

Stix, Helmut

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Euroization: What Factors drive its Persistence?

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OESTERREICHISCHE NATIONALBANK

Eurosystem

WORKING PAPER I 40
EUROIZATION: WHAT FACTORS DRIVE
ITS PERSISTENCE? HOUSEHOLD DATA
EVIDENCE FOR CROATIA, SLOVENIA
AND SLOVAKIA

HELMUT STIX

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Editorial

The question asked in this paper is why people continue to use foreign currencies even after their economies have stabilized. Survey data for Croatia, Slovenia and Slovakia are employed to provide an answer. The results confirm the role of network effects and of remittances. Furthermore, the extent of currency substitution is found to be positively associated with the level of income and education. An important aspect of euroization seems to be age (the older are more likely to hold foreign currencies). In contrast, neither expectations about inflation rates, nor about exchange rates, do seem to affect the degree of euroization in a systematic and predictable way. Trust in the banking system is found to affect the choice between foreign currency cash and foreign currency deposits. Overall, the results support the view that the persistence in the use of foreign currencies is driven to a large extent by factors that are related to the past.

March 6, 2008

Euroization: What Factors drive its Persistence?

Household Data Evidence for Croatia, Slovenia and Slovakia

Helmut Stix*

Abstract

The question asked in this paper is why people continue to use foreign currencies even after their economies have stabilized. Survey data for Croatia, Slovenia and Slovakia are employed to provide an answer. The results confirm the role of network effects and of remittances. Furthermore, the extent of currency substitution is found to be positively associated with the level of income and education. An important aspect of euroization seems to be age (the older are more likely to hold foreign currencies). In contrast, neither expectations about inflation rates, nor about exchange rates, do seem to affect the degree of euroization in a systematic and predictable way. Trust in the banking system is found to affect the choice between foreign currency cash and foreign currency deposits. Overall, the results support the view that the persistence in the use of foreign currencies is driven to a large extent by factors that are related to the past.

JEL-Code: E41, E50, D14

Keywords: Dollarization, euroization, currency substitution, survey data

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1 Introduction

Periods of turbulences in the 1990s and early 2000s led to a significant extent of dollarization in Central, Eastern and South-Eastern European countries. In the meantime, the economic and political environment has stabilized in many of these countries, with rather low inflation rates and predictable economic policies – some countries have become members of the European Union. Nevertheless, dollarization is still present which adds substantial complications to monetary and fiscal policy.

Why do people in these countries continue to hold foreign currencies? Is this decision related to the past (e.g. ongoing mistrust in the stability of the own currency)? Are network effects at work preventing normalization? Or do expectations about the future, i.e. about the exchange rate and the inflation rate influence the decision to hold foreign currencies? This paper aims at providing answers on these questions. In particular, we analyze some of the hypotheses raised in the literature by making use of a unique microdata set for Croatia, Slovenia and Slovakia.

The literature has provided many important insights into the reason for the observed dollarization persistence. One strand of the literature highlights the role of network externalities and the role of transaction costs (e.g. Feige, Faulend, Sonje & Šošić 2003, De Freitas 2004, Oomes 2003, Reding & Morales 2004).¹ Another strand of the literature has identified the lack of confidence in domestic money or the lack of credibility of economic policy resulting from past periods of turbulence as important (Feige 2003, Nicolo, Honohan & Ize 2005).² Accordingly, dollarization could be viewed as the “collateral cost of low institutional credibility” (Yeyati 2006, p.82). An alternative explanation highlights the development stage of the financial system (Duffy, Nikitin & Smith 2006, Savastano 1996). Also, it has been argued and empirically demonstrated that portfolio considerations play an important role for the extent of dollarization (Ize & Yeyati 2003). This model predicts dollarization persistence if the expected volatility of inflation remains high relative

¹For those Central, Eastern and South-Eastern European countries that are highly dollarized, Feige & Dean (2004) observe that “...for network externality reasons the use of foreign currency [...] for transactions purpose is unlikely to be reversible, even if they pursue moderate macroeconomic policies and hence reduce inflation risk” (ibid, p. 21).

²Related, Kyriakos & Savva (2006) emphasize the importance of macroeconomic stability in general.

to the volatility of the real exchange rate - notably an explanation resting on forward looking aspects. The interaction of deposit and loan dollarization has been highlighted by Basso, Calvo Gonzalez & Jurgilas (2007), Ize & Yeyati (2003) and Luca & Petrova (2008). The predictions of these and other models have been tested in a voluminous literature, with the empirical test being mainly based on aggregate time series and/or cross-country comparisons.

The present paper contributes to the existing literature insofar as we test some of the hypothesis raised in the literature by using household survey data. In particular, we regress several indicators of the extent of currency substitution at the individual level on individual characteristics as well as on theoretically informed variables. Inter alia, we study (i) the role of network externalities, (ii) the role of inflation and exchange rate expectations, (iii) the role of financial institutions in general and trust into the banking system in particular and (iv) the role of income.³ Furthermore, we present results on other variables that are of potential importance (for example, remittances).

We consider a microeconomic approach promising for several reasons: First, decisions about the use of foreign currencies are ultimately determined by individual considerations – see for example Seater’s (2008) interesting theoretical model which highlights the role of individual characteristics on dollarization and Colacelli & Blackburn (2006) who make use of household data to study dollarization in Argentina. The analysis of individual data should therefore be able to provide a different and in some cases more detailed perspective on certain aspects of dollarization than is obtainable from macroeconomic analyses. Second, the nature of the employed data set allows focusing on household dollarization which is important because relatively little is known about the determinants of household dollarization.⁴ Third, our data set contains information on both foreign currency denominated cash balances and foreign currency denominated deposits. This allows testing for a differential impact of theoretically informed variables on currency and deposit substitution.⁵

³Seater (2008) stipulates that the level of income plays an important role for dollarization. See the discussion below.

⁴Due to data constraints dollarization indices typically cannot be constructed for households and firms separately. Basso et al. (2007) account for this distinction, however the authors note that their model does not seem to capture the main determinants of household dollarization - while it does well for firms.

⁵We will use the following terminology in this paper: Currency substitution will refer to the substitution

This seems important as some of the explanations provided in the literature apply only to currency substitution while others only to deposit substitution. For example, it has been stipulated that network effects should not substantively affect deposit substitution (Calvo & Végh 1992, Ize & Yeyati 2003) while they should affect the extent of currency substitution. Another example concerns the effect of rising confidence into the banking system. Feige (2003) reports a negative correlation between indices of currency substitution and deposits substitution for some countries and conjectures that rising confidence in the banking system can lead to a decrease in the use of foreign currency cash and an increase in foreign currency deposits, possibly leaving the overall degree of euroization unchanged. The data set we use allows to shed some light on the choice between holding foreign currency denominated cash versus foreign currency denominated deposits.

Certainly, microdata-based analyses do not only have advantages. In particular, the analysis can be plagued by reverse causality and endogeneity issues. Furthermore, information on key economic determinants can often be difficult to acquire in survey questions and we do not have information on some theoretically important determinants of euroization. Despite these qualifications, we think that our results help to get a better understanding of the euroization phenomenon which, ultimately, helps to answer highly relevant policy questions. Is it possible to reduce the level of euroization by means of economic policy? And if so, which measures should be taken? If, for example, expectations on exchange rates or a low degree of confidence in the banking sector are found to drive behavior of households then there is a clear potential for policy makers. If, however, network effects are important then it is likely that the impact of policy measures will induce only a slow adjustment.

of foreign currency (cash, FCC) for domestic currency (cash, LCC). In general, asset substitution refers to the substitution of foreign denominated monetary assets to domestic denominated monetary assets. As we will not focus on other monetary assets rather than saving deposits, the term asset substitution and deposit substitution will be used interchangeably, both referring to the substitution of saving deposits denominated in foreign currency (FCD) for saving deposits denominated in local currency (LCD). Finally, because the euro has a predominant role in the countries analyzed, we will also make use of the term euroization (instead of dollarization). Hence, euroization refers to the overall, and in our case, unofficial extent of currency and asset substitution. This terminology corresponds very closely to the terminology proposed by Feige et al. (2003).

2 Data and Descriptive Statistics

The data used in this paper were collected in representative surveys undertaken in Croatia, Slovenia and Slovakia during 2004 and 2005 and commissioned by the Oesterreichische Nationalbank. The main focus of the surveys has been to collect information about foreign currency cash holdings in the respective countries. In particular, the respondents have been questioned, face-to-face, about their holdings of euro and US dollars as well as their motives for holding foreign currencies. Furthermore, the survey waves contained a limited set of questions about exchange rate and inflation expectations, deposits safety and travel habits.⁶ For each survey and in each country approximately 1,000 persons above the age of 14 were personally interviewed in April/May and in October/November, such that our joint sample comprises four survey waves with about 4000 observations per country.

It is important to point out that random fluctuations can be sizeable if the number of respondents is low. Particularly, this concerns those questions that are related to individuals' wealth, like the stock of foreign cash held at home, where it, additionally, cannot be expected that respondents will always reveal the truth. Furthermore, the surveys do not include commercial cash holdings and certainly cannot cover "criminal" money. As a result it is likely that survey results concerning amounts of foreign cash significantly understate true amounts. Therefore, we will restrict the estimation approach to ownership of foreign currencies and will neglect amounts.

2.1 Some Descriptive Statistics

Table 1 summarizes the main results from the question on foreign currency cash holdings. We find that the share of the population who held euro is significantly higher than the share of the population who held US dollar. The share of the population who answered that they hold euro cash ranges from 24% for Croatia to 48% for Slovenia while US dollar cash were held by 3% to 10%. Also, most people who held US dollar also held euro in Slovenia and Croatia, such that the overall share of the population who possessed either euro or US dollar is almost identical with the euro share in these two countries. Only in

⁶Detailed information about the questionnaire as well as descriptive statistics are summarized in Appendix A.

Slovakia, does a small percentage of the population hold US dollar but no euro. Overall, this suggests that US dollar holdings are of much less importance than euro holdings in these countries.

Respondents were also asked about their main motive choosing one from three possible answers: as a general reserve, for shopping abroad or for domestic purchases. The answers are also summarized in Table 1. The motive “general reserve” was most important in Croatia and Slovenia where this was decisive for 73% and 55% of euro holders, respectively, while in Slovakia only 27% referred to this motive. “Transactions abroad” were the main motive for 71% of Slovaks, 43% of Slovenes and only 21% of Croats who held euro. Finally, the results indicate that currency holdings were hardly motivated by (mainly) domestic transactions – only for Croatia do the survey responses suggest some importance of this motive.

Given that we focus on euroization, we neglect those who held foreign currencies for purchases abroad.⁷ The last column of Table 1 shows the share of the population who held either euro or US dollar as a reserve or for domestic payments – the variable will be denoted FCC, which differs sizeably between countries, from 30% in Slovenia, 20% in Croatia to 13% in Slovakia.

⇒ INSERT TABLE 1 ABOUT HERE ⇐

The surveys also provide information on the possession and the denomination structure of savings accounts (Table 2). According to the surveys, 40% of Croats, 69% of Slovaks and 87% of Slovenes held a savings account. The particularly high value for Slovenia can be traced to an imprecise translation in the questionnaire because the English questionnaire referred to pure savings accounts while the Slovenian translation referred to both transaction (checking) and savings accounts. When it comes to the currency denomination structure, we find that the majority of Slovenes and Slovaks held their accounts in domestic currency (for Slovenes this certainly is to some extent due to the above mentioned

⁷Balances associated with this motive are driven by very different economic considerations and are relatively low in value (cf. Ritzberger-Grünwald & Stix 2007). The surveys were also conducted in Hungary and the Czech Republic. As the number of individual observations for which we can identify that currency is held for reserve purposes and not to cover transactions made abroad (e.g. for trips) is low for these two countries, we restrict our attention to Croatia, Slovenia and Slovakia.

problems with the wording of the question). If Slovenian respondents also held a foreign currency account, they tended to have both a local and a foreign currency account. Only in Croatia did a reportable percentage have only a foreign currency and no local currency savings account.⁸

⇒ INSERT TABLE 2 ABOUT HERE ⇐

3 Model and Variable Definition

In order to identify the determinants of euroization at the level of individuals we model the decision to hold foreign currencies by the following probit-type specification,

$$FC_i^* = \beta' \cdot z_i + u_i \quad (1)$$

which relates a latent variable for the ownership of foreign currency denominated assets of respondent i , (FC_i^* , defined below), to a vector of explanatory variables (z_i). u_i is a normally distributed error term. Typically, z_i contains various dummy variables measuring socio-demographic characteristics as well as other theoretically informed variables which should have an impact on the net benefits of holding assets denominated in foreign currency.

It is assumed that individuals hold foreign currencies denominated assets (cash or deposits) only if the benefits from doing so are greater than the respective costs. In this interpretation, FC^* measures the unobserved net benefit of holding foreign currency denominated assets. The observed counterpart to FC^* is whether an individual holds or does not hold foreign currency denominated assets. That is, we observe $FC = 1$ if $FC^* > 0$ and $FC = 0$ if $FC^* \leq 0$.⁹

⁸Official aggregate statistics on households' denomination structure in total deposits yield a foreign currency share of about 13% in Slovakia, 36% in Slovenia and 83% in Croatia (data from 2004; see Backé, Ritzberger-Grünwald & Stix (2007)). The ranking obtained from the survey corresponds with these data.

⁹It should be noted that the chosen specification is likely to represent only an approximation to the demand for FCC and FCD, in particular as the relationship between the dependent and the independent variables can potentially be complex and highly non-linear (cf. Seater 2008)

3.1 Dependent Variables

Given the discussion in the literature we will, within the limits of data availability, distinguish between currency and asset substitution which implies a two dimensional decision problem faced by an individual. First, an individual can hold cash or assets (in our application a savings account).¹⁰ Second, an individual has to decide whether to hold these assets in local or in foreign currency. Table 3 shows a cross tabulation of these possibilities. For example, in Croatia, 60% of respondents had no savings account (with 53% of the population not holding FCC while 7% held FCC), 19% had only a local currency denominated account (16% of the population held no FCC while 3% held FCC). Finally, about 20% held a FCD (either in addition to a LCD or exclusively a FCD). Within this group, a sizeable share also had some FCC at home. A similar picture emerges also for the other two countries.¹¹

⇒ INSERT TABLE 3 ABOUT HERE ⇐

Given these empirical findings on cash and deposit holdings, we construct three binary variables, summarized in Table 4, which will be used as dependent variables. Notice that these dependent variables will be defined only for a subset of the whole population, namely for only those who hold a bank account (either in local or in foreign currency). This restriction is warranted because the group of account holders is more homogeneous than the entire population.¹²

The first dependent variable concerns the likelihood that someone holds *foreign currency cash and/or foreign currency deposits*. Specifically, it compares the group of those who either have a FCD or FCC with the group of those who only have a LCD and no FCC. The second dependent variables concerns *only deposit substitution*. It takes a value of one if a respondent has a FCD and zero if he/she does not hold such an account. Thus,

¹⁰Due to data constraints we must neglect the role of other financial assets.

¹¹Thus, the data suggest that foreign cash holdings are not necessarily perfect substitutes for foreign currency deposits. On the one hand, people could hold some FCC at home for liquidity reasons. On the other hand, respondents might not always correctly distinguish between cash and deposits.

¹²For example, the survey contains answers from 15 years old pupils. By applying this restriction, we need to consider sample selectivity issues, i.e. if unobserved personal characteristics affect both the decision to hold an account and the decision to hold foreign currencies. As we control for numerous personal and socio-demographic characteristics, we do not expect sample selectivity to be of major concern.

this dependent variable neglects the role of FCC. The third dependent concerns the choice *between foreign currency cash and foreign currency deposits*. In particular, it compares those who hold foreign money at home with those who hold foreign money at a bank (the variable takes a value of one if a respondent holds FCC but no FCD, and zero if a respondent holds no FCC but a FCD).

