time to the nearest bank branch". This variable (*distance to banks*), while being highly correlated with the size of the municipality, is preferred because it expresses an individual-specific measure of distance while the connex between the size of the municipality and bank density might vary substantially across countries.[7] However, as this variable is only available from spring 2010 onwards, we will also use the size of municipality. *Distance to banks* should positively affect cash preferences.

An important institutional aspect of cash demand can be seen in the efficiency of tax authorities. In environments with weak tax authorities and/or when cash payments are frequently used to avoid taxes, one can expect to find a relatively higher importance of cash relative to bank savings. Some survey waves contained a subjective assessment of this issue. In particular,

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[6]The risk of theft works in the same direction. Potential losses due to theft increase with income.

[7]For example, bank density could be very different in a Czech village than in a similar size Albanian village.

respondents were asked to give their level of consent to the statement that "in my country, it is very common that people pay cash to avoid taxes". In total about two thirds of all respondents agree to this statement with the highest levels for FYR Macedonia and Bulgaria (about 80%) and the lowest levels for Czech Republic, Poland and Croatia (about 54%). We expect that *cash used to avoid taxes* exerts a positive effect on cash preferences.

To identify the impact of trust in banks we make use of several variables. First, *deposits are safe* is a dummy variable reflecting respondent's consent to the statement that "currently, depositing money at banks is very safe in [my country]". As discussed by Guiso et al. (2004), legal and institutional aspects, like the availability of a deposit insurance system or the quality and speed of the judicial system to enforce property rights, can mitigate distrust in banks. Therefore, *deposits are safe* is a rather specific measure of trust in banks which encompasses both a generic notion of trust in banks as well as legal and institutional aspects. Alternatively, we also employ measures which more directly adhere to the trust concept: the survey collects information on *trust dom(estically) owned banks*, whether respondents agree that foreign banks are better (*foreign banks are better*) and an assessment of the stability of banks and the financial system (*banks are stable*). A higher perceived safety of deposits and higher trust in banks should have a negative effect on cash preferences.

All countries in our sample have experienced banking crisis during the transition to market economies with the scope of these crises varying across countries. In former Yugoslavian countries, savings deposits were frozen and foreign currency deposits were converted into local currencies inducing substantial losses for depositors. Other countries experienced only bankruptcies of individual banks. To assess whether this experience still affect today's financial decisions, we include the dummy variable *memory restr. access* derived from answers to the statement that "I remember periods during which access to savings deposits was restricted in [the respective country]". Two remarks about the interpretation of this variable are in order. First, *memory restr. access* does not refer to whether someone has actually incurred financial losses but rather asks about whether one is aware that such losses

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occurred. This implies that such memories are not restricted to older respondents because crisis experiences can be passed on to younger generations. Second, the question asks about restricted access to deposits, as was the case in former Yugoslavia. However, the descriptive evidence (Table A.2), while clearly indicating the varying scope of banking problems across countries, suggests that a sizeable share of respondents also states to remember such episodes in countries were no restrictions occurred. One can justify this observation by the fact that bank crashes are always associated with restricted access to deposits as it can take years until deposit insurance compensates depositors (even in countries with a high institutional quality).

The final group of theoretical informed variables which is expected to affect the demand for currency is related to dollarization. To account for this we include a measure of inflation expectations (*exp. inflation higher*) and of expectations regarding the exchange rate of domestic currency vis-à-vis the euro (*exp. lc depreciation, exp. lc constant* versus *exp. lc appreciation*[8]). Transaction costs are captured by *conversion high* and *conversion middle* which measure respondents' assessment of the costs of converting the domestic currency into euro (relative to the omitted variable *conversion low*).[9]

3.2   Evidence About The Importance of Cash

We employ *cash preference* because it has clear merits over alternative indicators. Foremost, the wording of the question reflects exactly the choice between the two most important financial assets in all countries.[10] Indicators of the adoption of financial instruments (like ownership of savings deposits) are less informative about the relative importance of cash in households portfolios – some households might hold savings deposits but nevertheless rely on

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[8]We also include a dummy variable for the answer category don't know (*exp. lc dn*) because this answer can also contain information, e.g. on uncertainty regarding the exchange rate.

[9]These variables are based on the question "In [my country] it is expensive to convert [local currency] into euro" where agents could agree or disagree on a six-point scale.

[10]Among respondents who report to have savings, 76% hold cash, 29% have savings accounts and 19% have a life insurance. Other savings products are of only minor importance.

cash. Finally, a preference indicator is less biased by supply side constraints than indicators about the adoption of financial assets.

The use of a sentiment indictor raises the question whether *cash preference* indeed reflects actual financial decisions. On the one hand, some caution is justified because answers represent a mere sentiment which could be unrelated with actual financial decisions. On the other hand, the question is simple and not sensitive and one may question why respondents should not reveal the truth.

Evidence demonstrate that *cash preference* is closely correlated with actual portfolio decisions, both at the aggregate country level as well as at the individual level. The left panel in Figure 3.2 juxtaposes country averages of "cash preference" and the dissemination of savings deposits. The figure reveals that in countries with a high cash preference, a lower share of the population holds savings deposits. Moreover, it is noteworthy that in some countries the dissemination of savings deposits is very low (e.g. Bosnia and Herzegovina with only 7%).

In principle, it would be straightforward to also compare our measure of cash preferences with the amount of currency in circulation. This is not easily possible because some countries are considerably dollarized and therefore local currency in circulation as measured by monetary statistics is a useless indicator of the true amount of currency in circulation. Scheiber and Stix (2008) have used data from the OeNB Euro Survey to provide estimates of the extent of currency substitution.[11] The right panel in Figure 3.2) reveals a high correlation between preferences for cash as stated by respondents and observed foreign currency cash holdings.

Further evidence can also be derived from a comparison across individuals. If *cash preference* is a useful measure of actual portfolio behavior then one should be able to identify a significant and sizeable impact of this variable on observed individual portfolio behavior. To test this we use an indicator of whether respondents own a savings deposits and relate it to the same set

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[11]The estimated extent of currency substitutions is derived from survey answers on foreign currency cash holdings. Due to underreporting, this measure is downward biased (cf. Scheiber and Stix, 2008). Nevertheless, this measure allows for a rough comparison across countries.

Note: The figure shows country averages. Values from fall 2007 and spring 2008.
Source: OeNB Euro Survey and Scheiber and Stix (2009).

Figure 2:

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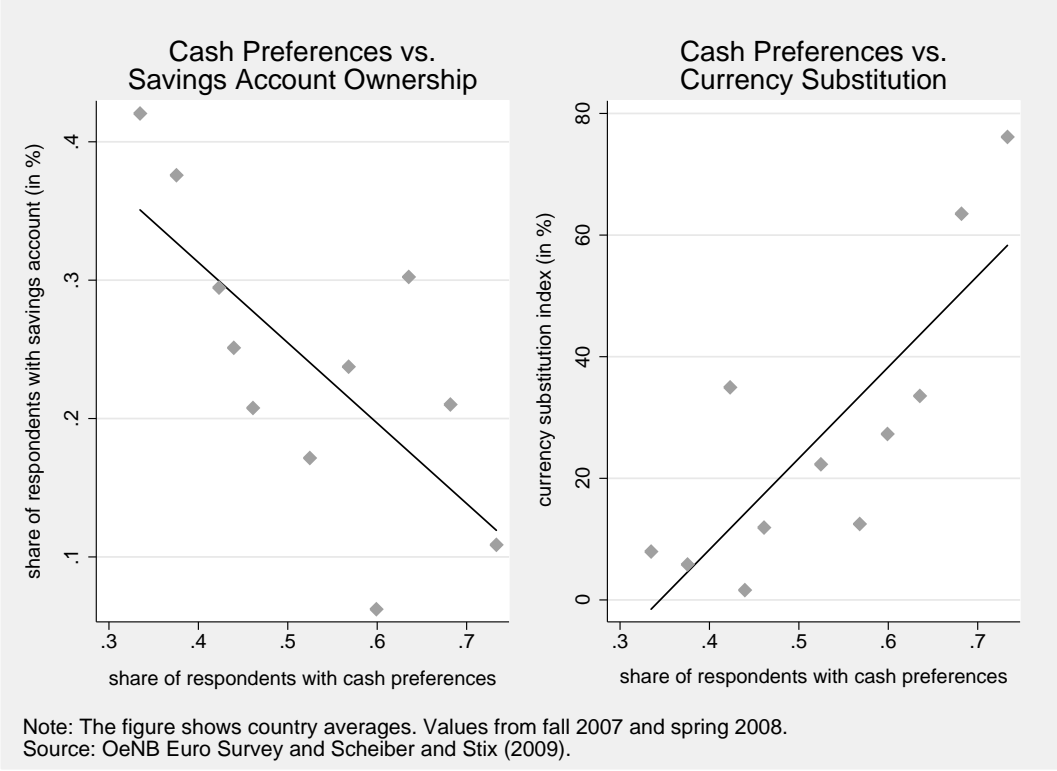
of explanatory variables that will be used in later specifications (including socio-demographic and transaction cost variables). As an additional regressor we include *cash preference*.

The corresponding results (which are summarized in Table 1, panel A) show that persons who report to have a higher cash preference have a significantly lower likelihood of savings deposit ownership. Furthermore, answer on the strength of the cash preference are logically consistent in the sense that the stronger the (self-reported) cash preference the lower is the likelihood of saving deposits ownership. The point estimates imply that the incidence of savings deposits ownership is lower by 16 (10) percentage points (pp) for those with a high (medium) cash preference relative to a person with a low cash preference. These are substantial effects given that the unconditional probability of savings deposit ownership is 25%.

Moreover, we utilize another piece of information about the portfolio behavior of households. In some survey waves respondents were asked to rank their savings instruments according to the values saved on them. One would expect to find that persons who say they have a strong cash preference also rank cash as their most important savings instruments. This is clearly confirmed, as is shown in Table 1 (panel B): Among those who self-report to have a high cash preference, 76% rank cash as their most important savings instrument. The respective value is 48% for those who self-report not to have a cash preference.

4   Methodology

In the following we will report ordered probit regressions with the three category variable *cash preference* as the dependent variable. The choice of independent variables is governed by the theoretical framework presented above. Additionally, we control for a standard set of socio-demographic variables—occupation, the size of the household, gender and whether a person is the head of household.

We analyze ten countries which are rather heterogeneous. As the list of potentially important institutional variables which describe these coun-

try differences is quite long, we start by controlling for these differences by including (interacted) country and time dummy variables. This brings the focus of analysis to interpersonal differences of cash preferences. In later specifications, we will also analyze regional differences. The data set contains 68 regions (which largely correspond to the European Union's NUTS II classification of regions) and we will make use of observed regional variation.

All reported estimation results are based on standard errors which account for clustering at the country level (or the regional level if appropriate).

5 Empirical Results

Table 2 presents the marginal effects that respondents have a high preference for cash. To put the size of these marginal effects into perspective, we note that the unconditional likelihood of this event, which is also reported in the tables, is about 30%.

