

Euroization in Central, Eastern and Southeastern Europe – First Results from the New OeNB Euro Survey

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This article presents the main results of a new OeNB survey on foreign currency holdings, which was conducted for the first time in late 2007 in four Central and Eastern European (CEE) as well as seven Southeastern European (SEE) countries. The most important questions asked in the survey pertain to the currency composition and the amounts of foreign currency cash holdings and foreign currency deposits as well as to the motives for holding foreign currency cash and deposits. The authors conclude that the euro plays a dominant role in foreign currency-denominated assets (both cash and deposits) throughout the region.

1 Introduction

In Central, Eastern and Southeastern Europe (CESEE), the use of foreign currencies in general and of the euro in particular is a widespread phenomenon that is also referred to as euroization² in the literature. There are several reasons for euroization, some of which relate to a country's past (e.g. the erosion of confidence in the national currency owing to political and economic turbulences), while others possibly relate to its present or future situation (e.g. close economic ties with the euro area, migration and expectations about a prospective introduction of the euro). For the countries concerned, euroization has implications on the conduct of monetary and fiscal policy. For the euro area, in turn, implications arise as a considerable amount of the euro cash in circulation is estimated to be held abroad.

Given the important role foreign currencies play in CESEE, we know relatively little about the various dimensions of euroization in the region. The first dimension concerns its extent: Little direct evidence is available for foreign currency cash (FCC) holdings, i.e. banknotes and coins.³ For foreign currency deposits (FCDs), by contrast, aggregate data are available for most countries (see e.g. ECB, 2007). However, these data contain little information on how the respective deposits are distributed among the population. The second dimension concerns the reasons why people hold foreign currency-denominated assets. They may use them as a store of value and hence as a substitute for local currency-denominated assets ("asset substitution")⁴ or they may use foreign currency as a unit of account and medium of exchange ("currency substitution") – an aspect

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² In this paper, the term euroization refers to the *de facto* use of the euro. *De iure* euroization, by contrast, is defined as a country's (unilateral) adoption of the euro as legal tender.

³ The majority of estimates are based on indirect sources like currency shipments or money demand estimations. In the former case, data often do not provide any information on banknote migration in connection with tourism, workers' remittances or grey economy activities (see ECB, 2007).

⁴ For an overview of the literature and definitions of asset substitution and currency substitution, see e.g. Giovannini and Turtelboom (1992) or Feige (2000).

judged to be unobservable in the earlier literature (Calvo and Végh, 1992). Yet another dimension concerns the origin of foreign currency-denominated assets: Do they originate from converted local currency-denominated income, remittances from abroad or foreign currency-denominated income?

To find out more about the various dimensions of euroization in CESEE, the Oesterreichische Nationalbank (OeNB) extended an existing survey, which had been conducted regularly since 1997 in 5 countries, to cover a total of 11 countries in the CESEE region. This new OeNB Euro Survey provides comprehensive data on the extent of and the reasons behind euroization. The harmonized design of the survey allows for comparisons not only across countries, but also across socio-demographic groups. Furthermore, the microdata obtained in the survey provide useful insights into possible determinants of the euroization phenomenon, thus feeding into the academic discussion.⁵

This contribution presents the main results of the first wave of this new survey and results of further waves will be reported regularly in the forthcoming issues of this publication. The remainder of the paper is structured as follows: Section 2 briefly describes the main features of the OeNB Euro Survey, sections 3 and 4 present results on FCC holdings and foreign currency-denominated savings, offering information on the respective currency composition and amounts. Section 5 discusses findings on the motives for holding foreign currency and on people's expectations regarding the prospective introduction of the euro in the countries surveyed. Section 6 concludes.

2 The New OeNB Euro Survey – A Brief Description

The first wave of the new OeNB Euro Survey was conducted by Gallup in October/November 2007. The survey waves will be repeated every half year. Compared to earlier OeNB surveys, the geographical scope of the new survey has been expanded to include 11 countries, comprising 6 EU Member States (Bulgaria, the Czech Republic, Hungary, Poland, Slovakia and Romania) as well as 5 EU candidate and potential candidate countries⁶ (Albania, Bosnia and Herzegovina, Croatia, the FYR Macedonia⁷ and Serbia). The current survey comprised face-to-face interviews with about 1,000 persons aged 15+. The sample was selected via a multi-stage stratified random sample procedure, with the exception of Bulgaria, where quota sampling was applied. Results are representative for the respective population structure in all countries but Poland, where only the population of the ten largest cities was sampled (for further details, see <http://ceec.oenb.at>).