⇒ INSERT TABLE 4 ABOUT HERE ⇐

3.2 Explanatory Variables

The choice of explanatory variables contained in z_i is given both by theoretical considerations and by data availability.

The workings of network effects has been identified as a potentially important determinant of euroization from a theoretical perspective (e.g. Feige et al. 2003, Oomes 2003, Reding & Morales 2004). In empirical applications, network effects are typically approximated by ratchet variables (e.g. the past inflation maximum, etc.). The survey questionnaire allows to test for the presence of network effects in a different manner. In particular, we construct a binary variable “NOTICED PAYMENTS” which takes a value of one if a respondent answers that she or he observed other inhabitants making payments in euro in their country and zero else. We assume that the incentive to hold foreign currencies increases if other respondents make payments in foreign currencies. Therefore, we expect a positive coefficient for this variable if network effects are important.

To approximate differences in expected returns between holding foreign and domestic denominated financial assets, the second set of explanatory variables provides information on the expected inflation and exchange rate. In particular, we construct dummy variables from survey answer on one year ahead expectations about rising, constant and falling inflation (INFLATION WILL RISE, INFLATION WILL FALL, INFLATION SAME). Similarly, “EXCHANGE R. WILL DEPREC.”, “EXCHANGE R. WILL APPREC.” and “EXCHANGE R. SAME” measure whether respondents expect the local currency to loose value, to gain value or to remain of about the same value against the euro, with these expectations concerning the next two years.¹³ As we do not have information on the

¹³Notice that the exchange rate expectations refer to the expectations vis-à-vis the euro while currency

expected inflation in foreign currency and on nominal returns in domestic and foreign currency, we assume that all individuals face, first, the same nominal interest rates and second, the same expectations concerning the foreign currency inflation rate. Hence, the inclusion of these indicators of inflation and exchange rate expectations should control for differences in expected real returns. In particular, we should find that those individuals who expect that inflation will rise or that the exchange rate will weaken against the euro to have a higher likelihood of holding FC denominated assets.

However, as to the plausibility and the effect of these variables, several comments are necessary. First, in lack of data, the empirical literature typically uses proxy measures like past values to measure expectations.¹⁴ In contrast, the survey data we use provide a direct indicator of expectations. However, as often found in surveys, people's answer about the future could be less informative than people's answer about the present or past.¹⁵ Second, we can only control for changes in the expected inflation and exchange rate level and not for changes in the expected volatility of the inflation versus the exchange rate which has been identified as important (Ize & Yeyati 2003). Third, while we have little doubt that expectations are important in countries with rather high inflation rates and/or rather unstable exchange rates, it is not clear whether we can identify that these variables affect the decision to hold foreign currencies in an environment of relatively moderate movements of inflation and exchange rates, in particular given that the dummy variables we use allow only for a crude assessment of expectations.¹⁶

Given that the countries under analysis have been growing fast, the question emerges how the level of income affects the degree of euroization. An interesting theoretical model

ownership entails both euro and US dollar holdings. Given that US dollar ownership rates are low, we consider this only a negligible inconsistency.

¹⁴For example, Honohan (2007) or, for Croatia, Šošić & Kraft (2006), provide evidence that agents react to exchange rate changes by changing the currency composition of their deposits. However, their evidence refers to the direct impact via current and not expected exchange rate changes. It has been argued that the expected inflation rate should not affect the currency composition of deposits as differences in inflation rates are incorporated in the nominal returns such that real returns remain constant (e.g. Ize & Yeyati 2003). In our view, this argument is important when modeling euroization with macroeconomic data but not with microeconomic data.

¹⁵This gets reflected in the relatively high share of respondents who could not give answer on their exchange rate expectations (cf. with Table A.2.)

¹⁶See Appendix B for a graphical exposition of the development of inflation and exchange rates in the countries under analysis.

which is of direct relevance for this question has been proposed by Seater (2008). In particular, this model allows for the simultaneous use of two media of exchange and a saving asset (which is denominated in local currency). One prediction of this model is that it is likely that more people hold saving assets in high income countries than in low income countries. Also, the model predicts a connection of the level of income and currency substitution. However, the sign of these effect depends on several parameters and elasticities and hence is an empirical issue. However, Seater (2008) stipulates that currency substitution is more likely among higher-income households than lower-income households.¹⁷ Additionally, the model predicts that the composition of expenditures matters. Again, the sign of the effect cannot easily be predicted. However, in this context it is of interest to note that in the countries under analysis foreign currencies are mostly used for purchases of more expensive goods.¹⁸ As high income households consume a relatively greater quantity of such goods, currency substitution could be indirectly affected by the level of income also via this channel.

To account for this argument, the group of dependent variables comprises dummy variables measuring net household income (INC1,...,INC5). Furthermore, dummy variables controlling for education are included (EDU LOW, EDU VOC, EDU SEC, EDU UNI). While the income measure refers to household income, education could potentially have an impact via two channels: First via the level of financial literacy – comparing risks and returns of alternative investments can be difficult; it can be expected that the more educated have an advantage in this respect – and second via the role of education as a proxy for personal income (compared to household income which is measured by INC).

As argued, it has been stipulated that the quality and credibility of financial institutions are of potential importance (Nicolo et al. 2005, Savastano 1996). In this context, trust into the banking system can be expected to play a central role — in particular in the ex-Yugoslavian countries which experienced periods of restrictions on the use of deposits and

¹⁷This would be consistent with rational behavior if, according to Seater (2008), additional interest earned with higher income dominates additional conversion and fixed costs (costs of conversion, shoe-leather costs, other fixed costs associated with the deposit).

¹⁸Results from a later survey from May 2006 show that if foreign currencies are used for payments they are typically used for large value payments in Croatia and Slovenia. Only in Slovakia, answers indicate that small value payments dominate.

banking crises (cf. Ritzberger-Grünwald & Stix 2007). To account for this effect the surveys included a question on the perceived safety of bank deposits in the respective countries. From these questions, four dummy variables are constructed, ranging from deposits are very safe to deposits are very unsafe (DEPOSITS VERY UNSAFE, etc.) and we expect that the perceived safety of deposits influences the currency composition of asset holdings.

Notice that some of the variables discussed, in particular network effects and confidence in the banking system, are linked to the economic history. For example, it is well conceivable that past periods of banking crises could still bias agents' view of the current situation. In this context, we will also analyze whether the age of respondents exerts an independent effect on euroization beyond that incorporated already in other variables, like the assessment of the safety of deposits. Older people have experienced periods of economic and political turbulences and, if this factor is still of importance, could be more cautious than younger people. For example, in former Yugoslavia periods of economic and political turbulences occurred mainly in the early 1990s. Hence, if this effect is important and if active financial management starts around the age of 25, then those around the age of 50 should have higher currency or asset holdings in foreign currency than younger people, other things equal. Also, a significant effect of age could reflect the fact that in the past currency substitution was more widespread and hence that older people either have more experience with assets denominated in foreign currencies or still hold the deposits that were then opened.

Remittances are a further potentially important factor for the extent of euroization at the household level (OECD, 2007). The surveys do not provide direct information about the extent of remittances but contain information about whether individuals have close relatives who are working in the euro area. Hence, a dummy variable "CLOSE RELATIVE" is constructed. It is assumed that this variable reflects the likelihood of remittances and hence the likelihood of holding FC denominated assets. Furthermore, the surveys provide information on the number of visits to the euro area during the past year (VISITS 0, VISITS 1-5, VISITS >5). These dummy variables control, first, for the likelihood that someone works or conducts business in the euro area – hence earns income in euro or needs to hold euro for these activities – and second, for transaction costs associated with foreign currency holdings: Persons who possess euro and spend them abroad could have lower

transaction costs than those who need to convert into local currency and spend the money domestically.¹⁹

Finally, we include several socio-demographic variables. The first group control for the occupation: a persons can either be employed, inactive (ES: INACTIVE), retired (ES: RETIRED) or in education (ES: STUDENT). If an individual is employed then either as a qualified worker or employee (ES: QUALIF.) or as a blue collar worker. Furthermore, a person can be self-employed or an owner of a business (ES: OWNER). These variables are included because the currency composition of income as well as the temporal evolution of income flows can differ across occupational group. For example, owners of businesses might have a higher likelihood of holding foreign currencies because income flows can be temporarily high or because income is received in foreign currencies (e.g. if tourists pay in foreign currencies). Also, we control for the sex of a person, the village size, the household size and the geographical region.²⁰

4 Estimation Results

The estimations for all three dependent variables are conducted in a similar way. First, we estimate several different specifications for each dependent variable and for each country. These specifications differ by the included explanatory variables. Furthermore, robustness tests are conducted by focusing only on certain subgroups of the sample. This estimation strategy allows for an assessment of the robustness of results for each country. As the number of estimated specifications is quite sizeable, we will not describe each country table in detail, but focus on only one country per dependent variable. In turn, more emphasis is given to a comparative exposition of the results for all three countries. For this sake, selected marginal effects obtained for Croatia, Slovenia and Slovakia are compared in summary tables, allowing for a cross-country assessment of the robustness of results.

¹⁹Distances to nearest Austrian cities can be low: Bratislava to Vienna: 60 kilometers, Ljubljana to Klagenfurt: 80 kilometers; Zagreb to Graz: 180 kilometers.

²⁰Notice that the surveys do not provide information on whether a person is the household head. Sex is likely to control for this variable.

4.1 Foreign Currency Deposits and Foreign Currency Cash

The estimation results for the first dependent variable, an indicator of holdings of FCC and/or FCD, are summarized for Croatia in Table 5. The corresponding results for Slovenia and Slovakia are summarized in Tables A.3 and A.4, respectively.

The first model in column I of Table 5 includes all presented independent variables but regional dummies. The results turn out to be largely in line with our expectations and with predictions from the literature. In particular, the higher the household income and the higher the educational level of a person, the higher is the likelihood that this person holds FCC and/or FCD – the marginal effects increases with the educational level and income (cf. Seater 2008). Furthermore, owners of businesses are found to have a substantial higher likelihood than the reference group (blue collar workers and retirees). All other occupational dummies do not show significant differences to the reference group.

The significant coefficient for the variable “NOTICED PAYMENTS” points towards the importance of network effects: Those who noticed payments in euro in their country have a probability of holding a FCD and/or FCC which is 9 percentage points (Pp.) higher than those who did not noticed such payments.

⇒ INSERT TABLE 5 ABOUT HERE ⇐

In column II regional dummies are included. Largely, this does not affect the results qualitatively. In particular, the significant regional dummies for Dalmatia points towards the role of tourism.

The results concerning inflation and exchange rate expectations are similar in columns I and II. In particular, those expecting rising or constant inflation have a higher likelihood of holding FC savings than those expecting falling inflation rates. However, the effect is only weakly significantly different from zero (i.e. on a 10% level) for those expecting constant inflation and only in one of the two specifications. In turn, no significant effect for expected exchange rate movements is found – the coefficient for expected appreciation is negative, as expected, but not significantly different from zero.²¹ The coefficient for

²¹The descriptive statistics of Table A.2 indicate that only 6% expected the kuna to appreciate. Possibly, the insignificant coefficient is due to the low number of observations.

expected depreciation is close to zero.²²

The insignificance of exchange rate and inflation expectations could be due to the joint inclusion of both variables. Therefore, each one of these two variables is omitted in columns III and IV. Again this does not alter the results qualitatively, with a weak significant effect of constant inflation relative to falling inflation.²³

A positive and significant effect is obtained for those who have close relatives working in the euro area, pointing towards the importance of remittances. Their likelihood is higher by about 11 Pp. The results from the dummies which control for the number of visits to the euro area reveal a significantly positive association between visits to the euro area and the likelihood of holding a FCC and/or FCD.

Finally, columns V and VI provide two robustness tests. In particular, the specification in column V considers only those above the age of 24 while the specification in column VI analyzes only employed persons. We have chosen these particular subgroups for robustness testing against the background that first, the number of observations should not drop too much given the number of independent variables and that, second, the subgroups should reflect a more homogeneous subset of the complete sample. Reassuringly, the results from these two subgroups of the population do not alter the results qualitatively.

The same specifications are applied for Slovenia and Slovakia (Tables A.3 and A.4). Similarly to Croatia, it is found that the marginal effects are relatively robust across specifications.

Summary of Results

Table 6 summarizes those marginal effects obtained for Croatia, Slovenia and Slovakia which are significant at least at a 10% level.²⁴

A significant and positive effect for household income is obtained for Slovakia, similar as for Croatia, but not for Slovenia. However, education is positively associated with FCC and/or FCD holdings in all three countries. For example, those in the highest household

²²Notice that we find a negative and significant coefficient for those who did not or who could not provide an answer about their exchange rate expectations. This might indicate that those without foreign currencies do not care about the exchange rate, hence this particular marginal effect could represent a reverse causality issue.

²³However, we cannot reject that both inflation dummy variables are jointly different from zero. The same holds true for both exchange rate dummies.

²⁴To summarize results, we have chosen the marginal effects from the first specifications in columns I.

income quintile have a likelihood of holding FC savings which is between 26 and 35 Pp. higher than those in the lowest quintile. Also, the likelihood differs by 9 to 23 Pp. between those with the highest education and those with the lowest education. If one is willing to view education as a proxy for personal income, then this finding is in line with Seater's (2008) theoretical result predicting a relationship between income and euroization. The positive association is also consistent with Seater's (2008) conjecture that currency substitution is more likely for richer households.

The occupational dummies reveal that owners of businesses in Croatia and Slovenia have a higher likelihood of holding FC savings than blue collar workers or retirees by between 12 to 21 Pp. – possibly reflecting the impact of tourism.²⁵

⇒ INSERT TABLE 6 ABOUT HERE ⇐

A positive, significant and rather similar effect is obtained for those who have close relatives working in the euro area. Their likelihood is higher by about 11 Pp. in all three countries. The results from the dummies which control for the number of visits to the euro area show a significant, positive and strong association between visits to the euro area and the likelihood of FCC or FCD. For Slovenia and Slovakia, the countries in the immediate vicinity to the euro area, the likelihood increases with the number of visits from 11 to 40 Pp. — notably, the highest marginal effect of all independent variables. For Croatia, which is farther away from the euro area, the frequency of visits (five time or more often versus less than five times) does not seem to matter.

Respondents who had observed others paying in euro in their country have a higher probability of FCC or FCD, ranging from 6 Pp. in Slovenia to 9 Pp. in Croatia. This finding is in line with results from studies employing macroeconomic data suggesting that network effects are important. However, relative to other marginal effects, network effects do not seem to be very strong. Notwithstanding the fact that the size and strength of network effects can only be approximated by “NOTICED PAYMENTS”, the significance

²⁵Colacelli & Blackburn (2006), though analyzing a different question namely the likelihood of acceptance of a secondary currency, also report an effect of occupational dummies. Their interpretation is that the occupational dummies measure the extent of skill formation or human capital and hence of matching skills. In our case, we consider it more likely that the effect of occupation is caused by differences in the currency denomination structure of income.

of this variable could imply first, that network effects can be at work even if economies have already successfully been stabilized and second, that network effects can be important even in economies that are not overwhelmingly euroized. We think that this would deserve further attention.

The conjecture that experience with economic crises or with periods of instability is an important determinant of FC holdings seems to be, at least partly, supported by the regressions. In particular, older people tend to have a higher likelihood of FC savings than younger people, *ceteris paribus*. In particular this seems to be the case in Croatia. For example, 25 to 34 years old Croats have a 16 Pp. lower likelihood of holding FC savings than those above the age of 54. Similarly, significant effects are found for Slovenia and Slovakia. However, they are not as sizeable as for Croatia, ranging from 6 to 9 Pp., and are not significant for each age dummy.²⁶

The results concerning inflation and exchange rate expectations show no significant effects. Even when considering the discussed weaknesses of the employed variables, we interpret the fact that no significant effect is found in neither country as pointing towards a subordinate role of inflation and exchange rate expectations.