The results of the basic socio-demographic control variables are largely in line with prior expectations. Persons with higher income and higher education have a lower preference for cash, highlighting the role of transaction related costs and of financial literacy. For example, the coefficients in column I imply that persons with higher income are 11 pp less likely than low income persons of having a high cash preference; the same likelihood is 12 pp lower for high educated in comparison to low educated. Young persons are found to have a higher preference for cash than older persons. This could reflect lower asset holdings of younger people or, alternatively, that younger people are less concerned with keeping money at home. Regardless of the exact cause of this age pattern, the economic impact of age is low (the difference between persons of age 19-34 and persons of age 55 or older ranges between 3 and 5 pp, depending on the specification).

Concerning our main hypotheses, we find a sizeable and significant effect for the assessed safety of deposits. Persons who assess deposits as safe have a likelihood which is 9 pp lower than persons who assess deposits unsafe. The fact that about 46% of all respondents included in the sample answer that deposits are unsafe, underlines the economic significance of this find-

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ing.[12] The self-reported memories of restricted access to deposits also exert a significant impact. The respective marginal effect is about 10 pp, which is among the highest of all marginal effects. Again, the economic significance of this effect is underlined by the fact that about 47% report to have such memories. Moreover, about one fourth of the sample reports to have both doubts about the safety of deposits and memories of banking problems – which aggregates to a marginal effect of 18 pp, explaining more than half of the unconditional probability of a high cash preference. These results are in line with Osili and Paulson (2008) and Mudd and Valev (2009) findings that the experience of banking crisis has a long lasting impact on financial decisions.

The results concerning the safety of deposits and the memories of banking problems are robust to different sample compositions. Table 2 shows different specifications, including specific variables which are not available in every survey wave, resulting in sample sizes ranging from more than 8,000 to about 2,400 observations. This does neither affect the size nor the significance of the role of the perceived safety of deposits and of memories of banking problems.

The variable which account for currency substitution exert significant effects. As argued, unambiguous predictions concerning the expected effect of inflation and exchange rate expectations are not provided by economic theory if cash and interest bearing assets can be held either in domestic or in foreign currency. The empirical analysis reveals an important effect of inflation expectations on cash demand. Moreover, as becomes evident in various later specifications, this effect is very robust and stable across different samples. In contrast, depreciation expectations do not affect cash preferences.[13] In particular, the likelihood of a high cash preference is 7 pp higher for persons who expect higher inflation rates (spec. I of Table 2). This finding, which runs counter to what theory would predict in a case where only domestic money was available, points to the importance of dollarization. If

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[12]There is considerable variation across countries ranging from about 32% to 39% in Albania, Poland and the Czech Republic to more than 50% in Serbia, Bosnia and Herzegovina, Bulgaria and Hungary.

[13]This finding does not change if either inflation or exchange rate expectations are omitted from the specification.

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expected inflation is high, people seem to shift the denomination of their assets towards the foreign currency. However, our results leave open why they switch towards foreign currency cash and not towards interest bearing foreign currency deposits. We speculate that this is related to the presence of set-up costs (Mulligan and Sala-i Martin, 2000) or transactions costs related to account holdings which induces people to prefer foreign currency cash.[14] The importance of transaction costs is accentuated by the finding that those who report that conversions from local currency into domestic currency are expensive have a likelihood of a high cash preference which is 14 pp higher than persons who report that currency conversions are cheap.[15]

The density of bank branches is likely to affect cash preferences. In specification I of Table 2 the density is approximated by dummy variables measuring the size of the municipality. In tendency, *town large* is associated with a lower preference for cash; however, the marginal effect is negligibly small and insignificant. This might be caused by the fact that the heterogeneity of countries in our sample which could render the size of municipality indicator of limited usefulness. Alternatively, specification II controls for respondents' assessment of the distance to the nearest bank branch.[16] The results reveal the importance of bank density: those who strongly disagree to the above statement (i.e. those for whom banks are close) have a 10 pp lower likelihood of a high cash preference of than those for whom banks are difficult to reach.[17]

The importance of tax issues it shown by specification II which indicates that those who agree that cash payments are used to avoid taxes have a likelihood of a 8 pp higher cash preference than those who disagree. Note that country differences in the quality of tax enforcement should in principle

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[14]In some countries, foreign currency deposits can not be opened unless a certain minimum threshold is reached. Anecdotal evidence suggests that many savers do not reach this minimum threshold.

[15]The overall importance of transaction costs is also reflected in the fact that *conversion middle* is statistically larger than *conversion low* and that *conversion middle* differs statistically from *conversion expensive*.

[16]As this variable is only available for the survey from spring 2010, a survey wave for which the conversion cost variables are not available, we have estimated a separate model.

[17]*Distance to banks* varies from 1 to 6. The 10 pp results from a comparison of those who answer 6 ($= 6 \times 0.02$) and those who answer 1 ($= 1 \times 0.02$).

be controlled for by country dummies. The significance of *cash used to avoid taxes* depicts an additional interpersonal effect, suggesting that answers reveal something about the behavior of respondents themselves or about tax avoidance in their close vicinity.

Concerning those variable which should govern precautionary demand, we find that risk aversion exerts a significant and positive effect, pointing to the effect of uncertainties relating to nominal returns. In contrast, self-employed who might have a higher uncertainty regarding net disbursements are not found to have higher cash preferences, *ceteris paribus*. Similarly, the effect of *exp. fin. situation* is insignificant.

Residents of poorer countries typically receive remittances. These are either funneled through the official banking system or sent via cash transfer service providers. Clearly, the receipt of remittances could be one reason for cash preferences. To control for this we construct a dummy variable indicating whether a person *receives remittances*. In the various specifications of Table 2 this coefficient is either insignificant or negative showing that remittances do not contribute in the explanation of high cash preferences.

Overall, the findings of Table 2 are much in line with prior expectations. Socio-demographic characteristics matter as do opportunity cost variables and the incentives for currency substitution. The density of bank branches and tax avoidance exert independent effects. What is important is that despite these array of control variables, we find that the perceived safety of deposits and memories of past banking problems continue to exert sizeable economic effects.

One remark is in order as to the importance of country differences versus interpersonal differences. While we find substantive effects, it turns out that differences across countries are more important than differences across individuals. As a case in point, take estimations from specification I of Table 2. The highest and lowest marginal country effect differ by remarkable 24 pp. For the moment we continue to capture these differences by dummy variables but in Section 6 we will return to this issue and try to also explain regional differences.

A second remark concerns the issue of causality. All presented estimation

results reflect correlation and not necessarily causality. In particular, this pertains to the effect of *deposits are safe* and *memory restr. access*. Concerning the perceived safety of deposits, one could argue that the direction of causality runs from a high cash preference to low trust, e.g. people who do not need bank services might not need to trust banks. This could, for example arise in dollarized environments if banks do not provide the liquidity services which agents demand. Also, it could arise if set-up costs prevent poor individuals from adopting banking services. To mitigate these concerns, we repeat the regressions by restricting the samples to persons who have a bank relationship, i.e. persons who either have a transaction account or who own a savings deposits (specification III). The fact that results are largely similar for the banked and the unbanked population suggests that our direction of interpretation (from trust to cash preferences) is reasonably well justified. Specification IV shows results for persons who state that they have savings, showing that results are not driven by poor respondents. The possible endogeneity of memories of banking problems will be scrutinized in Section 5.2.

One dimension of the heterogeneity across countries concerns the extent of financial dollarization, with some Southeastern European countries being highly dollarized while this does not apply to Central European countries. This has some bearing for our finding because highly dollarized countries are typically considered to have low trust in monetary institutions in general, which could imply that our variables of trust in banks do not signify an independent effect but rather proxy general distrust in monetary institutions or dollarization. Table 3 shows that this is not the case. In specification I of Table 3 we control for an individual specific subjective measure of the tendency towards dollarization, i.e. whether respondents' consent to the statement that "it is very common that people hold euro cash". While this variable is highly significant, its inclusion does not alter our previous findings. This highlights that cash preferences are strongly correlated with dollarization, which is plausible given that foreign currency cash provides a safer alternative to domestic currency cash if monetary policy is not credible.

Moreover, we have also split the sample into strongly dollarized countries

and weakly dollarized countries (specifications II and III).[18] In specification IV we separately analyze EU member countries. The results demonstrate that the role of the perceived safety of deposits and the role of memories of banking problems is not driven by dollarization *per se*. Qualitatively similar effects concerning the safety of deposits and memories of banking problems are also obtained for EU members. A similar assessment holds for the role of inflation expectations, education and the distance to banks. One notable difference between strongly dollarized and weakly dollarized countries is that *risk aversion* is associated with higher cash preferences in dollarized countries than in non-dollarized countries. Again, this fits with (Tobin, 1958)'s rationalization of the existence of precautionary balances – in dollarized economies there are typically considerable uncertainties with regard to the interest rate.

5.1 Trust in Banks and Liquidity Preferences

Until now, we have focused on the perceived safety of deposits. This measure might be rather specific for mainly two reasons. First, in some countries of our sample, only a small percentage of the population owns a savings account (for example in Bosnia and Herzegovina only 7% of the population have a savings account). Hence, it is not clear whether the remaining 93% can adequately assess the safety of bank deposits. Second and more important, the decision to hold cash might not only depend on the safety of deposits but also on a more general trust notion. Taking this issue up, Table 4 summarizes several specification which include alternative trust measures. Also, all specifications include a measure of *trust in police*. This should prevent that our findings do merely reflect a person's general distrust in institutions and not necessarily distrust in banks. The correlation among trust variables is summarized in Table A.2.

Including *trust in dom. owned banks* reveals a significant an sizeable impact (-5 pp, specification I of Table 4). Specification II confirms the con-

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[18]In strongly dollarized countries the share of saving deposits denominated in foreign currency has been higher than 50% at least once over the past five years.

jecture that trust entails more dimensions than just the assessment of the safety of deposits. In particular, we restrict the sample to respondents who say that deposits are safe and still obtain a significant impact of trust in banks.

The survey contains two other measures which express trust in banks: an assessment about whether saving deposits at foreign banks are better to safeguard the value of one's savings and an assessment of the stability of banks and the financial system. Again, these indicators are highly significant and quantitatively important.

Another piece of evidence against the possibility of reverse causality is provided in specification V of Table 4 which replaces trust in banks as derived from the OeNB Euro Survey by a measure which is exogenous to our survey data. In particular, the EBRD has conducted the Life in Transition Survey (LITS) in 2006 in all countries which are also covered by the OeNB Euro Survey and has collected a measure of trust in banks (EBRD, 2011). The fact that LITS uses a rather similar regional sampling frame than the OeNB Euro Survey allows to compare LITS data with OeNB Euro Survey data at the regional level. Specification V employs the regional averages for trust in banks obtained from the LITS survey as an additional explanatory variable. It is important to keep in mind that the LITS results are from the year 2006 while *cash preference* refers to the year 2009.[19] Again, this exogenous measure is highly significant while the remaining results do not change, qualitatively.

5.2 The Role of Memories of Banking Problems

One of the highest marginal effects is obtained for *memories restricted access*. In Table 5 we inquire further into this effect. In particular, we split the sample into respondents with such memories and respondents without such

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[19]As "LITS trust in banks" reflects regional aggregates, we omit the interacted country and time dummies and only control for time effects in specification V of Table 4. Moreover, the standard errors are adjusted for clustering at the regional level. Note that in this specification, we do not control for other variables which might be important in explaining regional differences. Controlling for other regional variables, however, does not affect results (see Table 7).

memories. Moreover, we conduct this sample split for dollarized and for non-dollarized economies.