The most important questions asked in the survey pertain to the currency composition and amounts of FCC holdings and FCDs as well as to the motives for holding FCC and FCDs. In some aspects, the new OeNB Euro Survey continues earlier surveys commissioned by the OeNB that were conducted in Croatia, the Czech Republic, Hungary, Slovakia and Slovenia (see e.g. Stix, 2002), and thus

⁵ As a case in point, Basso and Calvo-Gonzalez (2007) develop a model to explain the determinants of financial dollarization in a number of transition countries, including the 11 countries covered by the OeNB Euro Survey.

⁶ The survey does not cover Montenegro and Kosovo, which have both introduced the euro unilaterally.

⁷ The Former Yugoslav Republic of Macedonia will be referred to as "FYR Macedonia" hereinafter.

produces data that are comparable with the previous results. Furthermore, a number of new questions have been included, e.g. regarding people's perception of the economic situation and their expectations, which provide interesting data for further research.

When interpreting the results of the new survey, one has to keep several caveats in mind. The first is underreporting. The OeNB Euro Survey focuses on private individuals – it does not cover foreign currency holdings of the corporate sector. Furthermore, underreporting is also likely to occur because of the sensitive nature of some questions, even if the survey does not refer to holdings obtained from grey economy activities or illegal sources (which are typically not disclosed by respondents). Altogether, underreporting will lead to a substantial underestimation of the amounts of foreign currency held by respondents. For example, Šošić (2007) provides estimates on the amount of foreign currency in circulation in Croatia, using data from currency in- and outflows from around the time of the euro cash changeover. The comparable results of the OeNB Euro Survey for Croatia are five times lower than Šošić's estimates. However, it is important to note that it is unclear to what extent this difference can be traced to the availability of data on corporate or private holdings. In any case, the amounts indicated in the survey results are likely to be subject to underreporting and should therefore be regarded as constituting the lower limit of actual figures.

The second caveat relates to the fact that the OeNB Euro Survey focuses on individuals as opposed to households. This means that the questionnaire addresses personal holdings, which might constitute a problem if the interviewees have no adequate knowledge of their household's financial situation. In several cases, moreover, it is difficult to distinguish between personal and household holdings (e.g. in the case of a couple with joint holdings). The questionnaire accounts for this problem by asking whether interviewees hold their foreign currency holdings personally or jointly (together with a partner).

Third, figures may be biased owing to item nonresponse. On average across all countries, 14% of the respondents that reported euro cash holdings refused to state the respective amount, and another 2% of respondents replied that they did not know the specific amount.⁸ These nonresponse rates could bias results if item nonresponse is not random. In the following calculations, we did not impute missing values but assumed that nonresponse is random.

Furthermore, while some of the calculations presented below rest on very strong assumptions, some are based on a relatively low number of observations and hence can be expected to be subject to considerable random variation across survey waves (as experience from past surveys suggests).

Despite the above-mentioned caveats, the OeNB Euro Survey provides a unique source of information on several aspects of euroization in CESEE which was hardly or not at all available in the past. Furthermore, survey data from the first wave allow for rough cross-country comparisons and support analyses over time on certain issues addressed by earlier surveys. Finally, the higher number of

⁸ Nonresponse rates ("no answer" plus "don't know" entries) differed considerably across countries, with the highest nonresponse rates reported for some SEE countries (e.g. 36% for Serbia and 35% for Bulgaria) and relatively low rates for Slovakia (5%) and the Czech Republic (9%).

observations available after the completion of several additional survey waves will provide a more reliable data base for in-depth research on selected issues.

3 Foreign Currency Cash Holdings in CESEE: Sizeable Amounts, Euro by Far the Most Popular Currency

As in previous surveys, the issue of FCC holdings, and in particular of euro cash holdings, is also at the core of the OeNB Euro Survey. Chart 1 shows the responses to the question whether interviewees held foreign currency cash, which can be summarized as follows.