When summing up, it is striking that the marginal effects of some of the variables under consideration are rather similar across countries. Furthermore, the results confirm some of the results of the literature – in particular, concerning the role of income and of network externalities. Age seems important, while short-run expectations of inflation and exchange rates do not seem to affect the likelihood of foreign currency ownership in a systematic and predictable way.

4.2 Foreign Currency Deposits

The results for the second dependent variable, foreign currency deposits, are shown in Tables A.5, A.6 and A.7 for Croatia, Slovenia and Slovakia, respectively. Table 7 summarizes selected marginal effects for all three countries.

²⁶This is also confirmed by joint tests, revealing that the marginal effect is different for those between 25 and 54 than for those above the age of 54. The test statistics is significant at a 1% level for Croatia and Slovakia and at a 10% level for Slovenia.

Overall, the results are very similar qualitatively to the previous results concerning the role of education, occupation, the role of close relatives in, and the number of visits to, the euro area. For income, significant effects are obtained in each country.

Again, network effects are found to exert a positive impact on the likelihood of FCD ownership which is somewhat in contrast to conjectures raised in the literature that network effects should only play a role for currency substitution but not for asset substitution. However, we consider the finding of network effects for deposits plausible as deposits are close substitutes for cash, in particular in the countries analyzed which have well developed financial systems. Concerning the impact of age more significant effects than in the previous regressions are found.

⇒ INSERT TABLE 7 ABOUT HERE ⇐

Inflation expectations seem to matter only in Croatia where those with expectations about rising and constant inflation have a higher likelihood than those with expectations about falling inflation by 11 and 8 Pp., respectively. Concerning exchange rate expectations we only find one significant effect: those expecting the Slovak koruna to appreciate against the euro have a higher likelihood of FCD ownership than those expecting a relatively constant exchange rate - this effect is significant at a 10% level. Irrespective from this finding, however, we again consider the fact that inflation and exchange rate expectations post a significant effect in only a few out of twelve possibilities as interesting by itself.

The empirical results concerning the variables measuring perceived safety of deposits highlight the role of the credibility of financial institutions: in all three countries, we find that those who consider deposits very or rather unsafe have a lower likelihood of holding FC deposits. In Slovenia and Croatia, the effects are rather similar in size and range from 12 to 18 Pp. while in Slovakia the effect is smaller (about 6 Pp.).²⁷

²⁷The fact that the point estimates of the marginal effect for those Croats who consider deposits at banks very unsafe (-12) is larger than those who consider deposits rather unsafe (-18) might seem odd. However, the two effects are not different in a statistical sense. Furthermore, this effect might be traced to the low number of respondents for those considering deposits at banks very unsafe.

4.3 Foreign Cash or Savings

The estimation results for the third dependent variable are summarized for Croatia, Slovenia and Slovakia in Tables A.8, A.9 and A.10, respectively. As a reminder, this dependent variable takes a value of 1 if a respondent holds foreign currency cash but no foreign currency deposits and a value of 0 if a respondent holds foreign currency deposits but no foreign currency cash. A positive marginal effect thus implies that the likelihood of FCC ownership increases while the likelihood of FCD ownership decreases.

Again, several specifications are estimated for each country. Notice that the number of observations is rather low such that no regression results for subgroups of the population are reported. Hence, each country table contains four specifications which are similar to the first four specifications of the previous country tables.

⇒ INSERT TABLE 8 ABOUT HERE ⇐

The summary exposition in Table 8 reveals, first, less significant coefficients in comparison to the previous summary tables. For example, education is not found to have an impact on the choice between cash or deposits. For household income only one significant effect is found. In conjunction with the previous results, this finding suggests that the level of income affects the degree of euroization but not the choice between cash or deposits. The results from the occupation dummies mirror the previous results, namely that owners of businesses have a lower likelihood of holding FCC than blue collar workers or retirees. Also, the results for the number of visits to the euro area are negatively correlated with FCC. Furthermore, age is not found to be systematically important. The role of remittances, or at least the proxy used for this variable, is also not important. Rising inflation expectations are associated with decreasing ownership of cash in Croatia and increasing ownership of cash in Slovakia. No significant effect is found for exchange rate expectations.

Concerning the role of deposit safety, the results reveal significant effects both in a statistical and in an economic sense. For example, Slovaks who consider deposits very unsafe have a likelihood of holding FCC rather than FCD which is 27 Pp. higher than those considering deposits very safe. For the other two countries the coefficients vary between 23 and 27 Pp. This result implies that rising confidence in the banking system

can lead to a decrease in currency substitution and an increase in asset substitution. Thus, it is consistent with Feige (2003) who reports a negative correlation between indices of currency and asset substitution for some countries.

Another noticeable result in Table 8 is that the size of the place of residence seems to matter. For all three countries, we find that those living in a small village have a substantially higher likelihood, ranging from 15 to 22 Pp., of holding FCC than those living in the respective capital – an astonishing similarity of marginal effects across countries. This result might be traced to two factors: first, the provision of banking services might be worse in rural areas. If this explanation is appropriate, then this finding confirms –on a very “small scale”– the argument that more currency substitution should be observed in countries with less-developed financial institutions than in countries with more-developed financial institutions (Savastano 1996). Second, in very small villages, where bank clerks often know the customer it is more difficult to guarantee secrecy. Thus, if a respondent does not want to reveal his wealth status he might prefer to keep FCC.

5 Conclusions

Some countries remain euroized despite far reaching progress with respect to economic stability. Why? This paper’s aim is to provide evidence on this question by analyzing data from Croatia, Slovenia and Slovakia. In contrast to much of the empirical literature, which is mainly based on macroeconomic data, we can utilize survey data. This empirical approach provides an alternative perspective on certain aspects of euroization, helping to infer on the significance of some of the explanations provided in the literature. Furthermore, this approach provides insights into the determinants of household euroization, on which relatively little empirical evidence is available.

In particular, several probit estimations are presented that relate individual characteristics to (i) an indicator of euroization (ownership of foreign currency cash and deposits), (ii) an indicator of foreign currency deposits and (iii) an indicator for the substitution between foreign currency cash and foreign currency deposits.

Overall, we find that the results from the empirical analysis are to a large extent consistent with theoretical conjectures made in the literature. Furthermore, many of the

results turn out to be rather similar across the three countries analyzed, which underlines their robustness.

In particular, the results show that the degree of euroization and the degree of deposit substitution are significantly and positively correlated with the level of income and education, thus providing evidence in favor of a hypothesis recently raised by Seater (2008). Furthermore, we find that people observing others paying in euro are more likely to hold assets in foreign currencies. This suggests that network effects are important, which is in line with results from empirical papers which employed macroeconomic data and which used proxy measures for network effects.

An important aspect of euroization seems to be age. In particular, older people tend to have a higher likelihood than younger people of holding foreign currency assets, other things equal. In contrast, neither expectations about inflation rates, nor about exchange rates do seem to affect the degree of euroization in a systematic and predictable way. With a well justified degree of caution concerning this latter result, the findings, overall, suggest that the degree of euroization is driven mainly by factors that are related to the economic record and not by expectations about the economic future.

The survey data also allow analyzing the factors affecting the choice between foreign currency cash and foreign currency deposits. In this context, trust in the banking system is found to be an important determinant. People with no trust in the banking system have a higher likelihood of holding foreign currency cash, providing support for the conjecture of Feige (2003).²⁸ Furthermore, we find that people living in very small villages have a higher likelihood of holding foreign currency cash than people living in larger places of residence which, likely, can be viewed as indirect evidence that the provision of banking services is important.

As discussed, the data used in the empirical analysis have certain limitations. In particular, the expected relative returns from holding foreign and domestic assets can only be dealt with in an unsatisfactory way. For some other variables of interest, more informative survey responses would allow a more evolved analysis. Hence, the present approach can

²⁸“We are left with the enigma that in some cases, currency substitution and asset substitution are actually negatively related over time. One provisional explanation of this phenomenon can be found in improvements in the domestic banking system. . .” (Feige 2003, p.27).

only be viewed as a starting point for further analyses. Given all these limitations, policy conclusions should not be pushed too far. Nevertheless, the results allow deriving some statements which are sufficiently backed by the empirical results obtained in this paper.

First, the insignificant results for inflation and exchange rate expectations does, in general, not imply that people do not react to these variables. One interpretation could be that in light of moderate movements of inflation and exchange rates, expectations could have stabilized to such an extent that any differences across agents are only small and hence cannot be separated empirically in our approach. If this interpretation is correct then it provides good news for economic policy which, obviously, was able to stabilize expectations.

Second, the results also show that it takes a long time until people adjust their behavior and until network effects weaken. This provides a little less good news as it implies that policy makers can do nothing but make good economic policy and then wait, probably for many years, until the effects of these policies materialize.

Third, the finding that income matters is interesting because it implies that economic stabilization could lead to an increase in euroization if shifts in the income distribution towards higher incomes occur or if incomes increase. The same holds true for remittances: the increases that have been observed over recent years would, given the estimation results, tend to increase the degree of euroization. In my view, these two conjectures would deserve further attention. Fourth, increasing trust in the banking system does not necessarily imply that the overall degree of euroization decreases: Merely, the results indicate that increasing trust can lead to a substitution of foreign currency deposits for foreign currency cash.

Overall, the findings presented in this paper suggest that it is unlikely that we will observe a substantial fall in the degree of euroization within the next years in Central, Eastern and South-Eastern European countries – in spite of successful stabilization.

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Tables

Table 1: Ownership of Foreign Currency Cash and Motives

| | Foreign cash ownership | | Motives for euro holdings | | | Foreign cash as a reserve or for domestic payments |
|----------|-------------------------------|-----------|-----------------------------|-----------------------|---------------------|---|
| | euro | US-dollar | general reserve | domestic purchases | purchases abroad | |
| | <i>in % of the population</i> | | <i>in % of euro holders</i> | | | <i>in % of the population</i> |
| Croatia | 24% | 3% | 73% | 6% | 21% | 20% |
| Slovenia | 48% | 6% | 55% | 2% | 43% | 30% |
| Slovakia | 27% | 10% | 27% | 2% | 71% | 13% |

Note: Aggregated values from 2004 and 2005. 4000 respondents per country.

Table 2: Ownership of Saving Deposits and Denomination Structure

| | Savings account | Currency denomination | | |
|----------|-------------------------------|---|--|--|
| | | only local currency savings account | also foreign currency savings account | |
| | | | both local currency and foreign currency savings account | only foreign currency savings account |
| | <i>in % of the population</i> | <i>in % of those with a savings account</i> | | |
| Croatia | 40% | 49% | 36% | 15% |
| Slovenia | 87% | 75% | 24% | 1% |
| Slovakia | 69% | 83% | 16% | 1% |

Note: Aggregated values from 2004 and 2005. Only those with an answer are included.

Table 3: Foreign Currency Cash and Deposits

| | | For. cash as reserve or for domestic payments | |
|----------|---|---|-------|
| | | FCC=0 | FCC=1 |
| Croatia | no savings account (NO SAVINGS) | 53% | 7% |
| | account only in local currency (SAVINGS LC) | 16% | 3% |
| | account also or only in foreign currency (SAVINGS FC) | 11% | 9% |
| Slovenia | no savings account (NO SAVINGS) | 11% | 2% |
| | account only in local currency (SAVINGS LC) | 52% | 14% |
| | account also or only in foreign currency (SAVINGS FC) | 8% | 14% |
| Slovakia | no savings account (NO SAVINGS) | 30% | 2% |
| | account only in local currency (SAVINGS LC) | 51% | 6% |
| | account also or only in foreign currency (SAVINGS FC) | 6% | 5% |

Note: In percent of the population. Aggregated values from 2004 and 2005. Only those with an answer are included. FCC=foreign currency cash, LC and FC=local and foreign currency, respectively

Table 4: Definition of Dependent Variables

| | | For. cash as reserve or for domestic payments | |
|------------------------------|--|---|-------|
| | | FCC=0 | FCC=1 |
| <u>Dependent variable 1:</u> | | | |
| | account only in local currency | 0 | 1 |
| | account also or only in foreign currency | 1 | 1 |
| <u>Dependent variable 2:</u> | | | |
| | account only in local currency | 0 | 0 |
| | account also or only in foreign currency | 1 | 1 |
| <u>Dependent variable 3:</u> | | | |
| | account only in local currency | - | 1 |
| | account also or only in foreign currency | 0 | - |

Table 5: Estimation Results on Ownership of FCC and/or FCD: Croatia

Dependent Variable: FC-CASH or FC-Deposits (1), no FCASH or FC-Deposits (0)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|--------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Age -24 | -0.34 (0.05)** | -0.34 (0.05)** | -0.35 (0.05)** | -0.30 (0.05)** | | -0.39 (0.08)** |
| Age 25-34 | -0.16 (0.04)** | -0.16 (0.05)** | -0.16 (0.04)** | -0.13 (0.04)** | -0.15 (0.06)** | -0.24 (0.08)** |
| Age 35-44 | -0.10 (0.05)* | -0.09 (0.05)+ | -0.09 (0.05)+ | -0.05 (0.04) | -0.11 (0.05)* | -0.17 (0.08)* |
| Age 45-54 | -0.16 (0.05)** | -0.17 (0.05)** | -0.15 (0.05)** | -0.10 (0.04)* | -0.17 (0.05)** | -0.22 (0.09)* |
| Edu: Vocational | 0.11 (0.05)* | 0.11 (0.05)* | 0.12 (0.05)* | 0.11 (0.04)** | 0.10 (0.05)+ | 0.09 (0.11) |
| Edu: Secondary | 0.13 (0.05)* | 0.13 (0.06)* | 0.13 (0.05)* | 0.13 (0.05)** | 0.10 (0.06)+ | 0.12 (0.11) |
| Edu: University | 0.19 (0.06)** | 0.18 (0.06)** | 0.19 (0.06)** | 0.17 (0.05)** | 0.19 (0.06)** | 0.16 (0.11) |
| INC2 | 0.05 (0.08) | 0.05 (0.08) | 0.05 (0.08) | 0.06 (0.07) | 0.08 (0.08) | 0.22 (0.13)+ |
| INC3 | 0.10 (0.07) | 0.09 (0.07) | 0.10 (0.07) | 0.14 (0.06)* | 0.09 (0.08) | 0.29 (0.12)* |
| INC4 | 0.23 (0.06)** | 0.22 (0.06)** | 0.23 (0.06)** | 0.24 (0.06)** | 0.26 (0.07)** | 0.41 (0.09)** |
| INC5 | 0.26 (0.07)** | 0.25 (0.07)** | 0.26 (0.07)** | 0.29 (0.06)** | 0.28 (0.07)** | 0.49 (0.14)** |
| INC No Answer | 0.16 (0.07)* | 0.15 (0.07)* | 0.15 (0.07)* | 0.19 (0.06)** | 0.18 (0.07)* | 0.36 (0.11)** |
| ES: Student | 0.04 (0.07) | 0.05 (0.07) | 0.04 (0.07) | 0.06 (0.07) | | |
| ES: Inactive | 0.04 (0.04) | 0.04 (0.04) | 0.04 (0.04) | 0.04 (0.04) | 0.03 (0.05) | |
| ES: Owner | 0.21 (0.07)** | 0.21 (0.06)** | 0.20 (0.07)** | 0.21 (0.07)** | 0.19 (0.07)** | 0.18 (0.07)** |
| ES: Qualif. | -0.01 (0.05) | 0.01 (0.05) | -0.01 (0.05) | 0.03 (0.05) | 0.02 (0.06) | -0.02 (0.05) |
| Inflation Will Rise | 0.04 (0.04) | 0.05 (0.04) | 0.04 (0.04) | | 0.03 (0.05) | 0.05 (0.05) |
| Inflation Same | 0.06 (0.04) | 0.07 (0.04)+ | 0.06 (0.04)+ | | 0.03 (0.05) | 0.06 (0.05) |
| Inflation Don't Know | 0.02 (0.07) | 0.03 (0.07) | -0.02 (0.07) | | -0.05 (0.09) | 0.02 (0.09) |
| Exchange R. Will Deprec. | -0.01 (0.03) | -0.00 (0.03) | | 0.00 (0.03) | -0.02 (0.04) | -0.05 (0.04) |
| Exchange R. Will Apprec. | -0.04 (0.07) | -0.04 (0.07) | | -0.03 (0.06) | -0.07 (0.08) | -0.10 (0.09) |
| Exchange R. Don't Know | -0.09 (0.04)* | -0.09 (0.04)* | | -0.09 (0.04)* | -0.04 (0.06) | -0.14 (0.06)* |

Note: Robust standard errors in parentheses, “+” significant at 10%; “*” significant at 5%; “**” significant at 1%. See continuation.