The first result to note is that memories exert an important role, as highlighted by the unconditional probability of a high cash preference, which is 37% for those respondents with memories and 24% for respondents without memories. This pattern carries over to dollarized countries (47% vs. 35%) and non-dollarized countries (26% vs. 16%). This, however, is not the only difference. We also find larger marginal effects for *deposits are safe* in the sample of respondents with memories than in the sample of respondents without memories (e.g. the marginal effect is -0.11 in specification I and -0.06 in specification II). This can also be observed for dollarized and for non-dollarized economies.[20]

This result signifies that people with memories of banking problems react more sensitive to doubts about the safety of deposits than people without such memories. As such memories are more widespread in some South-Eastern European countries this could provide one explanation why South-Eastern European countries experienced more sizeable deposit withdrawals after October 2008 than Central European countries.

We have one concern about the role of memories of past banking problems, namely whether the strong impact obtained is due to reverse causality.

Before turning to this issue, a discussion what the variable actually measures is in order. As the survey instrument is formulated, the variable should measure memories of past banking turbulences regardless of whether the respondent actually incurred losses or whether memories refer to losses of other people. In our view this is the correct approach because the variable should be related to the subjective assessment of the probability that a banking crisis can occur again and the information set to form this probability must include the experience of losses others have made.

However, given this interpretation it could well be that the estimated parameter reflects reverse causality. An example how this could arise is if news about problems of banks during the financial crisis result in higher cash

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[20]While not shown in Table 5, the results for income, education, inflation expectations and conversion costs are similar to previous specifications, qualitatively.

preferences. To rationalize these higher cash preferences respondents could cite memories of banking problems. In fact, this interpretation is not unlikely because we observe that memories of banking problems, which in principle should remain constant over time, fluctuate somewhat.[21] This calls for an attempt to account for the possibility of reverse causality.

To conduct this, we need to find a variable that is correlated with how strongly a person remembers past banking turbulences but that is uncorrelated with the error term in the cash preference equation. As usual with survey data, there is a paucity of suitable instruments. The age of a person would be an obvious candidate. Unfortunately, this is not possible because age affects cash preferences directly. Another candidate is a variable derived from another survey instrument about memories. In particular, respondents were asked whether they "remember periods of high inflation during which the value of the [LOCAL CURRENCY] dropped sharply". This variable is highly correlated with memories of banking problems. Theoretically, it should have no effect on cash preferences. If memories of past inflation are still affecting portfolio behavior, they might affect the currency composition of savings but not the share held in cash. A first look at the data also confirms this in the sense that memories of inflation are not significant in the cash preference equation.

Employing this variable as an instrument, Table 6 summarizes results from a two stage least squares regression. As the endogenous variable is dichotomous, we are restricted to use a linear regression model instead of the ordered probit model. Specification I presents the OLS results, specification II the 2SLS results. The Kleibergen-Paap rk LM statistic shows that the chosen instrument is relevant for explaining memories of banking problems. For lack of more suitable instruments, we cannot test for overidentification but must rely on reasoning that the chosen instrument is valid. The estimation results show that the estimated impact of memories of past banking turbulences does not change if we account for instrumental variable

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[21]We do not measure whether agents have lost money during past financial crisis. The fact that memories fluctuate over time is hence not of concern. The current financial crisis could have evoked such memories.

estimation.

6   Institutionalized Trust or Social Capital?

Results demonstrate that variations of cash preferences across individuals are closely linked to trust. This is in line with Guiso et al. (2004) who employ Italian household data to demonstrate that high levels of trust have an unambiguous positive effect on the use of financial instruments (including the use of cash).

One distinguishing contribution of Guiso et al. (2004) is that they focus on social capital, an important determinant of the prevailing level of trust within a society. They propose to measure social capital by regional measures of electoral participation and blood donation. In their view, these measures are to be preferred over outcome based measures of trust because the latter are contaminated by institutional specificities, like the quality of law enforcement.

We extend Guiso et al.'s (2004) analysis to a multi-country setting and test whether variations in social capital contribute to the explanation why the financial development differs such widely across countries. Moreover, we ask whether regional differences of cash preferences are driven by a broader notion of trust and social capital, as stipulated by Guiso et al. (2004) or whether it is institution-specific trust, i.e. trust in banks, which is important.

To conduct this test, we make use of information on trust and social capital collected by the LITS survey. We again aggregate LITS data on a regional level and match it to the regions in our survey. We then include these regional measures of trust and social capital as explanatory variables.[22] Note that we employ the same set of individual-specific explanatory variables than in previous specifications, except that the individual specific measures of the memories of banking problems is omitted. Furthermore, we omit the interacted country and time effects and only control for time effects. Therefore, this specification explains individual specific cash preference as a function

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[22]Descriptive evidence about regional variables is summarized in Table A.2.

of both individual specific variables, most important *deposits are safe*, and region-specific variables. On a regional level we control for differences in the economic structure, for trust in banks and for social capital.[23]

Results are summarized in Table 7. In each specification we control for the quality of the legal system as captured by a measure about how much people entrust the court system (*LITS trust courts*). This follows Guiso et al. (2004) who stress the importance of law enforcement and its interaction with trust. This variable turns out to be highly significant and negative, implying that a higher trust in courts reduces cash preferences. Also, we employ information on the importance of bartering as an income source (*LITS income from bartering*) which should proxy for regional differences in income levels.[24] This variable does not enter significantly. Compared with previous specification, the impact of the individual-specific variables remains the same, qualitatively.

Before entering the information from LITS, a regional measure of the perceived safety of deposits and of memories of banking problems taken from the OeNB Euro Survey is entered in specifications I.[25] Both coefficients bear the expected sign and the regional measure of the perceived safety of deposits is significant at the 5% level. The estimated marginal effect implies that the probability of a strong cash preference is reduced by about 8 pp if regional safety of deposits moves from its minimum of around 30% to its maximum of 85%. Specifications II includes trust in banks derived from the LITS data. The parameter estimate implies that the probability of a strong cash preference is reduced by about 12 pp if regional trust in banks moves from its minimum of around 15% to its maximum of 68%.[26] Specifications III includes a measure of generalized trust (trust in people) as a proxy for social capital.

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[23]This framework corresponds closely to (Guiso et al., 2004) who also model individual portfolio behavior as a function of individual variables and of regional variables. The only difference is that we analyze several countries.

[24]Regional GDP data are not available for our sample.

[25]The estimation sample in specification I spans from spring 2009 to spring 2011. In order to avoid the reflection problem (Manski, 1993), the regional measures of the perceived safety of deposits and of memories of banking problems are computed from data prior to spring 2009.

[26]The probability of a strong cash preference moves by 6 pp if regional trust in banks varies by one standard deviation above or below the sample mean.

In Guiso et al. (2004) this variable significantly contributes in explaining the regional variation in Italy in the use of financial assets. In our sample this variable is not significant. Similar to Guiso et al. (2004) we alternatively also employ the regional voter turnout at the last parliamentary or presidential elections (specification IV) and at the last referendum (specification V) as proxies of social capital. It is striking that in neither case do results support the notion that social capital is related to cash preferences.

Evidently, this analysis can be criticized on several grounds, most seriously because of (i) the omission of potentially important variables that explain differences across regions or (ii) because of the use of inadequate variables to measure social capital.

Given the heterogeneity of countries, it is very difficult to find an exhaustive list of variables which control for these differences. Therefore, it is impossible to completely account for objection. However, it can be alleviated somewhat by trying to control for country differences in alternative ways. We have done this in two ways. First, we include country dummies which directs the focus of analysis on regional variation while holding country effects constant. This does not change the results concerning the insignificant role of social capital variables (results not shown).[27] An additional objection concerning this approach is whether the regional variation is strong enough if country differences are subtracted. If one believes that social capital varies over countries and not over regions within a country (which is against Guiso et al. (2004) original example) then an alternative approach would be to aggregate all regional variables to the country level instead of the regional level. We have also followed this avenue and results are very comparable to those in Table 7.

Concerning the second objection, the use of inadequate variables to measure social capital, we note that it is clearly questionable how to measure social capital in an international context. For example, the employed measures of electoral participation might not be optimal as the political systems differ across countries. To alleviate this objection, we have constructed an additional social capital proxy, civic involvement, defined as the regional

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[27]In this specification, no regional variable, including trust in banks, is significant.

share of respondents who are members of non-party civic or voluntary organization (clubs, associations). In specification VI, we find that this variable is insignificant.

Overall, the regression results again highlight the role of trust in banks for financial decisions. In contrast and with some justified caution in relation to the discussed objections, little support is found for the notion that social capital or the general level of trust towards other people prevailing in a society has much effect on cash preferences. While our analysis does not allow to draw the final verdict on this issue—Guiso et al. (2004)'s analysis is very profound and covers more aspects than just cash demand—our results at least demonstrate that the results obtained for Italy concerning trust and social capital do not easily carry over to other countries.

7 Outcome Based Indicators and Robustness Tests

We have argued that the employed measure of liquidity preferences is to be preferred over actual ownership of financial assets because it is less contaminated by supply side restrictions. In this section we employ outcome based measures of actual portfolio behavior as dependent variables. This serves two purposes. First, it provides a robustness test for estimation results. Second, we are still concerned whether the results are not driven by unobserved environmental variables, not least given that the sample comprises largely heterogenous countries and regions. Some of these unobserved institutional specificities which are correlated with trust in banks could drive financial decisions. By using these outcome based dependent variable, we can test whether the important role of trust in banks in detected in previous estimations does in fact reflect distrust in banks *per se* or whether it is driven by unobserved environmental variables.

We observe whether respondents have a transactions account, own a savings account or a life insurance. Savings accounts are bank products, while life insurances are typically not issued by banks (although banks might dis-

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tributed them).[28] According to the above logic, we should observe that trust in banks affects ownership of savings deposits but not ownership of life insurances. If trust in banks affects all three products then we cannot uphold the claim that we cannot uphold our conclusion that trust in banks is important.

Table 8 shows the results for savings accounts accounts (specifications I to III) and life insurances (specification IV to VI), respectively. We model ownership of savings accounts and life insurances conditional on ownership of a transaction account, i.e. we estimate a two equation sample selection model where the first stage is account ownership and the second stage is savings account (life insurance) ownership. As an identification variable, we employ *distance to banks* which is found to impact strongly on account ownership. To avoid that results are driven by respondents who do not hold these products because they are too poor, we restrict the sample to respondents who report to have savings.

Concerning savings account ownership we find that results are in line with previous findings in the sense that both the perceived safety of deposits as well as trust in domestically owned banks positively affects transaction account and savings account ownership. The effect of *trust in dom. owned banks* is substantial, explaining one third of the observed sample mean. Memories of banking problems do not have a significant impact. In contrast, no significant effect of neither the safety of deposits nor of trust in banks is found for life insurances.