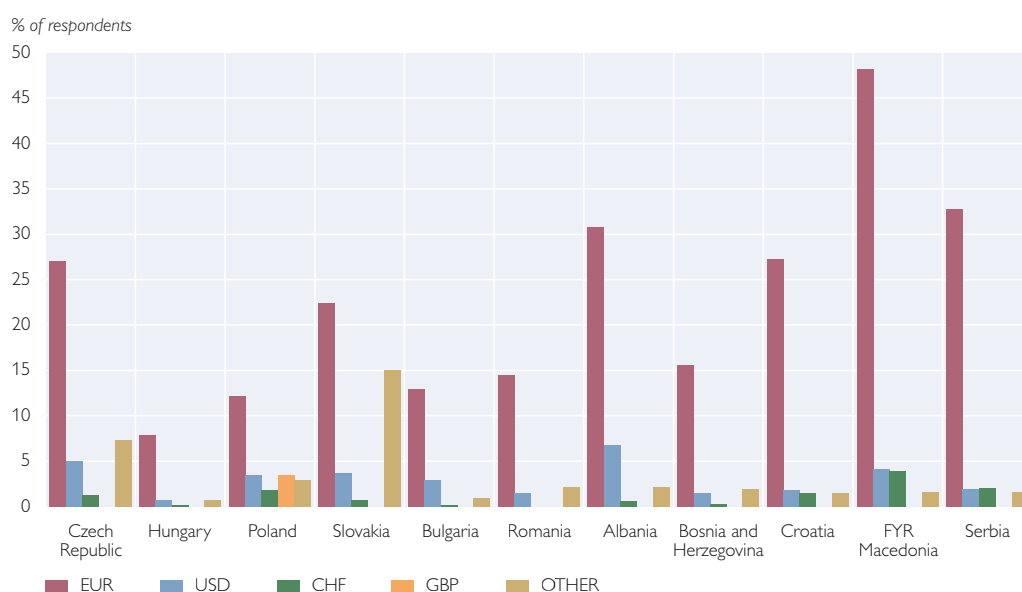
First, the share of respondents holding foreign cash is substantial in some countries and varies considerably across countries, ranging from 8% in Hungary to 49% in the FYR Macedonia.

Second, a currency breakdown reveals the predominant role of the euro in all countries analyzed, with the Southeastern European (SEE) countries showing the highest euro cash holding rates, (e.g. 48% in the FYR Macedonia). In Central and Eastern Europe (CEE), a significantly lower share of interviewees said that they held euro cash; here, the Czech Republic and Slovakia constitute an exception, as euro cash in these countries is used mainly for transactions abroad (see section 5).

Third, in all countries surveyed, the share of respondents reporting cash holdings denominated in U.S. dollar is substantially lower than that of euro cash holders. As earlier OeNB surveys have shown for the CEE countries, the importance of U.S. dollar cash started to decline at the time of the euro cash changeover. Most people in these countries exchanged their legacy currency cash holdings (e.g. Deutsche mark, Austrian schilling) for euro or the respective national currencies, whereas an exchange for U.S. dollar cash was relatively modest (see Stix, 2004, or

Chart 1

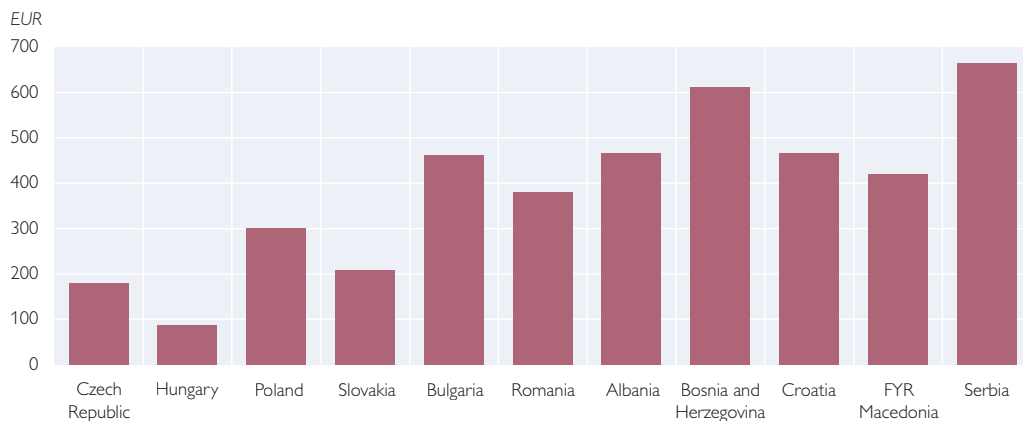
Share of Respondents Holding Foreign Cash