Table 5 (cont'd)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|--------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Close Relative | 0.11 (0.03)** | 0.11 (0.03)** | 0.11 (0.03)** | 0.12 (0.03)** | 0.11 (0.03)** | 0.10 (0.04)** |
| Visits 1-5 | 0.11 (0.03)** | 0.13 (0.03)** | 0.10 (0.03)** | 0.11 (0.03)** | 0.15 (0.04)** | 0.12 (0.04)** |
| Visits >5 | 0.12 (0.05)* | 0.13 (0.06)* | 0.12 (0.05)* | 0.13 (0.05)** | 0.07 (0.07) | 0.11 (0.06)+ |
| Noticed Payments | 0.09 (0.03)** | 0.07 (0.03)* | 0.08 (0.03)** | 0.09 (0.03)** | 0.09 (0.04)* | 0.12 (0.04)** |
| Nord Croatia | | -0.04 (0.05) | | | | |
| Slavonia | | -0.04 (0.05) | | | | |
| Lika and Banija | | -0.10 (0.07) | | | | |
| Istra, Rijeka, Gorski Kotar | | 0.01 (0.05) | | | | |
| Dalmatia | | 0.12 (0.04)** | | | | |
| Small Village | 0.06 (0.04) | 0.07 (0.04)+ | 0.05 (0.04) | 0.02 (0.04) | 0.06 (0.05) | 0.06 (0.05) |
| Middle Village | 0.01 (0.04) | 0.01 (0.05) | 0.02 (0.04) | -0.02 (0.04) | 0.03 (0.05) | 0.03 (0.05) |
| Small City | 0.06 (0.04) | 0.07 (0.05) | 0.05 (0.04) | 0.03 (0.04) | 0.09 (0.05)+ | 0.07 (0.05) |
| Male | 0.10 (0.03)** | 0.11 (0.03)** | 0.11 (0.03)** | 0.09 (0.03)** | 0.10 (0.03)** | 0.10 (0.04)** |
| HHSIZE 2 | -0.18 (0.06)** | -0.18 (0.06)** | -0.19 (0.06)** | -0.15 (0.05)** | -0.18 (0.07)** | -0.24 (0.08)** |
| HHSIZE 3-4 | -0.09 (0.06) | -0.08 (0.06) | -0.10 (0.06)+ | -0.10 (0.05)+ | -0.06 (0.07) | -0.07 (0.08) |
| HHSIZE >4 | -0.13 (0.06)* | -0.12 (0.07)+ | -0.14 (0.06)* | -0.14 (0.06)* | -0.13 (0.08)+ | -0.11 (0.09) |
| Observations | 1432 | 1432 | 1439 | 1714 | 1021 | 862 |
| LL | -883.59 | -873.81 | -890.82 | -1062.18 | -618.12 | -508.19 |
| R2 | 0.10 | 0.11 | 0.10 | 0.10 | 0.11 | 0.13 |
| Wald | 188.31 | 200.61 | 182.22 | 226.53 | 146.24 | 131.22 |
| P(observed) | 0.55 | 0.55 | 0.55 | 0.54 | 0.58 | 0.59 |

Note: Robust standard errors in parentheses, “+” significant at 10%; “*” significant at 5%; “**” significant at 1%. “R2” refers to pseudo R². “Wald” to Wald test of jointly zero coefficients. Time dummies (not shown) are included in each specification. Reference groups: Age > 54, primary education, inflation will fall, exchange rate will depreciate, zero visits, blue collar workers and retirees, Zagreb, Large City, one person household.

Table 6: Summary Table: Effects on Probability that a Person has a FCD and/or FCC

| | Croatia | Slovenia | Slovakia |
|--|----------------|-----------------|-----------------|
| Effect on probability that persons has a FCD or FCC | | | |
| HH-Income | | | |
| Highest rel. to lowest | 26% | | 35% |
| Education | | | |
| Highest rel. to lowest | 19% | 9% | 23% |
| Occupation | | | |
| Owner rel. to employee | 21% | 13% | |
| Qualified White Collar rel. to employee | | | |
| Close Relative Working in Euro Area | 11% | 10% | 11% |
| Visits to the Euro Area Last 12 Months (rel. to no visits) | | | |
| 1-5 | 11% | 11% | 15% |
| >5 | 12% | 17% | 40% |
| Network Externalities | | | |
| Noticed Payments | 9% | 6% | 8% |
| Age (relative to 55-) | | | |
| 25-34 | -16% | -6% | -9% |
| 35-44 | -10% | | -5% |
| 45-54 | -16% | -9% | |
| Inflation Expectations (rel. to Inflation will fall) | | | |
| Inflation will rise | | | |
| Inflation will stay the same | | | |
| Exchange Rate Expectations (rel. to local currency will gain) | | | |
| Local Curr. Will Loose Value | | | |
| Local Curr. will Stay about the Same | | | |

Note: The table summarizes the marginal effects of columns I of Tables 5, A3 and A4. Only coefficients that are significant at a 10% level are shown.

Table 7: Summary Table: Effects on Probability that a Person has a FCD

| <u>Effect on probability that persons has a FCD</u> | | | |
|--|----------------|-----------------|-----------------|
| | Croatia | Slovenia | Slovakia |
| HH-Income | | | |
| Highest rel. to lowest | 21% | 16% | 21% |
| Education | | | |
| Highest rel. to lowest | 15% | 10% | 19% |
| Occupation | | | |
| Owner rel. to employee | 24% | 18% | |
| Qualified White Collar rel. to employee | | | 9% |
| Close Relative Working in Euro Area | | | |
| | 10% | 6% | 4% |
| Visits to the Euro Area Last 12 Months (rel. to no visits) | | | |
| 1-5 | 15% | 9% | 10% |
| >5 | 15% | 22% | 37% |
| Network Externalities | | | |
| Noticed Payments | 8% | 4% | 5% |
| Deposit Safety (rel. to very safe) | | | |
| very unsafe | -12% | -16% | -7% |
| rather unsafe | -18% | -13% | -6% |
| Age (relative to 55-) | | | |
| 25-34 | -23% | -7% | -7% |
| 35-44 | -15% | -6% | -5% |
| 45-54 | -20% | -7% | |
| Inflation Expectations (rel. to Inflation will fall) | | | |
| Inflation will rise | 11% | | -3% |
| Inflation will stay the same | 8% | | |
| Exchange Rate Expectations (rel. to local currency will gain) | | | |
| Local Curr. Will Loose Value | | | |
| Local Curr. will Stay about the Same | | | -3% |

Note: The table summarizes the marginal effects of columns I of Tables A5, A6 and A7. Only coefficients that are significant at a 10% level are shown.

Table 8: Summary Table: Effects on Probability that a Person holds FCC rather than FCD

| Effect on probability that persons holds FCC rather than FCD | | | |
|--|----------------|-----------------|-----------------|
| | Croatia | Slovenia | Slovakia |
| HH-Income | | | |
| Highest rel. to lowest | | -23% | |
| Education | | | |
| Highest rel. to lowest | | | |
| Occupation | | | |
| Owner rel. to employee | -18% | -20% | |
| Qualified White Collar rel. to employee | | | |
| Close Relative Working in Euro Area | | | 13% |
| Visits to the Euro Area Last 12 Months (rel. to no visits) | | | |
| 1-5 | -9% | -13% | -15% |
| >5 | -12% | -40% | -31% |
| Network Externalities | | | |
| Noticed Payments | | | |
| Deposit Safety (rel. to very safe) | | | |
| very unsafe | | 27% | 27% |
| rather unsafe | 23% | 24% | |
| Age (relative to 55-) | | | |
| 25-34 | 17% | | |
| 35-44 | 14% | | |
| 45-54 | | | |
| Inflation Expectations (rel. to Inflation will fall) | | | |
| Inflation will rise | -13% | | 19% |
| Inflation will stay the same | | | |
| Exchange Rate Expectations (rel. to local currency will gain) | | | |
| Local Curr. Will Loose Value | | | |
| Local Curr. will Stay about the Same | | | |
| Village size | | | |
| Small Village relative to capital | 19% | 15% | 22% |

Note: The table summarizes the marginal effects of columns I of Tables A8, A9 and A10. Only coefficients that are significant at a 10% level are shown.

| | |
|------------------|--|
| | <p>making purchases, etc.)?</p> <p>Only tourists make payments in euro 1</p> <p>Only Hungarians (Croatians, etc. ... REPLACE BY COUNTRY) make payments in euro 2</p> <p>Both, tourists and Hungarians (Croatians, etc. ... REPLACE BY COUNTRY) make payments in euro 3</p> |
| Visits euro area | <p>Have you been abroad within the last 12 months in countries of the euro area or in other countries?</p> <p>Countries of the euro-area yes 1 no 2</p> <p>Other countries yes 1 no 2</p> <p>If the respondent has been in countries of the euro area within the last 12 months:</p> <p>How often have you been in countries of the euro area during the last 12 months?</p> <p>1 to 5 times 1</p> <p>6 to 10 times 2</p> <p>11 to 15 times 3</p> <p>16 to 20 times 4</p> <p>more the 20 times 5</p> |
| Close relatives | <p>Do you have any close relatives who are working in the euro area?</p> <p>yes 1 no 2</p> |

Descriptive Statistics

Table A2: Descriptive Statistics on Variables Used in Regressions

| | Croatia | Slovenia | Slovakia |
|----------------------------------|----------------|--------------|------------|
| Small Village | 0.42 | 0.39 | 0.45 |
| Large Village | 0.19 | 0.25 | 0.16 |
| Small City | 0.16 | 0.24 | 0.27 |
| Large City | 0.23 | 0.12 | 0.12 |
| Male | 0.48 | 0.48 | 0.49 |
| HHSIZE 1 | 0.12 | 0.13 | 0.10 |
| HHSIZE 2 | 0.24 | 0.24 | 0.20 |
| HHSIZE 3-4 | 0.43 | 0.52 | 0.53 |
| HHSIZE >4 | 0.21 | 0.11 | 0.16 |
| Age -24 | 0.17 | 0.16 | 0.23 |
| Age 25-34 | 0.16 | 0.21 | 0.18 |
| Age 35-44 | 0.16 | 0.16 | 0.19 |
| Age 45-54 | 0.17 | 0.17 | 0.16 |
| Age 55- | 0.34 | 0.30 | 0.24 |
| Edu: Primary | 0.39 | 0.33 | 0.11 |
| Edu: Vocational | 0.44 | 0.27 | 0.16 |
| Edu: Secondary | 0.10 | 0.27 | 0.58 |
| Edu: University | 0.07 | 0.13 | 0.15 |
| INC1 | 0.16 | 0.07 | 0.11 |
| INC2 | 0.10 | 0.21 | 0.15 |
| INC3 | 0.19 | 0.13 | 0.20 |
| INC4 | 0.14 | 0.14 | 0.20 |
| INC5 | 0.20 | 0.30 | 0.33 |
| INC No Answer | 0.20 | 0.15 | 0.01 |
| ES: Student | 0.11 | 0.12 | 0.14 |
| ES: Inactive | 0.21 | 0.10 | 0.12 |
| ES: Owner | 0.02 | 0.02 | 0.04 |
| ES: Qualif. | 0.05 | 0.01 | 0.03 |
| ES: Other Emp. + Retirees | 0.62 | 0.74 | 0.68 |
| Inflation Will Rise | 0.39 | 0.41 | 0.28 |
| Inflation Same | 0.37 | 0.39 | 0.36 |
| Inflation Don't Know | 0.07 | 0.07 | 0.07 |
| Inflation Will Fall | 0.17 | 0.14 | 0.29 |
| Exchange R. Will Deprec. | 0.34 | 0.50 | 0.20 |
| Exchange R. Same | 0.41 | 0.36 | 0.33 |
| Exchnage R. Don't Know | 0.19 | 0.12 | 0.17 |
| Exchange R. Will Apprec. | 0.06 | 0.03 | 0.30 |
| Close relatives | 0.42 | 0.30 | 0.28 |
| Deposits very unsafe | 0.12 | 0.05 | 0.08 |
| Deposits rather unsafe | 0.16 | 0.12 | 0.25 |
| Deposits rather safe | 0.49 | 0.62 | 0.49 |
| Deposits Don't Know | 0.10 | 0.06 | 0.04 |
| Deposits very safe | 0.13 | 0.15 | 0.14 |
| Visits 0 | 0.75 | 0.41 | 0.63 |
| Visits 1-5 | 0.22 | 0.42 | 0.31 |
| Visits >5 | 0.04 | 0.17 | 0.06 |
| Region 1 | 0.17 | 0.11 | 0.11 |
| Region 2 | 0.19 | 0.14 | 0.10 |
| Region 3 | 0.09 | 0.26 | 0.11 |
| Region 4 | 0.12 | 0.10 | 0.13 |
| Region 5 | 0.19 | 0.16 | 0.13 |
| Region 6 | | 0.17 | 0.12 |
| Region 7 | | 0.06 | 0.15 |
| Region 8 | | | 0.14 |
| Definition of Regions: | | | |
| Region 1 | Zagreb | Gorensjska | Bratislava |
| Region 2 | Nord Croatia | Primorska | Trnava |
| Region 3 | Slavonia | Ljubljana | Trenciany |
| Region 4 | Lika and Bar | Dolenjska | Nitra |
| Region 5 | Istra, Rijeka, | Starjerska | Zilina |
| Region 6 | Dalmatia | Celjska/Korc | B.Bystrica |
| Region 7 | | Prekmurska | Presov |
| Region 8 | | | Kosice |

Note: The table shows weighted sample means of the surveys from 2004 to 2006. The figures are based on 4000 observations per country. Bold variables are used as reference groups in subsequent estimations.