In specification III and VI, we additionally explore whether regional variation in ownership of these financial assets can be explained by regional variation in trust in banks. The results show that savings account ownership is affected by regional variation of trust in banks. No such result is obtained for life insurances.

Finally, we can conduct another robustness test. In particular, we utilize information about the role of cash in households portfolios. In fall 2010 and spring 2011 respondents were asked to indicate first the ownership of financial assets and second a ranking according to their quantitative importance. We construct an indicator variable which is one if cash is the most important

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[28]We do not treat transaction accounts as savings products.

financial asset and zero if other financial instruments are more important. This indicator variables is used as the dependent variable in Table 9. Note that this variable, again, is only defined for people who have savings.[29]

Results are very similar to those obtained in previous regressions. Both the perceived safety of deposits and trust in banks enter significant and bear the correct sign. However, the regional variation in the importance of cash is related to trust in courts and the regional income level but not trust in banks.

On balance, the results from these robustness tests underline our findings.

8 Conclusions and Implications

to be completed...

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[29]Some words of caution are necessary concerning this variable. This caution roots in the fact that we find that about 63% of persons indicate that cash is the most important financial asset. Although there is considerable variation across countries which seems plausible—values range from 35% in Hungary to 91% in Albania—this share seems rather large. As we do not have a good explanation for the size of this share, we treat this variable with some caution. Regressions were repeated without Albania without affecting results.

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A Appendix

A.1 Survey Description

A.2 Data and Variable Description

cash preference: Derived from answers to statement that "I prefer to hold cash rather than a savings account". Answers are "very much agree", "agree", "somewhat agree", "somewhat disagree", "disagree" and "do not agree at all". Answers are transformed into a variable with three categories: weak cash preference ("do not agree at all" and "disagree"), medium cash preference ("somewhat agree", "somewhat disagree") and strong cash preference ("very much agree", "agree").

transaction account, savings account: Dummy variables derived from a question on the ownership of a transaction account or a savings account. Note that *transaction account* includes respondents who own debit cards or wage cards (the latter are rather frequent in some countries; these cards are used to withdraw the salary or the pension at an ATM.

cash most important financial instrument: Respondents were asked to indicate the ownership of financial assets as well as to rank these financial instruments according to their importance. "There are several ways in which you can hold savings. For example, one can hold cash, use bank accounts, have life insurances, hold mutual funds, etc. Please take a look at this card that lists various savings instruments - could you please select the ones you are using and rank them according to the amounts you have saved on the respective instrument". Th listed choices comprised(1) cash, (2) savings accounts, (3) life insurance, (4) mutual funds, (5) stocks, (6) pension funds, (7) bonds, (8) transaction accounts and (9) one category for all other financial instruments. We construct an indicator variable which is one if cash is the most important financial asset among all instruments (disregarding transaction accounts), and zero if other financial instruments are more important. This variable is only constructed for respondents who answer that they have savings. Data only available for fall 2010 and spring 2011.

life insurance, private pension savings: Answers from the above question were used to construct a dummy variable taking value one if respondents have a life insurance or whether they have private pension savings, respectively.

deposits are safe: Derived from answers to statement that "currently, depositing money at banks is very safe in [MY COUNTRY]". Answers are "very much agree", "agree", "somewhat agree", "somewhat disagree", "disagree" and "do not agree at all". Dummy variable coded as one if answer ranges from "very much agree" to "somewhat agree", zero else.

memory restr. access: Derived from answers to statement that "I remember periods during which access to savings deposits was restricted in [MY COUNTRY]". Answers are "very much agree", "agree", "somewhat agree", "somewhat disagree", "disagree" and "do not agree at all". Dummy variable coded as one if answer ranges from "very much agree" to "somewhat agree", zero else.

trust dom. owned banks, trust in police: 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) the police". Dummy variable coded as one if respondents somewhat or completely trust, zero else.

foreign banks better: Derived from answers to statement that "savings deposits at foreign banks are much safer than those at domestic banks". Answers are "very much agree", "agree", "somewhat agree", "somewhat disagree", "disagree" and "do not agree at all". Dummy variable coded as one if answer ranges from "very much agree" to "somewhat agree", zero else.

banks are stable: Derived from answers to statement that "currently, banks and the financial system are stable in [MY COUNTRY]". Answers are "very much agree", "agree", "somewhat agree", "somewhat disagree", "disagree" and "do not agree at all". Dummy variable coded as one if answer ranges from "very much agree" to "somewhat agree", zero else.

income high, income middle, income na: Dummy 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 (income na)

risk aversion: Derived from answers to statement that "in financial matters, I prefer save investments over risky investments". Answers are "very much agree", "agree", "somewhat agree", "somewhat disagree", "disagree" and "do not agree at all". Dummy variable coded as one if answer ranges from "very much agree" to "somewhat agree", zero else.

fin. sit. uncertain: Derived from answers to statement that 'over the next 12 months, I expect the financial situation of my household to get better". Dummy variable coded as one if answer is "don't know", zero else.

exp. inflation higher: Derived from answers to statement that "over the next year, prices will strongly increase in [MY COUNTRY]". Answers are "very much agree", "agree", "somewhat agree", "somewhat disagree", "disagree" and "do not agree at all". Dummy variable coded as one if respondent very much agrees or agrees, zero else.

exp. lc depreciation, exp. lc constant, exp. lc dn: Derived from question "How do you think will the exchange rate of the local currency develop over the next five years?" (answer categories refer to the exchange rate vis--vis the euro). Dummy variables for respondents expecting the local currency to depreciate, to appreciate or to remain constant vis--vis the euro. An additional dummy variable is defined for respondents who "do not know". Omitted category: respondents expecting exchange rate appreciation.

conversion middle, conversion exp.: Derived from answers to statement that "in [MY COUNTRY] it is expensive to convert [LOCAL CURRENCY] into euros". Answers are "very much agree", "agree", "somewhat agree", "somewhat disagree", "disagree" and "do not agree at all". Conversion exp(ensive) is a dummy variables coded as one if answer are "very much agree" or "agree", zero else. Conversion middle is a dummy variables coded as one if answer are "somewhat agree" or "somewhat disagree", zero else.

distance to banks: Derived from answers to statement that "for me, it takes quite a long time to reach the nearest bank branch". Answers are "very much agree", "agree", "somewhat agree", "somewhat disagree", "disagree" and "do not agree at all". Categorical variable ranging from 1 ("do not agree at all") to 6 ("very much agree").

cash used to avoid taxes: Derived from answers to statement that "in [MY COUNTRY], it is very common that people pay cash to avoid taxes". Answers are "very much agree", "agree", "somewhat agree", "somewhat disagree", "disagree" and "do not agree at all". Dummy variable coded as one if answer ranges from "very much agree" to "somewhat agree", zero else.

euro cash holdings common: Derived from answers to statement that "in [MY COUNTRY] it is very common to hold euro cash". Answers are "very much agree", "agree", "somewhat agree", "somewhat disagree", "disagree" and "do not agree at all". Dummy variable coded as one if answer ranges from "very much agree" to "somewhat agree", zero else.

receives remittances: Derived from answers to question "Do you personally or your partner receive money from abroad? E.g. from family members living or working abroad, pension payments, etc? ". Dummy variable coded as one if answer is "yes regularly" or "yes infrequently", zero else.

Variables which are observed at the regional level:
The data set comprises of 10 countries and 68 regions. The following list comprises of variables which are observed at the regional level. The main data source for these variables is the Life in Transition Survey (LITS) conducted jointly by the European Bank for Reconstruction and Development and the World Bank in 2006. The goal of this survey was to "assesses the impact of transition on people through their personal and professional experiences during the first 15 years of transition" (EBRD, 2011). The survey was administered in 28 countries and about 1,000 interviews were conducted in each country. The fact that the regional sampling frame of LITS is similar to that of the OeNB Euro Survey allows matching the two data sources at the regional level.

LITS trust in banks, LITS trust courts: Derived from Life in Transition Survey (LITS) instrument "To what extent do you trust the following institutions? - (a) Banks and the financial system, (b) Courts" (Q303/8, Q303/4). Answer categories are "complete distrust", "some distrust", "neither trust nor distrust", "some trust", "complete trust" and "difficult to say". For each region, the variable represents the share of surveyed individuals who answer that they have "complete trust" or "some trust". Those that answer "difficult to say" are omitted.

LITS trust in people: Derived from Life in Transition Survey (LITS) instrument "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people? Please answer on a scale from 1 to 5, where 1 means that you have complete distrust in people, and 5 means that most people can be trusted. What would it be today?" (Q302/1). Answer categories are "complete distrust", "some distrust", "neither trust nor distrust", "some trust", "complete trust" and "difficult to say". For each region, the variable represents the share of surveyed individuals who answer that they have "complete trust" or "some trust". Those that answer "difficult to say" are omitted.

LITS income from bartering: Derived from Life in Transition Survey (LITS) instrument "Which of these sources of livelihood apply to your household?". Answers comprise of 14 income categories, including social transfers. For each region, the variable represents the share of surveyed individuals who answered that they receive income from "sales or bartering of farm products".

LITS election turnout: Derived from Life in Transition Survey (LITS) instrument "Did you vote in the last parliamentary or presidential elections?" (Q701). Answer categories are "yes" and "no". For each region, the variable represents the share of surveyed individuals who answer "yes".

LITS referenda turnout: Derived from Life in Transition Survey (LITS) instrument "How likely are you to ... sign petitions?" Q704/4. Answer categories are "have done", "might do", "would never do". For each region, the variable represents the share of surveyed individuals who answered "have done", "might do".

LITS civic involvement: Derived from Life in Transition Survey (LITS) instrument "Are you a member of ... other civic/voluntary organization (club, association)" (Q703/2). Answer categories are "yes" and "no". For each region, the variable represents the share of surveyed individuals who answer "yes".

ES deposits are safe: Based on Euro Survey variable *deposits are safe*. For each region, the variable represents the share of surveyed individuals who said that deposits are safe. Note that when calculating this variable, we only include answers from survey waves prior to our sample, i.e. from 2007 and 2008.

ES memory restr. access: Based on Euro Survey variable *memory restr. access*. For each region, the variable represents the share of surveyed individuals who said that deposits are safe. Note that when calculating this variable, we only include answers from survey waves prior to our sample, i.e. from 2007 and 2008.

A.2.1   List of Countries and Country Groups

Country abbreviations: Czech Republic (CZ), Hungary (HU), Poland (PL), Bulgaria (BG), Romania (RO), Albania (AL), Bosnia and Herzegovina (BH), Croatia (HR), Former Yugoslav Republic Macedonia (MK), Serbia (RS).

EU countries: Czech Republic, Hungary, Poland, Bulgaria and Romania.

Non EU countries: Albania, Croatia, Bosnia and Herzegovina, Former Yugoslav Republic Macedonia, and Serbia.

Strongly dollarized economies: Bosnia and Herzegovina, Bulgaria, Croatia, Former Yugoslav Republic Macedonia, and Serbia.

Weakly dollarized economies: Czech Republic, Albania, Hungary, Poland, and Romania.