Source: OeNB Euro Survey 2007.

Note: Only the survey conducted in Poland contained questions regarding GBP holdings.

Chart 2

Respondents Holding Euro Cash: Median Amounts

Source: OeNB Euro Survey 2007.

Note: Values are based on categorical answers. The median is calculated by linearly interpolating between class boundaries.

Nauschnigg, 2003). It may well be assumed that a similar exchange behavior was also present in the SEE countries, which were not covered by earlier surveys.

Fourth, cash holdings denominated in foreign currencies other than the euro and the U.S. dollar play a very limited role. Exceptions are pound sterling (GBP) holdings in Poland, which may to a certain extent reflect recent migration flows between Poland and the U.K.,⁹ as well as cash holdings of, presumably, the Czech koruna in Slovakia and the Slovak koruna in the Czech Republic.

In general, the overall picture confirms earlier survey data on FCC in Croatia, the Czech Republic, Hungary and Slovakia (see Ritzberger and Stix, 2007). However, the new data reveal that euro holdings are even more widespread in the SEE countries than in the CEE countries.

Chart 2 presents the median amounts of euro cash reported by those interviewees who said they held euro cash. It reveals marked differences between countries, with median amounts ranging from EUR 100 per person in the case of Hungary to more than EUR 650 in Serbia. In general, euro cash holdings are lower in the “older” EU Member States than they are in Bulgaria, Romania, and the other non-EU countries, where median holdings of around EUR 400 or more can be observed.

In principle, the combined answers on euro cash holdings and on the respective euro amounts allow for a projection of per capita euro cash holdings.¹⁰ Keeping in mind the limitations mentioned in section 2 and considering that these projection methods rest on strong assumptions, we obtain the following results for per capita euro cash holdings in the countries under observation: about EUR 12 for Hungary, EUR 80 to EUR 110 for Poland, Slovakia, Bulgaria and

⁹ According to data from the U.K. Workers Registration Scheme, more than 420,000 Polish citizens have applied for the right to work in the U.K. The majority of U.K. immigrants from Poland intend to stay in the U.K. for no longer than six to eight months at the most (see Tanaka, 2007).

¹⁰ Per capita figures refer to the population aged 14+.

Romania, around EUR 170 for Bosnia and Herzegovina, EUR 260 for Croatia and about EUR 310 for Albania, the FYR Macedonia and Serbia.¹¹ Adjusting these figures for differences in purchasing power would show that the differences between the EU Member States and some SEE countries are even more sizeable than they are in nominal terms.

To sum up, a high proportion of respondents in SEE said they held euro cash, and the amounts they hold are comparatively large. While the share of respondents holding euro cash is also substantial in CEE, the amounts reported are considerably smaller. This leads us to the conclusion that the amount of euro cash in circulation is considerably higher in SEE than in CEE, which may be explained by differences in the motives for holding euro cash in CEE (mainly for shopping abroad) and in SEE (mainly as a store of value). This issue will be discussed in section 5.

4 Foreign Currency Deposits in CESEE: Even More Sizeable than Euro Cash Holdings

Another set of questions in the OeNB Euro Survey deals with foreign currency-denominated savings deposits. In principle, information on the extent of deposit euroization is available from aggregate statistics (e.g. data on the share of euro deposits in total deposits). Data from the OeNB Euro Survey provide valuable additional information. First, the survey data allow for drawing inferences about the distribution of foreign currency savings deposits among the population, also along socio-demographic lines. Second, they provide information on the motives for holding such deposits; thus, agents' decisions can be related to economic determinants (e.g. respondents' expectations regarding exchange rate or interest rate developments). Third, on the basis of the data from the OeNB Euro Survey, it is possible to assess how cash holdings are related to deposit holdings.