Table A3: Estimation Results on Ownership of FCC and/or FCD: Slovenia

Dependent Variable: FC-CASH or FC-Deposits (1), no FCASH
or FC-Deposits (0)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|--------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|
| Age -24 | -0.09 (0.04)* | -0.09 (0.04)* | -0.09 (0.04)* | -0.12 (0.04)** | | -0.11 (0.07) |
| Age 25-34 | -0.06 (0.03)* | -0.06 (0.03)* | -0.06 (0.03)+ | -0.08 (0.03)** | -0.04 (0.04) | -0.08 (0.05) |
| Age 35-44 | -0.05 (0.03) | -0.05 (0.03) | -0.05 (0.03) | -0.06 (0.03)* | -0.05 (0.03) | -0.06 (0.06) |
| Age 45-54 | -0.09 (0.03)** | -0.08 (0.03)** | -0.09 (0.03)** | -0.09 (0.03)** | -0.09 (0.03)** | -0.07 (0.06) |
| Edu: Vocational | 0.00 (0.03) | 0.00 (0.03) | 0.00 (0.03) | 0.02 (0.03) | -0.01 (0.04) | 0.01 (0.05) |
| Edu: Secondary | 0.01 (0.03) | 0.01 (0.03) | 0.01 (0.03) | 0.03 (0.02) | 0.02 (0.03) | 0.01 (0.04) |
| Edu: University | 0.09 (0.03)** | 0.09 (0.03)** | 0.09 (0.03)** | 0.12 (0.03)** | 0.09 (0.04)* | 0.09 (0.05)+ |
| INC2 | -0.04 (0.05) | -0.04 (0.05) | -0.04 (0.05) | -0.05 (0.04) | -0.03 (0.05) | -0.18 (0.09)* |
| INC3 | -0.01 (0.05) | -0.01 (0.05) | -0.01 (0.05) | -0.03 (0.05) | -0.03 (0.06) | -0.18 (0.09)+ |
| INC4 | 0.03 (0.05) | 0.03 (0.05) | 0.03 (0.05) | 0.03 (0.05) | 0.06 (0.06) | -0.15 (0.09)+ |
| INC5 | 0.05 (0.05) | 0.05 (0.05) | 0.05 (0.05) | 0.05 (0.04) | 0.07 (0.06) | -0.13 (0.09) |
| INC No Answer | 0.06 (0.05) | 0.05 (0.05) | 0.06 (0.05) | 0.02 (0.05) | 0.06 (0.06) | -0.09 (0.10) |
| ES: Student | -0.12 (0.04)** | -0.12 (0.04)** | -0.12 (0.04)** | -0.09 (0.04)* | -0.02 (0.19) | |
| ES: Inactive | -0.06 (0.03)+ | -0.06 (0.03)+ | -0.06 (0.03)+ | -0.08 (0.03)** | -0.05 (0.04) | |
| ES: Owner | 0.13 (0.06)+ | 0.12 (0.07)+ | 0.13 (0.06)+ | 0.11 (0.06)+ | 0.12 (0.07)+ | 0.13 (0.06)+ |
| ES: Qualif. | -0.04 (0.08) | -0.05 (0.08) | -0.04 (0.08) | -0.02 (0.07) | -0.06 (0.09) | -0.04 (0.09) |
| Inflation Will Rise | -0.01 (0.03) | -0.01 (0.03) | -0.01 (0.03) | | -0.03 (0.04) | -0.00 (0.04) |
| Inflation Same | 0.02 (0.03) | 0.03 (0.03) | 0.02 (0.03) | | 0.02 (0.04) | -0.00 (0.04) |
| Inflation Don't Know | -0.05 (0.05) | -0.04 (0.05) | -0.05 (0.05) | | -0.04 (0.07) | -0.08 (0.09) |
| Exchange R. Will Deprec. | -0.01 (0.02) | -0.01 (0.02) | | 0.00 (0.02) | -0.01 (0.03) | -0.02 (0.03) |
| Exchange R. Will Apprec. | 0.04 (0.07) | 0.04 (0.07) | | 0.03 (0.06) | 0.01 (0.08) | 0.03 (0.09) |
| Exchange R. Don't Know | -0.01 (0.04) | -0.01 (0.04) | | -0.03 (0.03) | -0.05 (0.05) | -0.10 (0.06) |

Note: Robust standard errors in parentheses, “+” significant at 10%; “*” significant at 5%; “**” significant at 1%. See continuation.

Table A3 (cont'd)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|------------------|------------------|------------------|------------------|-------------------|------------------|------------------|
| Close Relative | 0.10 (0.02)** | 0.11 (0.02)** | 0.10 (0.02)** | 0.09 (0.02)** | 0.13 (0.03)** | 0.13 (0.03)** |
| Visits 1-5 | 0.11 (0.02)** | 0.11 (0.02)** | 0.11 (0.02)** | 0.11 (0.02)** | 0.09 (0.03)** | 0.08 (0.03)* |
| Visits >5 | 0.17 (0.03)** | 0.19 (0.03)** | 0.17 (0.03)** | 0.19 (0.03)** | 0.15 (0.04)** | 0.13 (0.04)** |
| Noticed Payments | 0.06 (0.02)** | 0.06 (0.02)** | 0.06 (0.02)** | 0.06 (0.02)** | 0.06 (0.02)* | 0.05 (0.03)* |
| Primorska | | -0.03 (0.04) | | | | |
| Ljubljana | | 0.02 (0.04) | | | | |
| Dolenjska | | 0.05 (0.05) | | | | |
| Starjerska | | -0.07 (0.04)+ | | | | |
| Celjska/Koroska | | -0.05 (0.04) | | | | |
| Prekmurska | | -0.05 (0.05) | | | | |
| Small Village | 0.06 (0.04)+ | 0.03 (0.04) | 0.06 (0.04)+ | 0.05 (0.03) | 0.08 (0.04)+ | 0.13 (0.05)** |
| Middle Village | -0.05 (0.03)* | -0.04 (0.03) | -0.05 (0.03)* | -0.08 (0.02)** | -0.06 (0.03)+ | -0.02 (0.04) |
| Small City | 0.04 (0.03) | 0.03 (0.03) | 0.04 (0.03) | 0.02 (0.02) | 0.05 (0.03) | 0.03 (0.03) |
| Male | 0.02 (0.02) | 0.02 (0.02) | 0.02 (0.02) | 0.02 (0.02) | 0.03 (0.02) | 0.01 (0.03) |
| HHSIZE 2 | -0.03 (0.04) | -0.03 (0.04) | -0.03 (0.04) | -0.02 (0.03) | -0.04 (0.04) | 0.00 (0.06) |
| HHSIZE 3-4 | -0.05 (0.04) | -0.06 (0.04) | -0.05 (0.04) | -0.04 (0.03) | -0.06 (0.04) | 0.02 (0.05) |
| HHSIZE >4 | -0.03 (0.05) | -0.03 (0.05) | -0.03 (0.05) | -0.03 (0.04) | -0.09 (0.05)+ | -0.01 (0.07) |
| Observations | 2648 | 2648 | 2648 | 3478 | 1887 | 1426 |
| LL | -1700.76 | -1694.30 | -1701.07 | -2218.87 | -1220.15 | -940.67 |
| R2 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.05 |
| Wald | 195.50 | 206.43 | 195.05 | 260.98 | 148.04 | 89.88 |
| P(observed) | 0.42 | 0.42 | 0.42 | 0.41 | 0.44 | 0.47 |

Note: Robust standard errors in parentheses, “+” significant at 10%; “*” significant at 5%; “***” significant at 1%. Time dummies (not shown) are included in each specification.

Reference groups: Age > 54, primary education, lowest income, inflation will fall, exchange rate will depreciate, zero visits, blue collar workers and retirees, Gorenjska, Large City, one person household.

Table A4: Estimation Results on Ownership of FCC and/or FCD: Slovakia

| | Dependent Variable: FC-CASH or FC-Deposits (1), no FCASH or FC-Deposits (0) | | | | | |
|--------------------------|--|-------------------|-------------------|-------------------|-------------------|-------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Age -24 | -0.05 (0.04) | -0.05 (0.04) | -0.05 (0.04) | -0.07 (0.03)* | | -0.06 (0.05) |
| Age 25-34 | -0.09 (0.03)** | -0.09 (0.03)** | -0.10 (0.03)** | -0.10 (0.02)** | -0.08 (0.03)** | -0.10 (0.04)** |
| Age 35-44 | -0.05 (0.03)+ | -0.05 (0.03)+ | -0.05 (0.03)+ | -0.05 (0.03)+ | -0.05 (0.03) | -0.04 (0.04) |
| Age 45-54 | -0.02 (0.03) | -0.02 (0.03) | -0.03 (0.03) | -0.02 (0.03) | -0.02 (0.03) | -0.02 (0.04) |
| Edu: Vocational | 0.00 (0.06) | 0.02 (0.06) | -0.01 (0.06) | 0.00 (0.05) | 0.08 (0.10) | 0.17 (0.20) |
| Edu: Secondary | 0.09 (0.05)+ | 0.09 (0.05)+ | 0.08 (0.05) | 0.06 (0.04) | 0.14 (0.07)+ | 0.25 (0.13)+ |
| Edu: University | 0.23 (0.07)** | 0.22 (0.07)** | 0.21 (0.07)** | 0.20 (0.06)** | 0.28 (0.11)** | 0.45 (0.18)* |
| INC2 | 0.20 (0.09)* | 0.22 (0.09)* | 0.19 (0.09)* | 0.16 (0.07)* | 0.20 (0.10)* | 0.17 (0.17) |
| INC3 | 0.22 (0.09)* | 0.25 (0.09)** | 0.22 (0.09)* | 0.22 (0.07)** | 0.24 (0.10)* | 0.24 (0.17) |
| INC4 | 0.31 (0.09)** | 0.33 (0.09)** | 0.30 (0.09)** | 0.28 (0.07)** | 0.31 (0.10)** | 0.37 (0.16)* |
| INC5 | 0.35 (0.08)** | 0.38 (0.08)** | 0.34 (0.08)** | 0.31 (0.06)** | 0.35 (0.09)** | 0.39 (0.14)** |
| INC No Answer | 0.32 (0.21) | 0.38 (0.21)+ | 0.31 (0.21) | 0.32 (0.16)* | 0.25 (0.28) | 0.30 (0.31) |
| ES: Student | 0.05 (0.05) | 0.05 (0.05) | 0.05 (0.05) | 0.04 (0.04) | | |
| ES: Inactive | 0.01 (0.04) | 0.00 (0.04) | 0.01 (0.04) | 0.03 (0.03) | -0.04 (0.05) | |
| ES: Owner | 0.08 (0.05) | 0.07 (0.05) | 0.08 (0.05)+ | 0.12 (0.04)** | 0.10 (0.06)+ | 0.07 (0.05) |
| ES: Qualif. | 0.08 (0.06) | 0.09 (0.06) | 0.08 (0.06) | 0.14 (0.05)** | 0.10 (0.07) | 0.06 (0.06) |
| Inflation Will Rise | -0.02 (0.03) | -0.01 (0.03) | -0.02 (0.02) | | -0.04 (0.03) | -0.03 (0.03) |
| Inflation Same | -0.02 (0.02) | -0.03 (0.02) | -0.03 (0.02) | | -0.03 (0.03) | -0.03 (0.03) |
| Inflation Don't Know | -0.12 (0.04)** | -0.12 (0.04)** | -0.10 (0.04)** | | -0.06 (0.05) | -0.06 (0.06) |
| Exchange R. Will Deprec. | -0.02 (0.03) | -0.02 (0.03) | | -0.02 (0.02) | -0.01 (0.03) | -0.01 (0.03) |
| Exchange R. Will Apprec. | 0.02 (0.02) | 0.03 (0.02) | | 0.02 (0.02) | 0.02 (0.03) | 0.01 (0.03) |
| Exchange R. Don't Know | 0.07 (0.04)+ | 0.05 (0.04) | | 0.06 (0.03)* | 0.05 (0.04) | 0.08 (0.05)+ |

Note: Robust standard errors in parentheses, “+” significant at 10%; “*” significant at 5%; “**” significant at 1%. See continuation.

Table A4 (cont'd)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Close Relative | 0.11 (0.02)** | 0.11 (0.02)** | 0.11 (0.02)** | 0.12 (0.02)** | 0.11 (0.03)** | 0.10 (0.03)** |
| Visits 1-5 | 0.15 (0.02)** | 0.16 (0.02)** | 0.15 (0.02)** | 0.16 (0.02)** | 0.14 (0.03)** | 0.15 (0.03)** |
| Visits >5 | 0.40 (0.05)** | 0.41 (0.05)** | 0.40 (0.05)** | 0.43 (0.04)** | 0.42 (0.06)** | 0.43 (0.05)** |
| Noticed Payments | 0.08 (0.02)** | 0.07 (0.02)** | 0.08 (0.02)** | 0.08 (0.02)** | 0.08 (0.02)** | 0.09 (0.03)** |
| Trnava | | 0.15 (0.07)* | | | | |
| Trenciany | | 0.16 (0.07)* | | | | |
| Nitra | | 0.27 (0.07)** | | | | |
| Zilina | | 0.27 (0.07)** | | | | |
| B.Bystrica | | 0.12 (0.06)+ | | | | |
| Presov | | 0.24 (0.06)** | | | | |
| Kosice | | 0.22 (0.05)** | | | | |
| Small Village | -0.07 (0.03)* | -0.15 (0.04)** | -0.07 (0.03)* | -0.09 (0.03)** | -0.06 (0.03)+ | -0.07 (0.04)+ |
| Middle Village | -0.07 (0.03)* | -0.13 (0.03)** | -0.07 (0.03)* | -0.08 (0.03)** | -0.08 (0.03)** | -0.06 (0.04) |
| Small City | -0.07 (0.03)** | -0.15 (0.03)** | -0.08 (0.03)** | -0.08 (0.03)** | -0.07 (0.03)* | -0.07 (0.03)* |
| Male | -0.01 (0.02) | -0.01 (0.02) | -0.01 (0.02) | -0.01 (0.02) | -0.02 (0.02) | -0.01 (0.02) |
| HHSIZE 2 | -0.06 (0.04) | -0.08 (0.04)* | -0.05 (0.04) | -0.05 (0.04) | -0.05 (0.04) | -0.10 (0.04)* |
| HHSIZE 3-4 | -0.11 (0.04)** | -0.14 (0.04)** | -0.11 (0.04)* | -0.08 (0.04)* | -0.11 (0.05)* | -0.15 (0.05)** |
| HHSIZE >4 | -0.12 (0.04)** | -0.15 (0.03)** | -0.12 (0.04)** | -0.09 (0.04)* | -0.13 (0.04)** | -0.16 (0.04)** |
| Observations | 2222 | 2222 | 2222 | 2929 | 1628 | 1630 |
| LL | -1007.45 | -986.19 | -1010.29 | -1361.13 | -706.99 | -757.84 |
| R2 | 0.21 | 0.22 | 0.20 | 0.20 | 0.23 | 0.22 |
| Wald | 443.09 | 469.64 | 427.01 | 580.36 | 353.33 | 336.09 |
| P(observed) | 0.26 | 0.26 | 0.26 | 0.26 | 0.25 | 0.28 |

Note: Robust standard errors in parentheses, “+” significant at 10%; “*” significant at 5%; “**” significant at 1%. Time dummies (not shown) are included in each specification.

Reference groups: Age > 54, primary education, lowest income, inflation will fall, exchange rate will depreciate, zero visits, blue collar workers and retirees, Bratislava, Large City, one person household.