A.2.2   Descriptive Statistics

Table A.2: Descriptive statistics of individual-specific variables

	Min/Max	CZ	HU	PL	BL	RO	AL	BH	HR	FM	SR	Total
preference for cash	1/3	1.88	1.89	1.96	2.10	2.10	1.83	2.09	2.22	2.14	2.41	2.02
		(0.69)	(0.74)	(0.72)	(0.88)	(0.77)	(0.73)	(0.73)	(0.75)	(0.86)	(0.72)	(0.77)
cash most important	0/1	0.59	0.39	0.62	0.63	0.67	0.92	0.79	0.56	0.78	0.74	0.66
		(0.49)	(0.49)	(0.49)	(0.48)	(0.47)	(0.27)	(0.41)	(0.50)	(0.42)	(0.44)	(0.47)
deposits are safe	0/1	0.61	0.40	0.68	0.50	0.47	0.62	0.46	0.56	0.64	0.47	0.54
		(0.49)	(0.49)	(0.47)	(0.50)	(0.50)	(0.49)	(0.50)	(0.50)	(0.48)	(0.50)	(0.50)
memory restr access	0/1	0.36	0.58	0.54	0.63	0.44	0.49	0.44	0.41	0.67	0.80	0.53
		(0.48)	(0.49)	(0.50)	(0.48)	(0.50)	(0.50)	(0.50)	(0.49)	(0.47)	(0.40)	(0.50)
trust dom owned banks	0/1	0.41	0.30	0.45	0.32	0.33	0.47	0.34	0.38	0.53	0.25	0.38
		(0.49)	(0.46)	(0.50)	(0.47)	(0.47)	(0.50)	(0.47)	(0.48)	(0.50)	(0.43)	(0.49)
foreign banks better	0/1	0.63	0.46	0.56	0.36	0.47	0.42	0.41	0.44	0.31	0.45	0.46
		(0.48)	(0.50)	(0.50)	(0.48)	(0.50)	(0.49)	(0.49)	(0.50)	(0.46)	(0.50)	(0.50)
banks are stable	0/1	0.67	0.47	0.70	0.66	0.54	0.68	0.57	0.68	0.77	0.57	0.63
		(0.47)	(0.50)	(0.46)	(0.47)	(0.50)	(0.47)	(0.50)	(0.46)	(0.42)	(0.49)	(0.48)
trust in police	0/1	0.34	0.33	0.38	0.30	0.27	0.47	0.47	0.47	0.46	0.28	0.38
		(0.47)	(0.47)	(0.48)	(0.46)	(0.44)	(0.50)	(0.50)	(0.50)	(0.50)	(0.45)	(0.49)
exp inflation higher	0/1	0.27	0.49	0.41	0.61	0.54	0.43	0.41	0.42	0.45	0.49	0.45
		(0.45)	(0.50)	(0.49)	(0.49)	(0.50)	(0.49)	(0.49)	(0.49)	(0.50)	(0.50)	(0.50)
exp lc depreciation	0/1	0.22	0.52	0.27	0.39	0.45	0.57	0.25	0.39	0.31	0.59	0.40
		(0.41)	(0.50)	(0.44)	(0.49)	(0.50)	(0.50)	(0.43)	(0.49)	(0.46)	(0.49)	(0.49)
exp lc constant	0/1	0.39	0.26	0.31	0.37	0.22	0.25	0.68	0.38	0.52	0.18	0.35
		(0.49)	(0.44)	(0.46)	(0.48)	(0.41)	(0.43)	(0.47)	(0.48)	(0.50)	(0.38)	(0.48)
exp lc appreciation	0/1	0.23	0.10	0.13	0.03	0.06	0.05	0.03	0.05	0.06	0.06	0.09
		(0.42)	(0.31)	(0.34)	(0.17)	(0.24)	(0.23)	(0.16)	(0.23)	(0.24)	(0.24)	(0.28)
exp lc dn	0/1	0.17	0.11	0.28	0.20	0.27	0.12	0.05	0.18	0.10	0.17	0.17
		(0.37)	(0.32)	(0.45)	(0.40)	(0.44)	(0.33)	(0.21)	(0.38)	(0.31)	(0.37)	(0.38)
risk aversion	0/1	0.83	0.86	0.77	0.87	0.83	0.83	0.67	0.87	0.93	0.85	0.83
		(0.38)	(0.34)	(0.42)	(0.33)	(0.38)	(0.38)	(0.47)	(0.34)	(0.25)	(0.36)	(0.37)
fin sit uncertain	0/1	0.06	0.04	0.07	0.08	0.05	0.06	0.03	0.06	0.04	0.06	0.06
		(0.24)	(0.19)	(0.26)	(0.28)	(0.23)	(0.24)	(0.17)	(0.24)	(0.19)	(0.24)	(0.23)
conversion middle	0/1	0.63	0.35	0.52	0.37	0.29	0.29	0.52	0.45	0.31	0.35	0.42
		(0.48)	(0.48)	(0.50)	(0.48)	(0.46)	(0.45)	(0.50)	(0.50)	(0.46)	(0.48)	(0.49)
conversion exp	0/1	0.18	0.59	0.36	0.39	0.61	0.65	0.35	0.42	0.28	0.56	0.43
		(0.38)	(0.49)	(0.48)	(0.49)	(0.49)	(0.48)	(0.48)	(0.49)	(0.45)	(0.50)	(0.50)
distance to banks	1/6	3.22	2.20	2.85	2.49	3.06	3.19	3.25	2.58	2.96	2.87	2.86
		(1.32)	(1.32)	(1.44)	(1.52)	(1.38)	(1.39)	(1.40)	(1.43)	(1.87)	(1.54)	(1.50)
cash used to avoid taxes	0/1	0.55	0.57	0.52	0.80	0.71	0.66	0.66	0.54	0.78	0.75	0.64
		(0.50)	(0.50)	(0.50)	(0.40)	(0.46)	(0.47)	(0.47)	(0.50)	(0.41)	(0.43)	(0.48)
euro cash holdings common	0/1	0.49	0.22	0.45	0.45	0.60	0.54	0.56	0.63	0.79	0.85	0.55
		(0.50)	(0.42)	(0.50)	(0.50)	(0.49)	(0.50)	(0.50)	(0.48)	(0.41)	(0.36)	(0.50)

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Table A.2: (cont'd) Descriptive statistics of individual-specific variables

	Min/Max	CZ	HU	PL	BL	RO	AL	BH	HR	FM	SR	Total
receives remittances	0/1	0.06	0.02	0.05	0.06	0.10	0.26	0.11	0.07	0.10	0.09	0.09
		(0.23)	(0.15)	(0.22)	(0.24)	(0.30)	(0.44)	(0.31)	(0.25)	(0.30)	(0.29)	(0.28)
income high	0/1	0.30	0.25	0.18	0.20	0.25	0.36	0.31	0.32	0.34	0.21	0.27
		(0.46)	(0.43)	(0.39)	(0.40)	(0.43)	(0.48)	(0.46)	(0.47)	(0.47)	(0.41)	(0.44)
income middle	0/1	0.27	0.28	0.37	0.24	0.25	0.29	0.25	0.25	0.30	0.28	0.28
		(0.45)	(0.45)	(0.48)	(0.43)	(0.43)	(0.45)	(0.43)	(0.44)	(0.46)	(0.45)	(0.45)
income low	0/1	0.40	0.30	0.34	0.34	0.25	0.26	0.22	0.25	0.28	0.32	0.30
		(0.49)	(0.46)	(0.47)	(0.47)	(0.44)	(0.44)	(0.42)	(0.43)	(0.45)	(0.47)	(0.46)
education high	0/1	0.12	0.18	0.24	0.27	0.28	0.25	0.14	0.14	0.23	0.21	0.21
		(0.32)	(0.39)	(0.42)	(0.45)	(0.45)	(0.43)	(0.35)	(0.35)	(0.42)	(0.41)	(0.41)
education middle	0/1	0.84	0.60	0.69	0.62	0.49	0.55	0.70	0.72	0.58	0.60	0.64
		(0.37)	(0.49)	(0.46)	(0.48)	(0.50)	(0.50)	(0.46)	(0.45)	(0.49)	(0.49)	(0.48)
education low	0/1	0.04	0.22	0.07	0.10	0.23	0.20	0.16	0.14	0.19	0.19	0.15
		(0.19)	(0.41)	(0.26)	(0.30)	(0.42)	(0.40)	(0.37)	(0.35)	(0.39)	(0.39)	(0.36)
age 19-34	0/1	0.27	0.19	0.33	0.26	0.23	0.29	0.25	0.29	0.23	0.21	0.26
		(0.44)	(0.40)	(0.47)	(0.44)	(0.42)	(0.46)	(0.44)	(0.45)	(0.42)	(0.41)	(0.44)
age 35-54	0/1	0.39	0.38	0.46	0.43	0.36	0.48	0.36	0.40	0.44	0.49	0.42
		(0.49)	(0.49)	(0.50)	(0.50)	(0.48)	(0.50)	(0.48)	(0.49)	(0.50)	(0.50)	(0.49)
age 55+	0/1	0.34	0.43	0.22	0.31	0.42	0.22	0.39	0.31	0.33	0.31	0.33
		(0.47)	(0.49)	(0.41)	(0.46)	(0.49)	(0.42)	(0.49)	(0.46)	(0.47)	(0.46)	(0.47)
1 person HH	0/1	0.13	0.25	0.12	0.13	0.22	0.03	0.14	0.18	0.07	0.08	0.14
		(0.34)	(0.44)	(0.32)	(0.33)	(0.42)	(0.17)	(0.35)	(0.38)	(0.25)	(0.28)	(0.35)
2 person HH	0/1	0.37	0.33	0.31	0.31	0.39	0.13	0.27	0.25	0.16	0.19	0.28
		(0.48)	(0.47)	(0.46)	(0.46)	(0.49)	(0.34)	(0.45)	(0.43)	(0.37)	(0.39)	(0.45)
3+ person HH	0/1	0.50	0.41	0.57	0.56	0.39	0.84	0.59	0.57	0.77	0.73	0.58
		(0.50)	(0.49)	(0.49)	(0.50)	(0.49)	(0.37)	(0.49)	(0.50)	(0.42)	(0.44)	(0.49)
retired	0/1	0.18	0.39	0.15	0.20	0.37	0.13	0.36	0.31	0.27	0.24	0.26
		(0.39)	(0.49)	(0.35)	(0.40)	(0.48)	(0.33)	(0.48)	(0.46)	(0.44)	(0.43)	(0.44)
self-employed	0/1	0.10	0.04	0.05	0.04	0.04	0.19	0.06	0.05	0.12	0.07	0.07
		(0.30)	(0.20)	(0.22)	(0.20)	(0.19)	(0.39)	(0.23)	(0.22)	(0.33)	(0.25)	(0.26)
female	0/1	0.48	0.51	0.51	0.48	0.53	0.43	0.45	0.53	0.45	0.45	0.48
		(0.50)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)
head of household	0/1	0.63	0.69	0.60	0.68	0.73	0.62	0.80	0.61	0.77	0.73	0.68
		(0.48)	(0.46)	(0.49)	(0.47)	(0.45)	(0.49)	(0.40)	(0.49)	(0.42)	(0.44)	(0.47)
town middle	0/1	0.22	0.23	0.43	0.41	0.27	0.31	0.10	0.22	0.53	0.22	0.29
		(0.42)	(0.42)	(0.50)	(0.49)	(0.44)	(0.46)	(0.30)	(0.41)	(0.50)	(0.41)	(0.45)
town large	0/1	0.21	0.30	0.56	0.34	0.36	0.17	0.16	0.21	0.09	0.29	0.27
		(0.41)	(0.46)	(0.50)	(0.47)	(0.48)	(0.37)	(0.37)	(0.41)	(0.29)	(0.46)	(0.44)

Notes: The table shows the sample means and standard deviations of respective variables. Total refers to the entire sample of observations without adjusting for country size.