Table 1 provides an overview of the main findings concerning deposit euroization. However, caveats about the reliability of the survey results are even more pertinent in this context, as the number of observations for FCDs is very low in some countries (Poland, the Czech Republic and Hungary). First, the share of respondents who indicated that they have one or more savings deposits is generally low compared to EU standards,¹² ranging from only 7% in Bosnia and Herzegovina to 37% in Slovakia. Second, the responses reveal that the shares of FCDs are very heterogeneous across countries, with relatively low shares for CEE countries, intermediate levels for Bulgaria and Romania and very high shares for the other SEE countries. These survey results are broadly consistent with aggregate data on average FCDs as a share of total deposits for the period between 2000 and 2006 (see ECB, 2007).¹³

¹¹ Some of these figures can be contrasted with figures from other sources. For Croatia, Kraft (2003) reports estimates of around EUR 800 per capita for the years around the euro cash changeover. As this figure is an estimate and dates back several years, we cannot assess the plausibility of our estimates relative to Kraft's figure.

¹² According to a household survey carried out in Austria, 93% of all Austrian households own savings deposits (see Beer et al., 2006).

¹³ However, the statistical data presented by the ECB are only roughly comparable with the OeNB survey results as they cover both deposits of households and nonfinancial corporations.

Table 1

Foreign Currency Deposits

	Share of respondents with ...		
	... a savings deposit (% of respondents)	... an FCD (% of those who have a savings deposit)	... an FCD denominated in euro (% of those who hold an FCD)
Czech Republic	35	9	94
Hungary	21	8	97
Poland	11	18	76
Slovakia	37	13	87
Bulgaria	22	28	75
Romania	17	42	98
Albania	24	58	87
Bosnia and Herzegovina	7	78	89
Croatia	25	63	94
FYR Macedonia	21	72	96
Serbia	10	84	94

Source: OeNB Euro Survey.

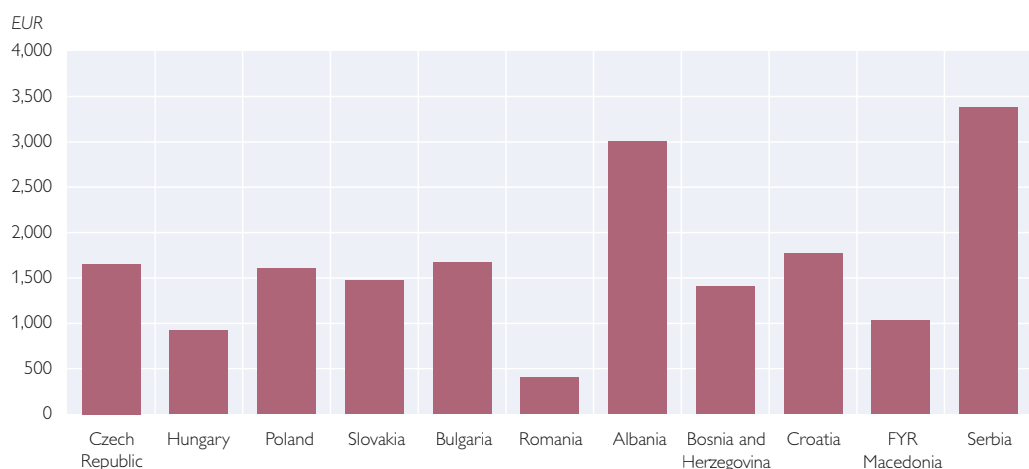
Note: For some countries the number of observations is low and hence computed shares may not be reliable. FCD stands for foreign currency deposit.

Third, the survey results indicate that in all countries under review, the bulk of foreign currency deposits is denominated in euro. This outcome is largely in line with aggregate data collected by the ECB (see ECB, 2007).