Table A5: Estimation Results on Ownership of FCD: Croatia

Dependent Variable: FC-Deposits (1), no FC-Deposits (0)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|--------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Age -24 | -0.32 (0.05)** | -0.33 (0.05)** | -0.32 (0.05)** | -0.32 (0.05)** | | -0.37 (0.08)** |
| Age 25-34 | -0.23 (0.04)** | -0.25 (0.04)** | -0.23 (0.04)** | -0.22 (0.04)** | -0.23 (0.05)** | -0.28 (0.08)** |
| Age 35-44 | -0.15 (0.05)** | -0.15 (0.05)** | -0.15 (0.05)** | -0.15 (0.04)** | -0.18 (0.05)** | -0.20 (0.09)* |
| Age 45-54 | -0.20 (0.05)** | -0.22 (0.05)** | -0.20 (0.05)** | -0.17 (0.04)** | -0.24 (0.05)** | -0.28 (0.08)** |
| Edu: Vocational | 0.10 (0.05)+ | 0.10 (0.05)+ | 0.10 (0.05)* | 0.15 (0.04)** | 0.10 (0.06)+ | 0.11 (0.11) |
| Edu: Secondary | 0.14 (0.06)* | 0.13 (0.06)* | 0.14 (0.06)* | 0.18 (0.05)** | 0.17 (0.06)** | 0.16 (0.11) |
| Edu: University | 0.15 (0.06)* | 0.14 (0.06)* | 0.15 (0.06)* | 0.17 (0.05)** | 0.18 (0.07)** | 0.16 (0.11) |
| INC2 | -0.05 (0.08) | -0.05 (0.08) | -0.04 (0.08) | -0.04 (0.07) | 0.02 (0.09) | 0.06 (0.18) |
| INC3 | 0.06 (0.07) | 0.03 (0.07) | 0.06 (0.07) | 0.05 (0.06) | 0.10 (0.08) | 0.23 (0.14)+ |
| INC4 | 0.16 (0.07)* | 0.14 (0.07)+ | 0.17 (0.07)* | 0.15 (0.06)* | 0.23 (0.07)** | 0.33 (0.12)** |
| INC5 | 0.21 (0.07)** | 0.19 (0.07)** | 0.21 (0.07)** | 0.19 (0.06)** | 0.27 (0.08)** | 0.40 (0.14)** |
| INC No Answer | 0.09 (0.07) | 0.08 (0.07) | 0.09 (0.07) | 0.10 (0.06) | 0.15 (0.08)+ | 0.27 (0.13)* |
| ES: Student | -0.05 (0.07) | -0.05 (0.08) | -0.05 (0.07) | -0.02 (0.07) | | |
| ES: Inactive | 0.01 (0.04) | 0.02 (0.04) | 0.01 (0.04) | 0.01 (0.04) | 0.04 (0.05) | |
| ES: Owner | 0.24 (0.06)** | 0.24 (0.06)** | 0.23 (0.06)** | 0.24 (0.06)** | 0.24 (0.06)** | 0.24 (0.06)** |
| ES: Qualif. | 0.05 (0.05) | 0.07 (0.05) | 0.05 (0.05) | 0.09 (0.05)+ | 0.09 (0.06)+ | 0.04 (0.05) |
| Inflation Will Rise | 0.11 (0.04)* | 0.12 (0.04)** | 0.09 (0.04)* | | 0.12 (0.05)* | 0.13 (0.06)* |
| Inflation Same | 0.08 (0.04)* | 0.10 (0.04)* | 0.08 (0.04)+ | | 0.05 (0.05) | 0.09 (0.05)+ |
| Inflation Don't Know | 0.08 (0.07) | 0.11 (0.07) | 0.03 (0.07) | | -0.02 (0.09) | 0.03 (0.10) |
| Exchange R. Will Deprec. | -0.04 (0.03) | -0.03 (0.03) | | -0.02 (0.03) | -0.06 (0.04) | -0.09 (0.04)* |
| Exchange R. Will Apprec. | -0.03 (0.07) | -0.03 (0.07) | | -0.00 (0.06) | -0.03 (0.08) | -0.00 (0.09) |
| Exchange R. Don't Know | -0.10 (0.04)* | -0.11 (0.04)* | | -0.09 (0.04)* | -0.07 (0.06) | -0.13 (0.06)* |

Note: Robust standard errors in parentheses, “+” significant at 10%; “*” significant at 5%; “**” significant at 1%. See continuation.

Table A5 (cont'd)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|--------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|
| Close Relative | 0.10 (0.03)** | 0.10 (0.03)** | 0.10 (0.03)** | 0.10 (0.03)** | 0.11 (0.03)** | 0.10 (0.04)** |
| Visits 1-5 | 0.15 (0.03)** | 0.17 (0.03)** | 0.14 (0.03)** | 0.14 (0.03)** | 0.18 (0.04)** | 0.14 (0.04)** |
| Visits >5 | 0.15 (0.06)** | 0.17 (0.06)** | 0.15 (0.06)** | 0.15 (0.05)** | 0.13 (0.07)* | 0.15 (0.06)* |
| Noticed Payments | 0.08 (0.03)* | 0.05 (0.03) | 0.07 (0.03)* | 0.08 (0.03)** | 0.08 (0.04)* | 0.10 (0.04)** |
| Deposits very unsafe | -0.12 (0.06)* | -0.13 (0.06)* | -0.12 (0.06)* | -0.09 (0.06) | -0.09 (0.06) | -0.07 (0.07) |
| Deposits rather unsafe | -0.18 (0.05)** | -0.21 (0.05)** | -0.18 (0.05)** | -0.14 (0.05)** | -0.14 (0.05)** | -0.15 (0.06)* |
| Deposits rather safe | -0.09 (0.04)** | -0.11 (0.04)** | -0.10 (0.04)** | -0.08 (0.03)* | -0.08 (0.03)* | -0.05 (0.04) |
| Deposits Don't Know | -0.10 (0.08) | -0.12 (0.08) | -0.12 (0.08) | -0.09 (0.07) | -0.10 (0.07) | 0.04 (0.12) |
| Nord Croatia | | -0.04 (0.05) | | | | |
| Slavonia | | 0.01 (0.05) | | | | |
| Lika and Banija | | -0.11 (0.07) | | | | |
| Istra, Rijeka, Gorski Kotar Dalmatia | | 0.10 (0.05)* | | | | |
| Small Village | -0.02 (0.04) | -0.00 (0.05) | -0.02 (0.04) | -0.07 (0.04)+ | -0.02 (0.05) | -0.01 (0.05) |
| Middle Village | -0.02 (0.04) | -0.04 (0.05) | -0.01 (0.04) | -0.06 (0.04) | -0.01 (0.05) | 0.01 (0.06) |
| Small City | 0.05 (0.05) | 0.04 (0.05) | 0.04 (0.05) | 0.02 (0.04) | 0.08 (0.05) | 0.05 (0.06) |
| Male | 0.07 (0.03)* | 0.08 (0.03)** | 0.07 (0.03)* | 0.05 (0.03)+ | 0.04 (0.03) | 0.07 (0.04)+ |
| HHSIZE 2 | -0.16 (0.06)** | -0.15 (0.06)** | -0.16 (0.06)** | -0.16 (0.05)** | -0.18 (0.07)** | -0.16 (0.09)+ |
| HHSIZE 3-4 | -0.10 (0.06)+ | -0.09 (0.06) | -0.10 (0.06)+ | -0.12 (0.05)* | -0.07 (0.07) | -0.05 (0.08) |
| HHSIZE >4 | -0.16 (0.06)* | -0.14 (0.07)* | -0.16 (0.06)* | -0.17 (0.06)** | -0.16 (0.08)* | -0.16 (0.09)+ |
| Observations | 1432 | 1432 | 1437 | 1736 | 1022 | 863 |
| LL | -876.95 | -848.78 | -883.67 | -1056.94 | -607.54 | -508.03 |
| R2 | 0.12 | 0.14 | 0.11 | 0.12 | 0.13 | 0.14 |
| Wald | 214.62 | 266.59 | 208.04 | 257.08 | 174.63 | 150.93 |
| P(observed) | 0.52 | 0.52 | 0.52 | 0.54 | 0.56 | 0.55 |

Note: Robust standard errors in parentheses, “+” significant at 10%; “*” significant at 5%; “**” significant at 1%. Time dummies (not shown) are included in each specification.

Reference groups: Age > 54, primary education, lowest income, inflation will fall, exchange rate will depreciate, zero visits, blue collar workers and retirees, Zagreb, Large City, one person household.

Table A6: Estimation Results on Ownership of FCD: Slovenia

| | Dependent Variable: FC-Deposits (1), no FC-Deposits (0) | | | | | |
|--------------------------|---|-------------------|-------------------|-------------------|------------------|-------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Age -24 | -0.11 (0.03)** | -0.11 (0.03)** | -0.11 (0.03)** | -0.13 (0.03)** | | -0.13 (0.05)** |
| Age 25-34 | -0.07 (0.02)** | -0.06 (0.02)** | -0.07 (0.02)** | -0.08 (0.02)** | -0.05 (0.03)+ | -0.10 (0.04)* |
| Age 35-44 | -0.06 (0.03)* | -0.06 (0.03)* | -0.06 (0.03)* | -0.06 (0.02)** | -0.05 (0.03)+ | -0.09 (0.04)+ |
| Age 45-54 | -0.07 (0.02)** | -0.06 (0.03)* | -0.07 (0.02)** | -0.07 (0.02)** | -0.06 (0.03)* | -0.07 (0.05) |
| Edu: Vocational | 0.01 (0.03) | 0.01 (0.03) | 0.01 (0.03) | 0.03 (0.02) | -0.01 (0.03) | 0.02 (0.04) |
| Edu: Secondary | 0.04 (0.02)+ | 0.04 (0.02)+ | 0.04 (0.02)+ | 0.06 (0.02)** | 0.05 (0.03) | 0.05 (0.04) |
| Edu: University | 0.10 (0.03)** | 0.10 (0.03)** | 0.10 (0.03)** | 0.12 (0.03)** | 0.11 (0.04)** | 0.10 (0.05)* |
| INC2 | 0.02 (0.04) | 0.02 (0.04) | 0.02 (0.04) | 0.01 (0.04) | 0.02 (0.05) | -0.02 (0.08) |
| INC3 | 0.08 (0.05) | 0.08 (0.05) | 0.08 (0.05) | 0.05 (0.04) | 0.09 (0.06) | -0.03 (0.09) |
| INC4 | 0.11 (0.06)+ | 0.10 (0.06)+ | 0.10 (0.06)+ | 0.10 (0.05)* | 0.11 (0.07)+ | 0.02 (0.09) |
| INC5 | 0.16 (0.05)** | 0.15 (0.05)** | 0.16 (0.05)** | 0.14 (0.04)** | 0.16 (0.06)** | 0.04 (0.08) |
| INC No Answer | 0.10 (0.05)+ | 0.09 (0.05)+ | 0.09 (0.05)+ | 0.10 (0.05)* | 0.13 (0.07)* | 0.03 (0.09) |
| ES: Student | -0.04 (0.04) | -0.05 (0.04) | -0.04 (0.04) | -0.05 (0.03) | -0.04 (0.13) | |
| ES: Inactive | -0.03 (0.03) | -0.03 (0.03) | -0.03 (0.03) | -0.04 (0.02)+ | -0.03 (0.04) | |
| ES: Owner | 0.18 (0.06)** | 0.19 (0.06)** | 0.18 (0.06)** | 0.14 (0.05)* | 0.18 (0.07)* | 0.19 (0.06)** |
| ES: Qualif. | 0.02 (0.07) | 0.04 (0.07) | 0.02 (0.07) | 0.01 (0.06) | 0.02 (0.07) | 0.04 (0.08) |
| Inflation Will Rise | -0.01 (0.03) | -0.01 (0.03) | -0.01 (0.03) | | -0.03 (0.03) | -0.01 (0.04) |
| Inflation Same | -0.00 (0.03) | 0.01 (0.03) | -0.00 (0.03) | | -0.03 (0.03) | -0.02 (0.04) |
| Inflation Don't Know | -0.03 (0.05) | -0.03 (0.05) | -0.02 (0.04) | | -0.05 (0.05) | -0.10 (0.06) |
| Exchange R. Will Deprec. | 0.02 (0.02) | 0.02 (0.02) | | 0.02 (0.02) | 0.02 (0.02) | 0.03 (0.03) |
| Exchange R. Will Apprec. | 0.05 (0.06) | 0.05 (0.06) | | 0.04 (0.05) | 0.01 (0.07) | 0.09 (0.09) |
| Exchange R. Don't Know | 0.03 (0.04) | 0.03 (0.04) | | 0.02 (0.03) | 0.01 (0.05) | 0.03 (0.06) |

Note: Robust standard errors in parentheses, “+” significant at 10%; “*” significant at 5%; “**” significant at 1%. See continuation.

Table A6 (cont'd)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Close Relative | 0.06 (0.02)** | 0.05 (0.02)** | 0.06 (0.02)** | 0.06 (0.02)** | 0.07 (0.02)** | 0.08 (0.03)** |
| Visits 1-5 | 0.09 (0.02)** | 0.09 (0.02)** | 0.09 (0.02)** | 0.08 (0.02)** | 0.08 (0.03)** | 0.13 (0.03)** |
| Visits >5 | 0.22 (0.03)** | 0.19 (0.03)** | 0.22 (0.03)** | 0.22 (0.03)** | 0.24 (0.04)** | 0.25 (0.04)** |
| Noticed Payments | 0.04 (0.02)* | 0.03 (0.02)+ | 0.04 (0.02)* | 0.04 (0.02)* | 0.03 (0.02) | 0.04 (0.02)+ |
| Deposits very unsafe | -0.16 (0.03)** | -0.16 (0.03)** | -0.16 (0.03)** | -0.13 (0.03)** | -0.19 (0.03)** | -0.18 (0.04)** |
| Deposits rather unsafe | -0.13 (0.02)** | -0.13 (0.02)** | -0.13 (0.02)** | -0.13 (0.02)** | -0.16 (0.03)** | -0.15 (0.04)** |
| Deposits rather safe | -0.04 (0.02)+ | -0.03 (0.02) | -0.04 (0.02)+ | -0.02 (0.02) | -0.05 (0.03)+ | -0.05 (0.03) |
| Deposits Don't know | -0.09 (0.04)* | -0.09 (0.04)* | -0.09 (0.04)* | -0.09 (0.03)** | -0.07 (0.05) | -0.06 (0.07) |
| Primorska | | 0.14 (0.04)** | | | | |
| Ljubljana | | 0.05 (0.04) | | | | |
| Dolenjska | | 0.08 (0.05)+ | | | | |
| Starjerska | | 0.02 (0.04) | | | | |
| Celjska/Koroska | | 0.07 (0.04)+ | | | | |
| Prekmurska | | 0.02 (0.05) | | | | |
| Small Village | -0.02 (0.03) | -0.01 (0.04) | -0.02 (0.03) | -0.04 (0.02)+ | -0.03 (0.04) | 0.05 (0.04) |
| Middle Village | -0.02 (0.02) | -0.01 (0.02) | -0.02 (0.02) | -0.03 (0.02) | -0.02 (0.03) | 0.04 (0.04) |
| Small City | -0.00 (0.02) | -0.00 (0.02) | -0.00 (0.02) | -0.02 (0.02) | 0.01 (0.03) | -0.01 (0.03) |
| Male | 0.02 (0.02) | 0.02 (0.02) | 0.02 (0.02) | 0.02 (0.01) | 0.03 (0.02) | -0.00 (0.02) |
| HHSIZE 2 | -0.10 (0.03)** | -0.10 (0.03)** | -0.10 (0.03)** | -0.09 (0.02)** | -0.10 (0.03)** | -0.07 (0.05) |
| HHSIZE 3-4 | -0.16 (0.03)** | -0.15 (0.03)** | -0.15 (0.03)** | -0.13 (0.03)** | -0.17 (0.04)** | -0.10 (0.05)* |
| HHSIZE >4 | -0.13 (0.03)** | -0.13 (0.03)** | -0.13 (0.03)** | -0.11 (0.03)** | -0.17 (0.03)** | -0.10 (0.05)* |
| Observations | 2657 | 2657 | 2657 | 3492 | 1892 | 1431 |
| LL | -1354.29 | -1344.17 | -1355.04 | -1766.67 | -991.35 | -781.43 |
| R2 | 0.10 | 0.11 | 0.10 | 0.10 | 0.11 | 0.09 |
| Wald | 285.66 | 303.21 | 284.12 | 370.73 | 231.80 | 144.22 |
| P(observed) | 0.26 | 0.26 | 0.26 | 0.25 | 0.28 | 0.29 |

Note: Robust standard errors in parentheses, “+” significant at 10%; “*” significant at 5%; “**” significant at 1%. Time dummies (not shown) are included in each specification.