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Table A.2: Descriptive statistics of regional variables

	Min/Max	CZ	HU	PL	BL	RO	AL	BH	HR	FM	SR	Total
LITS trust in banks	0.15/0.68	0.49	0.37	0.37	0.30	0.40	0.56	0.36	0.33	0.25	0.29	0.37
		(0.10)	(0.06)	(0.11)	(0.12)	(0.09)	(0.13)	(0.09)	(0.04)	(0.05)	(0.05)	(0.11)
LITS trust courts	0.07/0.46	0.24	0.41	0.25	0.17	0.26	0.29	0.22	0.14	0.15	0.16	0.23
		(0.08)	(0.04)	(0.08)	(0.12)	(0.07)	(0.08)	(0.05)	(0.03)	(0.04)	(0.03)	(0.10)
LITS income from bartering	0.00/0.26	0.03	0.04	0.03	0.08	0.06	0.14	0.08	0.06	0.11	0.13	0.07
		(0.04)	(0.02)	(0.05)	(0.06)	(0.04)	(0.10)	(0.06)	(0.04)	(0.11)	(0.08)	(0.06)
LITS trust in people	0.04/0.58	0.26	0.23	0.27	0.21	0.25	0.28	0.24	0.25	0.15	0.29	0.24
		(0.05)	(0.08)	(0.07)	(0.10)	(0.07)	(0.03)	(0.17)	(0.10)	(0.02)	(0.08)	(0.10)
LITS election turnout	0.50/0.90	0.73	0.82	0.71	0.68	0.80	0.83	0.64	0.81	0.85	0.75	0.74
		(0.07)	(0.06)	(0.05)	(0.06)	(0.06)	(0.02)	(0.08)	(0.04)	(0.04)	(0.06)	(0.09)
LITS civic involvement	0.00/0.17	0.09	0.05	0.05	0.02	0.02	0.03	0.06	0.10	0.05	0.07	0.05
		(0.04)	(0.04)	(0.03)	(0.02)	(0.01)	(0.01)	(0.05)	(0.04)	(0.02)	(0.02)	(0.04)
LITS referenda turnout	0.06/0.86	0.69	0.34	0.61	0.36	0.15	0.33	0.58	0.59	0.43	0.55	0.47
		(0.13)	(0.06)	(0.15)	(0.14)	(0.06)	(0.07)	(0.20)	(0.07)	(0.08)	(0.10)	(0.21)
ES deposits are safe	0.28/0.87	0.63	0.44	0.76	0.42	0.52	0.64	0.48	0.59	0.59	0.49	0.55
		(0.10)	(0.07)	(0.06)	(0.08)	(0.04)	(0.06)	(0.08)	(0.02)	(0.04)	(0.02)	(0.13)
ES memory restr. access	0.31/0.83	0.41	0.49	0.58	0.66	0.52	0.57	0.59	0.50	0.69	0.81	0.57
		(0.07)	(0.09)	(0.04)	(0.10)	(0.10)	(0.03)	(0.10)	(0.04)	(0.05)	(0.01)	(0.12)

Notes: The table shows the sample means and standard deviations of respective variables. Total refers to the entire sample of observations without adjusting for country size.

Table A.2: Correlation among trust variables

	deposits are safe	memory restr. access	trust dom. owned bank	foreign banks better	banks are stable
memory restr. access	0.12				
trust dom. owned banks	0.25	0.00			
foreign banks better	-0.01	-0.11	0.05		
banks are stable	0.37	0.04	0.24	-0.11	
trust in police	0.13	0.01	0.40	-0.00	0.12

Notes: The table shows the bivariate correlation among respective variables.

Table 1: Tests of the usefulness of *cash preference*

Panel A - Ownership of savings account and cash preferences
Selected Results from probit model

Dependent variable: Ownership of savings account (0/1)
(unconditional probability: 25%)

marginal effects (relative to low cash preference)

medium cash preference	-0.10***
	(-7.06)
high cash preference	-0.16***
	(-7.83)

Note: marginal effects from probit model. The full model is the same as the benchmark model used in later specifications. All other coefficients (socio-demographic variables, safety of deposits, etc.) are not shown. T-values in parentheses. 7592 Observations.

Panel B - Descriptive Evidence

percent of respondents who rank cash as
most important savings instrument

no cash preference	0.53
middle cash preference	0.69
strong cash preference	0.80

Table 2: Cash preferences

	preference for cash (weak, medium, strong)			
	I	II	III -banked	V-savings
deposits are safe	-0.09***	-0.09**	-0.10**	-0.09***
	(-4.43)	(-2.53)	(-2.45)	(-6.61)
memory restr. access	0.09***	0.11***	0.09***	0.11***
	(5.24)	(4.69)	(3.35)	(7.83)
risk aversion	0.05**	0.09***	0.07***	0.05***
	(2.27)	(5.00)	(4.57)	(2.78)
fin. sit. uncertain	-0.01	-0.04	-0.03	-0.04
	(-0.14)	(-0.83)	(-0.47)	(-1.53)
conversion middle	0.09***			
	(2.68)			
conversion exp.	0.14***			
	(3.60)			
town middle	0.02			
	(0.83)			
town large	-0.02			
	(-0.85)			
distance to banks		0.02***	0.01**	0.01**
		(3.36)	(2.34)	(2.03)
cash used to avoid taxes		0.08***	0.07***	
		(4.58)	(3.51)	
receives remittances	-0.02	-0.05***	-0.08***	0.00
	(-1.05)	(-2.92)	(-5.54)	(0.13)
exp. inflation higher	0.07***	0.09***	0.07***	0.07***
	(6.84)	(5.56)	(4.72)	(3.88)
exp. lc depreciation	0.05	0.02	0.02	0.04*
	(1.23)	(0.73)	(0.74)	(1.74)
exp. lc constant	0.01	0.01	0.03	0.02
	(0.23)	(0.47)	(0.98)	(1.19)
exp. lc dn	0.03	-0.01	-0.02	0.03
	(0.82)	(-0.45)	(-0.84)	(1.38)
income high	-0.11***	-0.05**	-0.03	-0.05**
	(-4.90)	(-2.57)	(-1.31)	(-2.25)
income middle	-0.05***	-0.04*	-0.05*	-0.02
	(-3.91)	(-1.92)	(-1.93)	(-1.10)
income na	-0.07***	-0.07**	-0.04	-0.10***
	(-3.33)	(-2.46)	(-1.50)	(-3.51)
education high	-0.12***	-0.12***	-0.10**	-0.09***
	(-5.44)	(-4.24)	(-2.22)	(-2.87)
education middle	-0.04**	-0.04**	-0.02	-0.02
	(-2.02)	(-2.24)	(-0.58)	(-1.13)
age 19-34	0.03**	0.04**	0.05***	0.03*
	(2.51)	(2.03)	(3.20)	(1.81)
age 55+	-0.04*	-0.01	-0.02	0.00
	(-1.74)	(-0.72)	(-1.01)	(0.22)
2 person HH	0.02	0.02	0.05***	-0.01
	(1.18)	(1.38)	(3.34)	(-0.46)
3+ person HH	0.05***	0.03	0.06	-0.00
	(3.96)	(0.93)	(1.63)	(-0.08)
retired	0.03*	-0.02	-0.02	-0.03
	(1.66)	(-0.92)	(-0.86)	(-1.27)
self-employed	0.02	0.01	-0.00	-0.04*
	(0.74)	(0.31)	(-0.07)	(-1.89)
female	-0.01**	-0.01	-0.01	-0.02*
	(-2.15)	(-0.72)	(-0.71)	(-1.90)
head of household	-0.00	-0.02	-0.00	-0.02
	(-0.10)	(-1.29)	(-0.15)	(-0.98)
N	8339	4183	2398	6526
log-L	-8372.99	-4194.84	-2408.25	-6707.32
P(cash pref.=strong)	0.31	0.29	0.25	0.30

Notes: The dependent variable *cash preference* is an indicator variable that takes three values (weak, medium and strong cash preference). P(cash pref.=strong) denotes the unconditional sample probability of a strong cash preference. The reported coefficients are ordered probit estimates of the effect of a marginal change in the corresponding regressor on the probability of the category "strong cash preference", computed at sample means of independent variables. For a definition of variables see the Appendix. All regressions include as controls interacted country and time dummies. As not all variables are

Table 3: Dollarization and cash preferences

	preference for cash (weak, medium, strong)			
	I	II dollarized countries	III non-dollarized countries	IV old EU countries
deposits are safe	-0.09***	-0.10**	-0.06***	-0.07***
	(-4.16)	(-2.12)	(-3.90)	(-3.44)
memory restr. access	0.10***	0.11***	0.09***	0.09***
	(8.58)	(9.04)	(6.21)	(6.54)
euro cash holdings common	0.08***			
	(4.37)			
risk aversion	0.07***	0.13***	0.04***	0.06***
	(6.07)	(5.54)	(5.35)	(8.51)
distance to banks	0.02***	0.01*	0.02***	0.02***
	(4.01)	(1.73)	(8.00)	(4.53)
receives remittances	-0.02	-0.02	-0.01	-0.02
	(-1.18)	(-1.24)	(-0.85)	(-1.11)
exp. inflation higher	0.08***	0.11***	0.06***	0.07***
	(8.90)	(5.52)	(12.55)	(8.96)
exp. lc depreciation	0.04**	0.02	0.04**	0.05***
	(2.31)	(0.85)	(2.57)	(3.09)
exp. lc constant	0.03**	0.00	0.03***	0.04***
	(2.06)	(0.16)	(3.62)	(6.61)
exp. lc dn	0.02	-0.01	0.02***	0.03***
	(1.07)	(-0.54)	(2.75)	(3.17)
income high	-0.05***	-0.04	-0.05***	-0.05***
	(-3.41)	(-1.37)	(-4.46)	(-5.78)
income middle	-0.03**	-0.02	-0.03**	-0.04***
	(-2.24)	(-1.15)	(-1.99)	(-4.97)
income na	-0.09***	-0.07***	-0.09**	-0.10***
	(-3.95)	(-2.99)	(-2.43)	(-2.83)
education high	-0.10***	-0.14***	-0.08***	-0.12***
	(-4.45)	(-3.59)	(-2.86)	(-3.43)
education middle	-0.03**	-0.05**	-0.02	-0.04*
	(-2.21)	(-2.41)	(-1.14)	(-1.86)
N	13035	6461	7419	7177
log-L	-13230.78	-6641.25	-7356.35	-7261.30
P(cash pref.=strong)	0.30	0.42	0.21	0.24

Notes: The dependent variable *cash preference* is an indicator variable that takes three values (weak, medium and strong cash preference). P(cash pref.=strong) denotes the unconditional sample probability of a strong cash preference. The reported coefficients are ordered probit estimates of the effect of a marginal change in the corresponding regressor on the probability of the category "strong cash preference", computed at sample means of independent variables. For a definition of variables see the Appendix. All regressions include as controls age, sex, size of household, employment status, expected financial situation and interacted country and time dummies. In specification II (III) the sample comprises of strongly (weakly) dollarized countries. In specification IV the sample comprises of data from the Czech Republic, Hungary and Poland. The t-values which are reported in parentheses are corrected for potential clustering of residuals at the country level. ***, **, * mean that the coefficient is statistically different from zero, at the 1-, 5-, and 10-percent level.