Reference groups: Age > 54, primary education, lowest income, inflation will fall, exchange rate will depreciate, zero visits, blue collar workers and retirees, Gorenjska, Large City, one person household.

Table A7: Estimation Results on Ownership of FCD: Slovakia

Dependent Variable: FC-Deposits (1), no FC-Deposits (0)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|--------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Age -24 | -0.04 (0.02) | -0.04 (0.02) | -0.04 (0.02) | -0.06 (0.02)** | | -0.05 (0.03) |
| Age 25-34 | -0.07 (0.02)** | -0.07 (0.02)** | -0.07 (0.02)** | -0.08 (0.02)** | -0.07 (0.02)** | -0.08 (0.02)** |
| Age 35-44 | -0.05 (0.02)* | -0.04 (0.02)* | -0.05 (0.02)* | -0.05 (0.02)** | -0.05 (0.02)* | -0.05 (0.03)* |
| Age 45-54 | -0.03 (0.02) | -0.02 (0.02) | -0.03 (0.02) | -0.03 (0.02) | -0.03 (0.02) | -0.03 (0.03) |
| Edu: Vocational | -0.01 (0.05) | 0.00 (0.05) | -0.01 (0.05) | 0.01 (0.05) | 0.14 (0.11) | 0.00 (0.12) |
| Edu: Secondary | 0.09 (0.04)* | 0.09 (0.04)* | 0.08 (0.04)* | 0.07 (0.04)+ | 0.17 (0.06)** | 0.10 (0.10) |
| Edu: University | 0.19 (0.07)** | 0.20 (0.07)** | 0.19 (0.07)** | 0.15 (0.06)** | 0.37 (0.13)** | 0.20 (0.16) |
| INC2 | 0.13 (0.08) | 0.13 (0.08) | 0.12 (0.08) | 0.10 (0.06)+ | 0.13 (0.09) | 0.13 (0.18) |
| INC3 | 0.13 (0.08) | 0.13 (0.08) | 0.12 (0.08) | 0.12 (0.06)+ | 0.14 (0.09) | 0.18 (0.18) |
| INC4 | 0.21 (0.09)* | 0.22 (0.09)* | 0.21 (0.09)* | 0.16 (0.06)* | 0.22 (0.10)* | 0.29 (0.18) |
| INC5 | 0.21 (0.07)** | 0.23 (0.07)** | 0.21 (0.07)** | 0.18 (0.06)** | 0.22 (0.08)** | 0.28 (0.14)* |
| INC No Answer | 0.20 (0.22) | 0.21 (0.23) | 0.20 (0.22) | 0.28 (0.16)+ | 0.28 (0.28) | 0.37 (0.33) |
| ES: Student | -0.00 (0.04) | 0.01 (0.04) | -0.00 (0.04) | -0.00 (0.03) | | |
| ES: Inactive | 0.02 (0.03) | 0.03 (0.03) | 0.02 (0.03) | 0.04 (0.03) | -0.04 (0.03) | |
| ES: Owner | 0.03 (0.03) | 0.01 (0.03) | 0.03 (0.03) | 0.08 (0.03)* | 0.05 (0.04) | 0.03 (0.04) |
| ES: Qualif. | 0.09 (0.05)+ | 0.09 (0.05)* | 0.09 (0.05)+ | 0.09 (0.04)* | 0.09 (0.05)+ | 0.10 (0.05)+ |
| Inflation Will Rise | -0.03 (0.02)+ | -0.03 (0.02)+ | -0.03 (0.02)+ | | -0.04 (0.02)* | -0.04 (0.02)+ |
| Inflation Same | -0.01 (0.02) | -0.02 (0.02) | -0.02 (0.02) | | -0.01 (0.02) | -0.01 (0.02) |
| Inflation Don't Know | -0.07 (0.02)** | -0.06 (0.02)** | -0.06 (0.02)** | | -0.05 (0.03)+ | -0.07 (0.04)+ |
| Exchange R. Will Deprec. | 0.02 (0.02) | 0.01 (0.02) | | 0.01 (0.02) | 0.04 (0.03) | 0.02 (0.03) |
| Exchange R. Will Apprec. | 0.03 (0.02)+ | 0.04 (0.02)* | | 0.03 (0.02)+ | 0.03 (0.02) | 0.05 (0.02)* |
| Exchange R. Don't Know | 0.05 (0.03)+ | 0.04 (0.03) | | 0.06 (0.03)* | 0.06 (0.03)+ | 0.11 (0.04)* |

Note: Robust standard errors in parentheses, “+” significant at 10%; “*” significant at 5%; “**” significant at 1%. See continuation.

Table A7 (cont'd)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Close Relative | 0.04 (0.02)** | 0.04 (0.02)** | 0.04 (0.02)** | 0.06 (0.01)** | 0.04 (0.02)* | 0.04 (0.02)* |
| Visits 1-5 | 0.10 (0.02)** | 0.10 (0.02)** | 0.10 (0.02)** | 0.13 (0.02)** | 0.09 (0.02)** | 0.09 (0.02)** |
| Visits >5 | 0.37 (0.05)** | 0.37 (0.05)** | 0.37 (0.05)** | 0.40 (0.04)** | 0.33 (0.05)** | 0.39 (0.05)** |
| Noticed Payments | 0.05 (0.02)** | 0.05 (0.02)** | 0.05 (0.02)** | 0.06 (0.02)** | 0.05 (0.02)** | 0.06 (0.02)** |
| Deposits very unsafe | -0.07 (0.02)** | -0.05 (0.03) | -0.07 (0.02)** | -0.06 (0.03)* | -0.07 (0.02)** | -0.06 (0.04) |
| Deposits rather unsafe | -0.06 (0.02)** | -0.04 (0.02)* | -0.06 (0.02)** | -0.06 (0.02)** | -0.06 (0.02)** | -0.07 (0.02)** |
| Deposits rather safe | -0.03 (0.02) | -0.02 (0.02) | -0.03 (0.02) | -0.03 (0.02) | -0.02 (0.02) | -0.02 (0.02) |
| Deposits Don't know | -0.01 (0.05) | 0.01 (0.06) | -0.01 (0.05) | -0.04 (0.04) | -0.04 (0.05) | -0.10 (0.04)* |
| Trnava | | 0.24 (0.07)** | | | | |
| Trenciany | | 0.25 (0.07)** | | | | |
| Nitra | | 0.20 (0.06)** | | | | |
| Zilina | | 0.37 (0.07)** | | | | |
| B.Bystrica | | 0.12 (0.06)* | | | | |
| Presov | | 0.28 (0.07)** | | | | |
| Kosice | | 0.20 (0.05)** | | | | |
| Small Village | -0.07 (0.02)** | -0.15 (0.03)** | -0.07 (0.02)** | -0.06 (0.02)** | -0.05 (0.02)* | -0.08 (0.03)** |
| Middle Village | -0.07 (0.02)** | -0.11 (0.02)** | -0.07 (0.02)** | -0.06 (0.02)** | -0.07 (0.02)** | -0.06 (0.02)** |
| Small City | -0.05 (0.02)* | -0.12 (0.02)** | -0.05 (0.02)** | -0.04 (0.02)* | -0.04 (0.02)+ | -0.05 (0.02)+ |
| Male | -0.00 (0.01) | -0.01 (0.01) | -0.01 (0.01) | -0.01 (0.01) | -0.02 (0.02) | -0.02 (0.02) |
| HHSIZE 2 | -0.05 (0.03)+ | -0.06 (0.02)** | -0.04 (0.03) | -0.05 (0.02)+ | -0.04 (0.03) | -0.07 (0.03)* |
| HHSIZE 3-4 | -0.06 (0.03)* | -0.09 (0.03)** | -0.06 (0.03)+ | -0.05 (0.03) | -0.06 (0.03)+ | -0.10 (0.04)* |
| HHSIZE >4 | -0.07 (0.02)** | -0.09 (0.02)** | -0.07 (0.02)** | -0.06 (0.03)* | -0.07 (0.02)** | -0.09 (0.03)** |
| Observations | 2252 | 2252 | 2252 | 2977 | 1650 | 1658 |
| LL | -806.01 | -775.27 | -808.37 | -1104.55 | -566.06 | -635.48 |
| R2 | 0.22 | 0.25 | 0.22 | 0.20 | 0.25 | 0.22 |
| Wald | 393.06 | 432.32 | 384.77 | 498.03 | 308.28 | 282.38 |
| P(observed) | 0.17 | 0.17 | 0.17 | 0.18 | 0.17 | 0.19 |

Note: Robust standard errors in parentheses, “+” significant at 10%; “*” significant at 5%; “**” significant at 1%. Time dummies (not shown) are included in each specification.

Reference groups: Age > 54, primary education, lowest income, inflation will fall, exchange rate will depreciate, zero visits, blue collar workers and retirees, Bratislava, Large City, one person household.

Table A8: Estimation Results on the Choice between FCD and FCC: Croatia

| | Dependent Variable: FC-CASH (1) or FC-Deposits (0) | | | |
|--------------------------|--|-------------------|-------------------|-------------------|
| | (1) | (2) | (3) | (4) |
| Age -24 | 0.05 (0.10) | 0.06 (0.10) | 0.05 (0.10) | 0.12 (0.09) |
| Age 25-34 | 0.17 (0.07)* | 0.15 (0.07)* | 0.16 (0.07)* | 0.16 (0.06)** |
| Age 35-44 | 0.14 (0.08)+ | 0.11 (0.08) | 0.13 (0.08)+ | 0.16 (0.07)* |
| Age 45-54 | 0.13 (0.08) | 0.15 (0.09)+ | 0.12 (0.08) | 0.12 (0.07)+ |
| Edu: Vocational | 0.01 (0.08) | -0.01 (0.07) | 0.01 (0.07) | -0.07 (0.06) |
| Edu: Secondary | 0.02 (0.09) | 0.01 (0.09) | 0.02 (0.09) | -0.03 (0.07) |
| Edu: University | 0.05 (0.10) | 0.05 (0.10) | 0.06 (0.10) | -0.02 (0.08) |
| INC2 | 0.18 (0.15) | 0.15 (0.14) | 0.16 (0.15) | 0.20 (0.13) |
| INC3 | 0.10 (0.12) | 0.15 (0.13) | 0.09 (0.12) | 0.17 (0.11) |
| INC4 | 0.04 (0.12) | 0.09 (0.13) | 0.01 (0.11) | 0.09 (0.10) |
| INC5 | 0.10 (0.12) | 0.13 (0.12) | 0.10 (0.12) | 0.16 (0.10) |
| INC No Answer | 0.08 (0.12) | 0.14 (0.13) | 0.07 (0.12) | 0.13 (0.11) |
| ES: Student | 0.06 (0.14) | 0.02 (0.13) | 0.04 (0.13) | 0.13 (0.12) |
| ES: Inactive | 0.02 (0.06) | 0.02 (0.06) | 0.02 (0.06) | 0.02 (0.05) |
| ES: Owner | -0.18 (0.05)** | -0.19 (0.05)** | -0.18 (0.05)** | -0.16 (0.04)** |
| ES: Qualif. | -0.08 (0.06) | -0.09 (0.06) | -0.09 (0.06) | -0.09 (0.05)+ |
| Inflation Will Rise | -0.13 (0.05)* | -0.12 (0.05)* | -0.11 (0.05)* | |
| Inflation Same | -0.04 (0.06) | -0.04 (0.06) | -0.04 (0.06) | |
| Inflation Don't Know | -0.07 (0.10) | -0.09 (0.09) | -0.01 (0.11) | |
| Exchange R. Will Deprec. | 0.04 (0.05) | 0.04 (0.05) | | 0.02 (0.04) |
| Exchange R. Will Apprec. | -0.02 (0.08) | -0.03 (0.08) | | -0.01 (0.07) |
| Exchange R. Don't Know | 0.13 (0.07)+ | 0.12 (0.08) | | 0.06 (0.06) |

Note: Robust standard errors in parentheses, “+” significant at 10%; “*” significant at 5%; “**” significant at 1%. See continuation.

Table A8 (cont'd)

| | (1) | (2) | (3) | (4) |
|-----------------------------|------------------|------------------|------------------|------------------|
| Close Relative | -0.01 (0.04) | -0.01 (0.04) | -0.01 (0.04) | 0.00 (0.03) |
| Visits 1-5 | -0.09 (0.05)+ | -0.09 (0.05)+ | -0.08 (0.04)+ | -0.07 (0.04)* |
| Visits >5 | -0.12 (0.06)* | -0.11 (0.07) | -0.12 (0.06)+ | -0.04 (0.06) |
| Noticed Payments | 0.02 (0.05) | 0.04 (0.05) | 0.02 (0.05) | 0.00 (0.04) |
| Deposits very unsafe | 0.14 (0.13) | 0.17 (0.13) | 0.15 (0.13) | 0.09 (0.11) |
| Deposits rather unsafe | 0.23 (0.09)* | 0.29 (0.10)** | 0.25 (0.09)** | 0.11 (0.08) |
| Deposits rather safe | 0.19 (0.05)** | 0.20 (0.05)** | 0.19 (0.05)** | 0.12 (0.05)** |
| Deposits Don't know | 0.29 (0.16)+ | 0.32 (0.16)* | 0.31 (0.16)* | 0.13 (0.12) |
| Nord Croatia | | 0.13 (0.08) | | |
| Slavonia | | 0.09 (0.08) | | |
| Lika and Banija | | 0.44 (0.13)** | | |
| Istra, Rijeka, Gorski Kotar | | -0.03 (0.06) | | |
| Dalmatia | | 0.01 (0.07) | | |
| Small Village | 0.19 (0.06)** | 0.09 (0.06) | 0.19 (0.06)** | 0.17 (0.05)** |
| Middle Village | 0.12 (0.07)+ | 0.05 (0.07) | 0.12 (0.07)+ | 0.11 (0.06)+ |
| Small City | 0.12 (0.08) | 0.03 (0.08) | 0.13 (0.08) | 0.09 (0.06) |
| Male | 0.04 (0.04) | 0.02 (0.04) | 0.04 (0.04) | 0.04 (0.03) |
| HHSIZE 2 | -0.04 (0.08) | -0.03 (0.08) | -0.03 (0.08) | 0.00 (0.07) |
| HHSIZE 3-4 | -0.00 (0.08) | 0.04 (0.08) | -0.00 (0.09) | 0.03 (0.07) |
| HHSIZE >4 | 0.07 (0.11) | 0.10 (0.11) | 0.07 (0.10) | 0.04 (0.09) |
| Observations | 490 | 490 | 492 | 616 |
| LL | -243.56 | -234.91 | -245.95 | -290.71 |
| R2 | 0.15 | 0.18 | 0.14 | 0.13 |
| Wald | 87.66 | 102.65 | 83.97 | 80.55 |
| P(observed) | 0.27 | 0.27 | 0.27 | 0.23 |

Note: Robust standard errors in parentheses, “+” significant at 10%; “*” significant at 5%; “**” significant at 1%. Time dummies (not shown) are included in each specification.

Reference groups: Age > 54, primary education, lowest income, inflation will fall, exchange rate will depreciate, zero visits, blue collar workers and retirees, Zagreb, Large City, one person household.