Table 4: Alternative trust measures

	preference for cash (weak, medium, strong)				
	I	II deposits safe	III	IV	V
memory restr. access	0.09***	0.08**	0.09***	0.09***	0.09***
	(8.18)	(2.52)	(7.81)	(8.62)	(6.92)
trust dom. owned banks	-0.06***	-0.05***			
	(-3.58)	(-3.04)			
foreign banks better			-0.04***		
			(-3.78)		
banks are stable				-0.03**	
				(-1.96)	
LITS trust in banks					-0.33***
					(-4.03)
trust in police	-0.01	0.00	-0.03***	-0.03***	-0.02*
	(-1.16)	(0.03)	(-4.32)	(-4.47)	(-1.76)
risk aversion	0.07***	-0.02	0.05***	0.07***	0.07***
	(5.24)	(-0.50)	(4.38)	(5.88)	(4.49)
distance to banks	0.02***	0.02***	0.02***	0.02***	0.02***
	(3.89)	(2.93)	(4.17)	(4.30)	(4.98)
receives remittances	-0.02	0.02	-0.02*	-0.02	-0.01
	(-1.25)	(0.72)	(-1.79)	(-1.16)	(-0.53)
exp. inflation higher	0.08***	0.06***	0.08***	0.08***	0.09***
	(7.59)	(3.32)	(8.72)	(8.10)	(8.07)
exp. lc depreciation	0.05***	0.02	0.04**	0.04**	0.08***
	(2.79)	(0.61)	(2.49)	(2.47)	(4.88)
exp. lc constant	0.03**	0.06***	0.03**	0.03**	0.06***
	(2.42)	(2.90)	(2.18)	(2.15)	(3.41)
exp. lc dn	0.03**	0.05*	0.02	0.02**	0.05**
	(2.20)	(1.76)	(1.50)	(2.01)	(2.47)
income high	-0.05***	-0.07***	-0.05***	-0.05***	-0.04***
	(-3.11)	(-3.93)	(-3.00)	(-3.14)	(-2.70)
income middle	-0.03***	-0.03	-0.03**	-0.03**	-0.03**
	(-2.62)	(-1.21)	(-2.33)	(-2.51)	(-2.51)
income na	-0.09***	-0.10***	-0.08***	-0.09***	-0.07***
	(-4.14)	(-2.86)	(-4.36)	(-4.17)	(-3.91)
education high	-0.11***	-0.10***	-0.11***	-0.11***	-0.12***
	(-5.37)	(-3.56)	(-4.20)	(-5.20)	(-7.36)
education middle	-0.04***	-0.03	-0.03**	-0.04***	-0.04***
	(-2.94)	(-1.45)	(-2.27)	(-2.97)	(-3.10)
N	13829	2965	12537	13615	14049
log-L	-14151.16	-3026.15	-12837.67	-13956.23	-14600.20
P(cash pref.=strong)	0.31	0.30	0.30	0.30	0.31

Notes: The dependent variable *cash preference* is an indicator variable that takes three values (weak, medium and strong cash preference). P(cash pref.=strong) denotes the unconditional sample probability of a strong cash preference. The reported coefficients are ordered probit estimates of the effect of a marginal change in the corresponding regressor on the probability of the category "strong cash preference", computed at the sample means of independent variables. For a definition of variables see the Appendix. In specifications I to IV, the estimated specification is similar to the benchmark specification II of Table 2. All regressions include as controls age, sex, size of household, employment status, expected financial situation and interacted country and time dummies. In specification II, the sample is restricted to persons who state that deposits are safe. In specification V includes the variable *LITS trust in banks* which is only observed at the regional level. Therefore, this specification only controls for time effects but not for country effects. The t-values which are reported in parentheses are corrected for potential clustering of residuals at the country level in spec. I to IV and at the regional level in spec. V, respectively. ***, **, * mean that the coefficient is statistically different from zero, at the 1-, 5-, and 10-percent level.

Table 5: Memories of banking turbulences and cash preferences

	preference for cash (weak, medium, strong)					
	I	II	III	IV	V	VI
			dollarized+	dollarized+	not dollarized+	not dollarized+
	memories	no memories	memories	no memories	memories	no memories
deposits are safe	-0.11***	-0.06***	-0.12**	-0.09	-0.08***	-0.05***
	(-4.17)	(-3.02)	(-2.56)	(-1.55)	(-3.14)	(-2.83)
trust in police	-0.02	-0.03***	-0.01	-0.03***	-0.02	-0.02***
	(-1.21)	(-4.20)	(-1.03)	(-3.26)	(-0.78)	(-3.55)
risk aversion	0.03*	0.10***	0.06**	0.16***	0.01	0.06***
	(1.89)	(5.59)	(2.36)	(3.97)	(0.65)	(5.39)
distance to banks	0.02***	0.01*	0.01***	0.01	0.04***	0.01*
	(3.54)	(1.71)	(2.64)	(0.51)	(5.41)	(1.87)
receives remittances	-0.04**	0.01	-0.03	-0.00	-0.06*	0.02***
	(-2.25)	(0.67)	(-1.26)	(-0.08)	(-1.90)	(2.62)
exp. inflation higher	0.08***	0.08***	0.11***	0.11***	0.06***	0.05***
	(5.98)	(5.49)	(5.12)	(3.10)	(4.04)	(7.16)
exp. lc depreciation	0.03	0.04***	-0.04	0.05*	0.04	0.03***
	(0.86)	(4.01)	(-0.89)	(1.73)	(1.37)	(3.63)
exp. lc constant	0.01	0.03***	-0.06***	0.06	0.03	0.02***
	(0.39)	(2.95)	(-3.71)	(1.32)	(1.48)	(3.70)
exp. lc dn	0.01	0.02*	-0.03	0.01	0.01	0.03**
	(0.43)	(1.79)	(-1.25)	(0.39)	(0.64)	(2.27)
income high	-0.05***	-0.04***	-0.04	-0.03	-0.06***	-0.04***
	(-2.69)	(-3.01)	(-1.34)	(-1.25)	(-2.97)	(-2.85)
income middle	-0.04**	-0.02**	-0.02	-0.03	-0.05**	-0.02**
	(-2.13)	(-2.19)	(-1.04)	(-1.19)	(-2.04)	(-1.96)
income na	-0.09***	-0.07***	-0.08***	-0.07**	-0.11**	-0.07***
	(-4.15)	(-3.47)	(-3.57)	(-2.28)	(-2.38)	(-2.63)
education high	-0.10***	-0.12***	-0.15***	-0.15***	-0.06	-0.09***
	(-3.23)	(-5.47)	(-3.36)	(-3.71)	(-1.48)	(-3.48)
education middle	-0.03	-0.04***	-0.05**	-0.06**	-0.01	-0.03
	(-1.63)	(-3.10)	(-2.14)	(-2.41)	(-0.42)	(-1.62)
N	7202	6513	3709	2663	3493	3850
log-L	-7317.30	-6612.19	-3718.00	-2781.72	-3470.24	-3762.22
P(cash pref.=strong)	0.37	0.24	0.47	0.35	0.26	0.16

 Notes: The dependent variable *cash preference* is an indicator variable that takes three values (weak, medium and strong
cash preference). P(cash pref.=strong) denotes the unconditional sample probability of a strong cash preference. The
reported coefficients are ordered probit estimates of the effect of a marginal change in the corresponding regressor on the
probability of the category "strong cash preference", computed at sample means of independent variables. For a definition
of variables see the Appendix. The estimated specification is similar to the benchmark specification II of Table 2. All
regressions include as controls age, sex, size of household, employment status, expected financial situation, remittances
income and interacted country and time dummies. In specification I (II) the sample comprises of respondents who report
(who do not report) memories of banking problems. The same sample split is applied for strongly dollarized economies
(III and IV) and for weakly dollarized economies (V and VI). The t-values which are reported in parentheses are corrected
for potential clustering of residuals at the country level. ***, **, * mean that the coefficient is statistically different from
zero, at the 1-, 5-, and 10-percent level.

Table 6: Memories of banking problems - instrumental variable estimation

	preference for cash (weak, medium, strong)	
	I	II
memory restr. access	0.20***	0.23***
	(8.62)	(3.77)
deposits are safe	-0.16***	-0.16***
	(-6.95)	(-6.70)
trust in police	-0.05**	-0.06**
	(-2.31)	(-2.50)
risk aversion	0.17***	0.17***
	(5.74)	(5.45)
distance to banks	0.04***	0.03***
	(4.66)	(4.26)
cash used to avoid taxes	0.16***	0.15***
	(6.47)	(6.06)
receives remittances	-0.08**	-0.09**
	(-2.02)	(-2.12)
exp. inflation higher	0.16***	0.16***
	(6.44)	(6.25)
exp. lc depreciation	0.04	0.03
	(0.89)	(0.70)
exp. lc constant	0.02	0.01
	(0.53)	(0.39)
exp. lc dn	-0.03	-0.03
	(-0.58)	(-0.66)
fin. sit. uncertain	-0.10	-0.11
	(-1.21)	(-1.34)
income high	-0.09***	-0.09***
	(-2.68)	(-2.61)
income middle	-0.08**	-0.08**
	(-2.50)	(-2.46)
income na	-0.14***	-0.14***
	(-3.13)	(-3.15)
education high	-0.21***	-0.20***
	(-4.88)	(-4.59)
education middle	-0.08**	-0.07*
	(-2.15)	(-1.83)
constant	1.64***	1.67***
	(20.04)	(20.22)
N	4138	4017
F-statistic		570.37***
F p-value		0.00
w Kleibergen-Paap rk LM statistic		452.82***
Kleibergen-Paap rk LM p-value		0.00

Notes: The dependent variable *cash preference* is an indicator variable that takes three values (weak, medium and strong cash preference). The reported coefficients are from a linear regression model estimated by OLS (I) and two stage least squares (II). For a definition of variables see the Appendix. The aim of the table is to account for the possibility that "memory restr. access" is endogenous. To account for this "memory inflation" is employed as an instrument. All regressions include as controls age, sex, size of household, employment status, expected financial situation and time dummies. Robust t-values reported in parentheses. ***, **, * mean that the coefficient is statistically different from zero, at the 1-, 5-, and 10-percent level.