Table A9: Estimation Results on the Choice between FCD and FCC: Slovenia

Dependent Variable: FC-CASH (1) or FC-Deposits (0)

| | (1) | (2) | (3) | (4) |
|--------------------------|------------------|------------------|------------------|-------------------|
| Age -24 | 0.00 (0.09) | 0.04 (0.09) | 0.02 (0.09) | 0.01 (0.08) |
| Age 25-34 | -0.06 (0.06) | -0.05 (0.06) | -0.04 (0.06) | -0.07 (0.05) |
| Age 35-44 | 0.01 (0.07) | -0.01 (0.07) | 0.02 (0.07) | -0.03 (0.06) |
| Age 45-54 | -0.06 (0.07) | -0.05 (0.07) | -0.05 (0.07) | -0.07 (0.06) |
| Edu: Vocational | -0.02 (0.06) | -0.03 (0.07) | -0.02 (0.06) | -0.03 (0.06) |
| Edu: Secondary | -0.09 (0.05) | -0.13 (0.06)* | -0.09 (0.05)+ | -0.09 (0.05)+ |
| Edu: University | -0.10 (0.07) | -0.14 (0.07)+ | -0.10 (0.07) | -0.10 (0.06)+ |
| INC2 | -0.07 (0.11) | -0.01 (0.11) | -0.07 (0.11) | -0.11 (0.10) |
| INC3 | -0.17 (0.12) | -0.13 (0.13) | -0.15 (0.12) | -0.18 (0.11)+ |
| INC4 | -0.18 (0.12) | -0.13 (0.12) | -0.17 (0.12) | -0.22 (0.10)* |
| INC5 | -0.23 (0.11)* | -0.21 (0.12)+ | -0.22 (0.11)* | -0.25 (0.10)** |
| INC No Answer | -0.04 (0.12) | -0.02 (0.12) | -0.04 (0.11) | -0.15 (0.10) |
| ES: Student | -0.01 (0.09) | -0.04 (0.09) | -0.02 (0.09) | -0.01 (0.08) |
| ES: Inactive | 0.08 (0.07) | 0.13 (0.07)* | 0.08 (0.07) | 0.02 (0.07) |
| ES: Owner | -0.20 (0.12)+ | -0.23 (0.12)* | -0.20 (0.12)+ | -0.14 (0.10) |
| ES: Qualif. | -0.16 (0.16) | -0.25 (0.15) | -0.18 (0.16) | -0.09 (0.13) |
| Inflation Will Rise | 0.04 (0.06) | 0.02 (0.06) | 0.02 (0.06) | |
| Inflation Same | 0.08 (0.06) | 0.06 (0.06) | 0.08 (0.06) | |
| Inflation Don't Know | 0.01 (0.12) | -0.03 (0.13) | -0.03 (0.12) | |
| Exchange R. Will Deprec. | -0.08 (0.04)+ | -0.08 (0.04)+ | | -0.06 (0.04) |
| Exchange R. Will Apprec. | -0.04 (0.13) | -0.03 (0.14) | | -0.03 (0.10) |
| Exchange R. Don't Know | -0.10 (0.10) | -0.11 (0.10) | | -0.09 (0.08) |

Note: Robust standard errors in parentheses, “+” significant at 10%; “*” significant at 5%; “**” significant at 1%. See continuation.

Table A9 (cont'd)

| | (1) | (2) | (3) | (4) |
|------------------------|-------------------|-------------------|-------------------|-------------------|
| Close Relative | 0.05 (0.04) | 0.06 (0.04) | 0.05 (0.04) | 0.01 (0.04) |
| Visits 1-5 | -0.13 (0.05)* | -0.10 (0.05)+ | -0.13 (0.05)* | -0.08 (0.04)+ |
| Visits >5 | -0.40 (0.06)** | -0.31 (0.07)** | -0.39 (0.06)** | -0.34 (0.05)** |
| Noticed Payments | 0.05 (0.04) | 0.07 (0.04)+ | 0.05 (0.04) | 0.04 (0.04) |
| Deposits very unsafe | 0.27 (0.06)** | 0.26 (0.06)** | 0.27 (0.06)** | 0.22 (0.06)** |
| Deposits rather unsafe | 0.24 (0.05)** | 0.24 (0.06)** | 0.24 (0.05)** | 0.20 (0.05)** |
| Deposits rather safe | 0.08 (0.06) | 0.06 (0.06) | 0.08 (0.06) | 0.07 (0.05) |
| Deposits Don't know | 0.18 (0.09)* | 0.17 (0.09)+ | 0.17 (0.09)+ | 0.13 (0.09) |
| Primorska | | -0.49 (0.07)** | | |
| Ljubljana | | 0.01 (0.08) | | |
| Dolenjska | | -0.13 (0.09) | | |
| Starjerska | | -0.13 (0.09) | | |
| Celjska/Koroska | | -0.20 (0.09)* | | |
| Prekmurska | | 0.01 (0.10) | | |
| Small Village | 0.15 (0.06)** | 0.03 (0.08) | 0.14 (0.06)* | 0.14 (0.05)** |
| Middle Village | -0.05 (0.06) | -0.02 (0.06) | -0.04 (0.06) | -0.08 (0.05) |
| Small City | 0.02 (0.05) | 0.05 (0.05) | 0.02 (0.05) | 0.04 (0.04) |
| Male | -0.04 (0.04) | -0.05 (0.04) | -0.03 (0.04) | -0.02 (0.04) |
| HHSIZE 2 | 0.20 (0.07)** | 0.17 (0.07)* | 0.19 (0.07)** | 0.20 (0.06)** |
| HHSIZE 3-4 | 0.28 (0.08)** | 0.23 (0.08)** | 0.28 (0.08)** | 0.25 (0.07)** |
| HHSIZE >4 | 0.23 (0.07)** | 0.21 (0.07)** | 0.21 (0.07)** | 0.20 (0.06)** |
| Observations | 710 | 710 | 710 | 879 |
| LL | -393.35 | -367.50 | -395.03 | -496.25 |
| R2 | 0.17 | 0.22 | 0.16 | 0.14 |
| Wald | 141.17 | 168.86 | 135.18 | 146.58 |
| P(observed) | 0.62 | 0.62 | 0.62 | 0.63 |

Note: Robust standard errors in parentheses, “+” significant at 10%; “*” significant at 5%; “**” significant at 1%. Time dummies (not shown) are included in each specification.

Reference groups: Age > 54, primary education, lowest income, inflation will fall, exchange rate will depreciate, zero visits, blue collar workers and retirees, Gorenjska, Large City, one person household.

Table A10: Estimation Results on the Choice between FCD and FCC: Slovakia

Dependent Variable: FC-CASH (1) or FC-Deposits (0)

| | (1) | (2) | (3) | (4) |
|--------------------------|-----------------|------------------|-----------------|------------------|
| Age -24 | 0.04 (0.13) | 0.00 (0.14) | 0.04 (0.13) | 0.07 (0.11) |
| Age 25-34 | 0.12 (0.10) | 0.10 (0.10) | 0.13 (0.10) | 0.16 (0.08)* |
| Age 35-44 | 0.06 (0.10) | -0.03 (0.10) | 0.07 (0.09) | 0.07 (0.08) |
| Age 45-54 | 0.03 (0.09) | -0.02 (0.10) | 0.03 (0.10) | 0.02 (0.08) |
| Edu: Vocational | 0.20 (0.19) | 0.28 (0.17)+ | 0.22 (0.18) | 0.10 (0.16) |
| Edu: Secondary | -0.07 (0.16) | 0.00 (0.16) | -0.05 (0.16) | -0.11 (0.14) |
| Edu: University | -0.03 (0.17) | -0.00 (0.17) | -0.01 (0.17) | -0.08 (0.14) |
| INC2 | 0.11 (0.20) | 0.22 (0.19) | 0.13 (0.20) | 0.17 (0.17) |
| INC3 | 0.19 (0.19) | 0.28 (0.18) | 0.20 (0.18) | 0.23 (0.16) |
| INC4 | 0.05 (0.20) | 0.14 (0.21) | 0.07 (0.20) | 0.20 (0.17) |
| INC5 | 0.16 (0.20) | 0.21 (0.20) | 0.18 (0.19) | 0.23 (0.17) |
| INC No Answer | 0.21 (0.40) | 0.26 (0.34) | 0.18 (0.41) | 0.14 (0.39) |
| ES: Student | 0.17 (0.13) | 0.15 (0.15) | 0.17 (0.13) | 0.12 (0.12) |
| ES: Inactive | -0.10 (0.11) | -0.20 (0.10)+ | -0.10 (0.11) | -0.10 (0.09) |
| ES: Owner | -0.01 (0.10) | 0.00 (0.11) | -0.03 (0.10) | -0.15 (0.08)+ |
| ES: Qualif. | -0.04 (0.14) | 0.01 (0.14) | -0.04 (0.14) | 0.07 (0.11) |
| Inflation Will Rise | 0.19 (0.08)* | 0.22 (0.08)** | 0.18 (0.08)* | |
| Inflation Same | -0.01 (0.06) | 0.02 (0.07) | -0.01 (0.06) | |
| Inflation Don't Know | 0.20 (0.18) | 0.16 (0.18) | 0.14 (0.18) | |
| Exchange R. Will Deprec. | -0.05 (0.08) | 0.01 (0.09) | | 0.04 (0.07) |
| Exchange R. Will Apprec. | -0.07 (0.06) | -0.09 (0.07) | | -0.04 (0.05) |
| Exchange R. Don't Know | -0.13 (0.10) | -0.15 (0.10) | | -0.01 (0.08) |

Note: Robust standard errors in parentheses, “+” significant at 10%; “*” significant at 5%; “**” significant at 1%. See continuation.

Table A10 (cont'd)

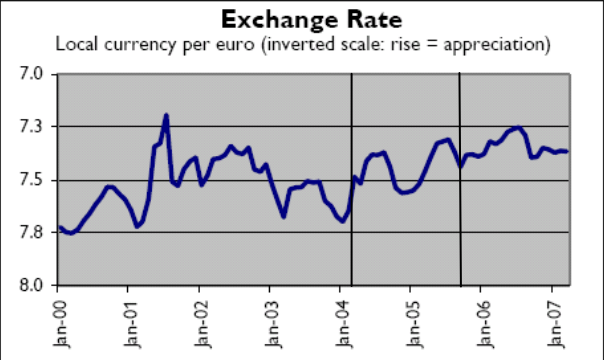
| | (1) | (2) | (3) | (4) |
|------------------------|-------------------|-------------------|-------------------|-------------------|
| Close Relative | 0.13 (0.06)* | 0.11 (0.06)+ | 0.13 (0.06)* | 0.07 (0.05) |
| Visits 1-5 | -0.15 (0.06)* | -0.13 (0.07)+ | -0.14 (0.06)* | -0.18 (0.05)** |
| Visits >5 | -0.31 (0.07)** | -0.29 (0.08)** | -0.30 (0.07)** | -0.34 (0.06)** |
| Noticed Payments | -0.05 (0.06) | -0.05 (0.06) | -0.05 (0.06) | -0.07 (0.05) |
| Deposits very unsafe | 0.27 (0.13)* | 0.08 (0.17) | 0.24 (0.14)+ | 0.21 (0.12)+ |
| Deposits rather unsafe | 0.13 (0.09) | 0.06 (0.10) | 0.13 (0.09) | 0.12 (0.08) |
| Deposits rather safe | 0.05 (0.07) | -0.02 (0.07) | 0.06 (0.07) | 0.09 (0.06) |
| Deposits Don't know | -0.16 (0.21) | -0.26 (0.17) | -0.16 (0.22) | 0.02 (0.19) |
| Trnava | | -0.39 (0.09)** | | |
| Trenciany | | -0.39 (0.09)** | | |
| Nitra | | -0.09 (0.14) | | |
| Zilina | | -0.43 (0.09)** | | |
| B.Bystrica | | 0.10 (0.17) | | |
| Presov | | -0.31 (0.11)** | | |
| Kosice | | -0.29 (0.10)** | | |
| Small Village | 0.22 (0.08)** | 0.36 (0.11)** | 0.21 (0.08)** | 0.11 (0.07) |
| Middle Village | 0.22 (0.09)* | 0.35 (0.10)** | 0.22 (0.09)* | 0.14 (0.08)+ |
| Small City | 0.07 (0.09) | 0.20 (0.12) | 0.07 (0.09) | 0.00 (0.07) |
| Male | -0.01 (0.06) | -0.01 (0.06) | -0.00 (0.06) | 0.01 (0.05) |
| HHSIZE 2 | 0.08 (0.11) | 0.11 (0.11) | 0.06 (0.11) | 0.03 (0.10) |
| HHSIZE 3-4 | 0.01 (0.11) | 0.06 (0.11) | -0.00 (0.11) | -0.05 (0.10) |
| HHSIZE >4 | 0.01 (0.13) | 0.07 (0.14) | 0.00 (0.13) | -0.02 (0.11) |
| Observations | 413 | 413 | 413 | 541 |
| LL | -250.11 | -228.58 | -251.16 | -341.02 |
| R2 | 0.12 | 0.20 | 0.12 | 0.09 |
| Wald | 58.95 | 98.45 | 55.74 | 60.62 |
| P(observed) | 0.47 | 0.47 | 0.47 | 0.49 |

Note: Robust standard errors in parentheses, “+” significant at 10%; “*” significant at 5%; “**” significant at 1%. Time dummies (not shown) are included in each specification.

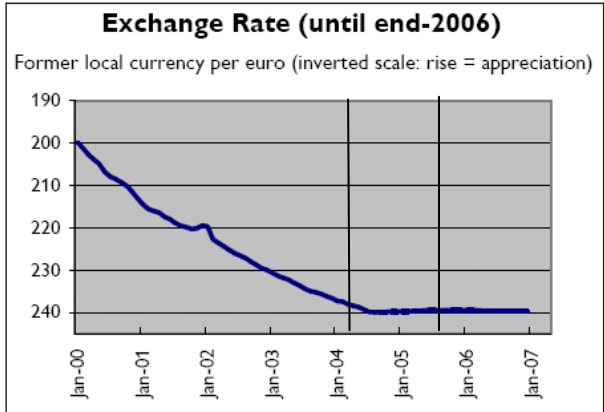
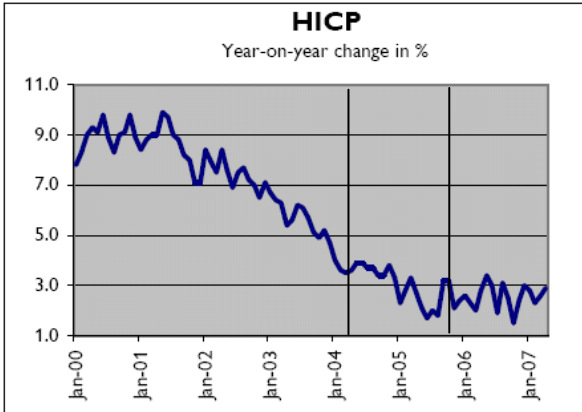
Reference groups: Age > 54, primary education, lowest income, inflation will fall, exchange rate will depreciate, zero visits, blue collar workers and retirees, Bratislava, Large City, one person household.

Appendix B: Information about the Development of Inflation and the Exchange Rate

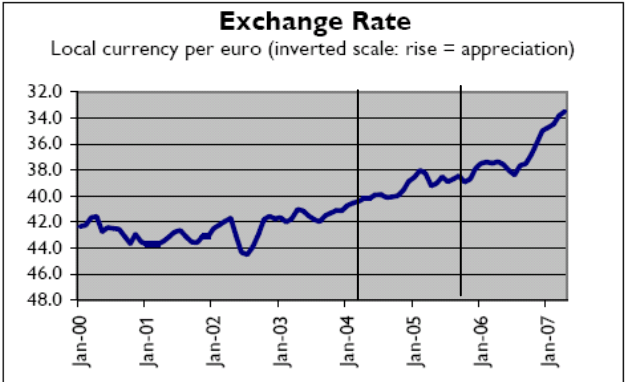
Croatia



Slovenia



Slovakia



Source: OeNB.

Note: The vertical bars mark the period covered by the surveys employed in the estimations.

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