Table 7: The role of social capital

	preference for cash (weak, medium, strong)					
	I	II	III	IV	V	VI
ES deposits are safe	-0.25**					
	(-2.11)					
ES memory restr. access	0.05					
	(0.60)					
LITS trust in banks		-0.24**				
		(-2.06)				
LITS trust in people			0.02			
			(0.12)			
LITS election turnout				-0.18		
				(-1.27)		
LITS referenda turnout					0.09	
					(1.59)	
LITS civic involvement						0.37
						(0.99)
LITS trust courts	-0.41***	-0.29**	-0.40***	-0.40***	-0.36***	-0.38***
	(-3.05)	(-2.03)	(-2.98)	(-2.83)	(-2.74)	(-2.90)
LITS income from bartering	0.03	0.06	0.05	0.09	0.09	0.09
	(0.21)	(0.45)	(0.34)	(0.57)	(0.65)	(0.60)
deposits are safe		-0.10***	-0.10***	-0.10***	-0.10***	-0.10***
		(-4.24)	(-4.46)	(-4.48)	(-4.53)	(-4.42)
risk aversion	0.09***	0.10***	0.10***	0.10***	0.10***	0.10***
	(4.05)	(4.48)	(4.69)	(4.70)	(4.79)	(4.60)
distance to banks	0.02***	0.02***	0.02**	0.01**	0.01**	0.01**
	(3.17)	(2.78)	(2.52)	(2.45)	(2.43)	(2.45)
cash used to avoid taxes	0.07***	0.08***	0.08***	0.08***	0.08***	0.08***
	(4.21)	(4.90)	(5.06)	(4.97)	(5.20)	(5.40)
exp. inflation higher	0.10***	0.09***	0.10***	0.10***	0.10***	0.10***
	(5.52)	(5.14)	(5.53)	(5.52)	(5.62)	(5.59)
exp. lc depreciation	0.04	0.03	0.03	0.03	0.04	0.04
	(1.54)	(1.21)	(1.22)	(1.21)	(1.35)	(1.38)
exp. lc constant	0.02	0.02	0.02	0.02	0.02	0.02
	(0.82)	(0.93)	(0.92)	(0.71)	(0.94)	(0.98)
exp. lc dn	0.02	0.01	0.01	0.01	0.01	0.01
	(0.76)	(0.21)	(0.26)	(0.30)	(0.41)	(0.42)
income high	-0.05**	-0.04*	-0.04*	-0.04*	-0.04*	-0.05*
	(-1.98)	(-1.89)	(-1.86)	(-1.87)	(-1.88)	(-1.95)
income middle	-0.04**	-0.04*	-0.04*	-0.04*	-0.04*	-0.04**
	(-2.02)	(-1.87)	(-1.90)	(-1.86)	(-1.86)	(-1.97)
income na	-0.06**	-0.05*	-0.05	-0.05*	-0.04	-0.05
	(-2.01)	(-1.89)	(-1.63)	(-1.69)	(-1.47)	(-1.59)
education high	-0.12***	-0.12***	-0.12***	-0.12***	-0.12***	-0.12***
	(-4.61)	(-4.51)	(-4.33)	(-4.46)	(-4.33)	(-4.32)
education middle	-0.03	-0.04	-0.04	-0.04*	-0.04*	-0.04
	(-1.36)	(-1.63)	(-1.56)	(-1.68)	(-1.67)	(-1.62)
N	4854	4735	4735	4735	4735	4735
log-L	-4986.05	-4829.85	-4838.31	-4834.89	-4834.76	-4835.17
P(cash pref.=strong)	0.30	0.30	0.30	0.30	0.30	0.30

Notes: The dependent variable *cash preference* is an indicator variable that takes three values (weak, medium and strong cash preference). P(cash pref.=strong) denotes the unconditional sample probability of a strong cash preference. The reported coefficients are ordered probit estimates of the effect of a marginal change in the corresponding regressor on the probability of the category "strong cash preference", computed at the sample means of independent variables. For a definition of variables see the Appendix. The aim of the table is to test whether regional differences in selected regressors can explain regional differences in cash preferences. All regressors starting with "ES" or "LITS" are observed at the regional level ("ES" means that regional aggregates are calculated with data from the OeNB Euro Survey, "LITS" means that regional aggregates are calculated with data from the 2006 Life in Transition survey from from the EBRD). All regressions include as controls age, sex, size of household, employment status and time dummies. The t-values which are reported in parentheses are corrected for potential clustering of residuals at the regional level. ***, **, * mean that the coefficient is statistically different from zero, at the 1-, 5-, and 10-percent level.

Table 8: Ownership of savings accounts and life insurances

	I	II	III	IV	V	VI
	savings deposit ownership (0/1)			life insurance ownership (0/1)		
deposits are safe	0.07***		0.06***	-0.00		-0.00
	(3.22)		(2.67)	(-0.06)		(-0.14)
memory restr. access	0.02			0.02		
	(0.98)			(0.97)		
trust dom. owned banks		0.11***			-0.01	
		(4.91)			(-0.30)	
LITS trust in banks			0.32***			-0.11
			(2.86)			(-0.46)
LITS trust courts			0.10			0.62**
			(0.77)			(2.49)
LITS income from bartering			-0.18			-0.50*
			(-0.80)			(-1.71)
trust in police	-0.01	-0.04**	-0.01	-0.00	0.00	0.00
	(-0.51)	(-2.49)	(-0.33)	(-0.01)	(0.00)	(0.02)
risk aversion	-0.03	-0.02	-0.02	0.04***	0.05***	0.04
	(-1.02)	(-0.52)	(-0.48)	(3.60)	(6.04)	(1.15)
receives remittances	0.19***	0.18***	0.16***	0.06***	0.05***	0.02
	(7.18)	(6.98)	(5.84)	(2.91)	(2.60)	(0.42)
exp. inflation higher	-0.00	-0.00	-0.01	0.01	0.01	-0.02
	(-0.03)	(-0.02)	(-0.61)	(0.49)	(0.45)	(-0.95)
exp. lc depreciation	-0.02	-0.02	-0.05	-0.00	-0.01	-0.07*
	(-0.49)	(-0.79)	(-1.26)	(-0.07)	(-0.33)	(-1.78)
exp. lc constant	-0.01	-0.02	-0.04	-0.00	-0.00	-0.05
	(-0.38)	(-0.58)	(-1.55)	(-0.13)	(-0.04)	(-1.51)
exp. lc dn	-0.09**	-0.10**	-0.12***	-0.01	-0.02	-0.04
	(-2.03)	(-2.25)	(-3.06)	(-0.51)	(-0.72)	(-1.03)
income high	0.12***	0.11**	0.07	0.04	0.06**	0.00
	(2.75)	(2.46)	(1.47)	(1.14)	(2.18)	(0.01)
income middle	0.03	0.02	0.00	0.01	0.02	-0.00
	(0.90)	(0.91)	(0.03)	(0.46)	(0.91)	(-0.10)
income na	0.15***	0.14***	0.09**	0.04	0.06*	0.02
	(5.12)	(4.99)	(2.04)	(1.44)	(1.92)	(0.33)
education high	0.13*	0.14*	0.10	0.11***	0.12***	0.05
	(1.77)	(1.78)	(1.26)	(2.79)	(3.77)	(0.60)
education middle	0.01	0.01	0.00	0.05	0.06***	0.05
	(0.21)	(0.38)	(0.04)	(1.57)	(2.69)	(0.83)
Log-L	-6167.7	-7144.4	-7353.6	-5736.8	-6663.8	-6961.7
N	6491	7505	7334	6559	7589	7416
N-uncens.	4035	4602	4507	4103	4686	4589
P(dep. var=1)	0.32	0.32	0.32 ZZZ	0.21	0.21	0.21

Notes: In specifications I, II and III the dependent variable is an indicator variable taking value one if respondents has a savings account. In specifications IV, V and VI the dependent variable is an indicator variable taking value one if respondents have a life insurance. P(dep. var=1) denotes the unconditional sample probability of the respective dependent variable. All reported coefficients are estimates of the effect of a marginal change in the corresponding regressor on the probability of transaction account or savings account ownership, computed at sample means of independent variables. The reported coefficients are based on a two equation heckman sample selection probit model where the first stage is transaction account ownership (whether respondents have a transaction account, a debit card or a wage card). We employ *distance to banks* for identification. The first stage results are not shown but are available on request. "N" denotes the number of obervations used for the first stage equation, "N-uncens." denotes the number of observations of the second equation. The sample is restricted to persons who report to have savings. For a definition of variables see the Appendix. All regressions include as controls age, sex, size of household, employment status, expected financial situation and interacted country and time dummies. The t-values which are reported in parentheses are corrected for potential clustering of residuals at the country level. ***, **, * mean that the coefficient is statistically different from zero, at the 1-, 5-, and 10-percent level.

Table 9: Cash most important financial asset

	cash most important financial asset (0/1)		
	I	II	III
deposits are safe	-0.06**		-0.04**
	(-2.02)		(-2.43)
memory restr. access	0.00		
	(0.05)		
trust dom. owned banks		-0.07**	
		(-2.57)	
LITS trust in banks			0.32
			(1.26)
LITS trust courts			-0.56***
			(-3.16)
LITS income from bartering			0.84***
			(2.93)
trust in police	0.02	0.03*	0.03
	(0.82)	(1.75)	(1.37)
risk aversion	0.01	0.00	-0.03
	(0.40)	(0.01)	(-0.96)
distance to banks	0.02***	0.02***	0.03***
	(2.83)	(2.77)	(4.02)
receives remittances	-0.07***	-0.07***	0.02
	(-3.27)	(-4.09)	(0.73)
exp. inflation higher	-0.00	-0.00	0.01
	(-0.06)	(-0.03)	(0.52)
exp. lc depreciation	0.04**	0.04*	0.09***
	(2.46)	(1.96)	(3.02)
exp. lc constant	0.04**	0.04***	0.06**
	(2.11)	(2.63)	(2.43)
exp. lc dn	0.02	0.03**	0.06**
	(0.80)	(1.98)	(2.27)
income high	-0.12***	-0.10***	-0.11***
	(-3.51)	(-2.89)	(-4.06)
income middle	-0.06**	-0.05*	-0.06***
	(-2.35)	(-1.65)	(-3.01)
income na	-0.13***	-0.12***	-0.14***
	(-3.13)	(-2.82)	(-4.02)
education high	-0.12***	-0.14***	-0.12***
	(-2.81)	(-3.35)	(-3.03)
education middle	-0.03	-0.05**	-0.07**
	(-0.92)	(-2.17)	(-2.19)
pseudo-R2	0.13	0.12	0.06
log-L	-3362.95	-3889.66	-4099.76
N	5902	6831	6689
P(dep. var=1)	0.64	0.65	0.64

Notes: The dependent variable is an indicator variable that takes value one if cash is the most important financial asset in households' portfolios. P(dep. var=1) denotes the unconditional sample probability of this event. The reported coefficients are probit estimates of the effect of a marginal change in the corresponding regressor, computed at sample means of independent variables. For a definition of variables see the Appendix. All regressions include as controls age, sex, size of household, employment status, expected financial situation and interacted country and time dummies. The t-values which are reported in parentheses are corrected for potential clustering of residuals at the country level. ***, **, * mean that the coefficient is statistically different from zero, at the 1-, 5-, and 10-percent level.