Chart 3 shows the size of euro-denominated savings deposits in the CESEE countries; it reveals that euro amounts held in savings deposits are significantly higher than those held in cash. At the same time, the number of respondents who said they held savings deposits was lower than that of interviewees reporting cash holdings. As a case in point, the amounts of euro-denominated deposits reported

Chart 3

Respondents Holding Euro Savings Deposits: Median Amounts



Source: OeNB Euro Survey 2007.

Note: For some countries (Bosnia and Herzegovina, Bulgaria, the Czech Republic, Hungary, Poland) the number of observations is low (less than 30) and hence medians may be unreliable.

from Albania are more than six times higher than those of euro cash holdings, but only 14% of Albanian respondents said they held FCDs.

Of course, it would be interesting to project deposit holdings to the entire population of CESEE and to relate cash to deposits holdings. However, at this stage we refrain from conducting this exercise, given the low number of observations available.

5 Motives for Holding Euro: Differences between CEE and SEE

When it comes to assessing the degree of a country's de facto euroization, the OeNB Euro Survey provides very useful insights into people's motives for holding FCC. If euro cash is held primarily as a store of value, this points to a certain degree of asset substitution, which is generally seen as a first step toward euroization. The use of a foreign currency for domestic transactions is regarded as the final step toward currency substitution. Another possible reason for people to hold FCC is that they use it in transactions abroad (e.g. during shopping trips or vacations to (neighboring) euro area countries).

Chart 4, which presents the classical set of motives for holding euro cash, shows clearly discernible differences between CEE and SEE countries.

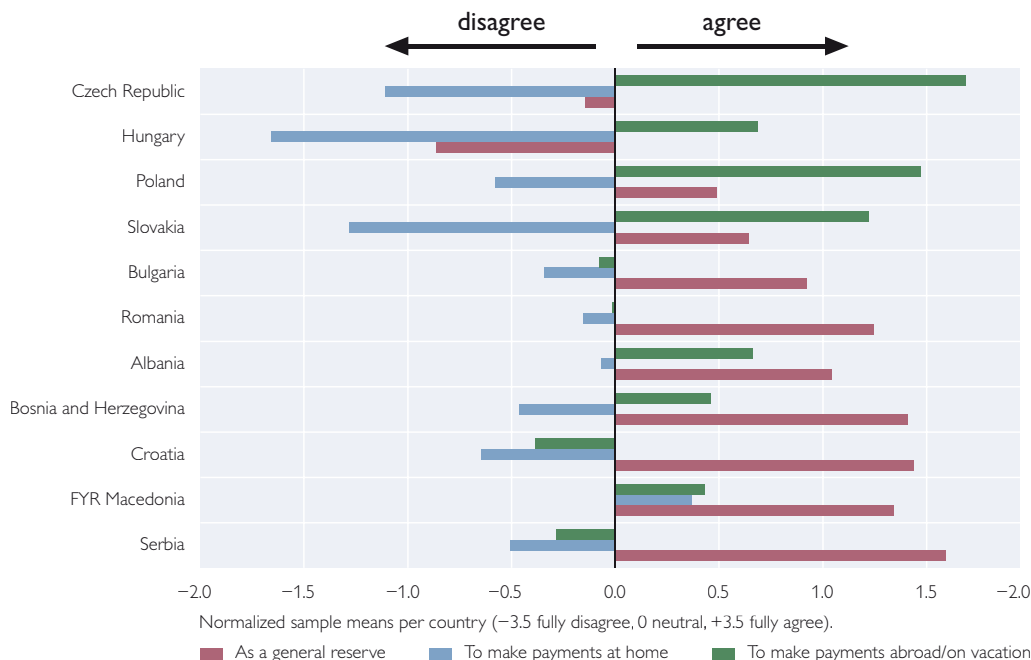
In CEE, the prime motive for holding euro cash is to make payments abroad. Previous OeNB surveys have shown that in CEE countries, the store-of-value function of holding euro cash has decreased over the past few years, whereas the importance of holding euro cash for making payments abroad has increased. This development reflects the more advanced economic situation and the higher macroeconomic stability in the region.

In SEE, the store-of-value function is the key motive for holding euro cash. At first glance, it may seem striking that people virtually hoard euro cash under their mattresses, which means they forego interest earnings. One possible explanation for this behavior may be that a high percentage of respondents perceives the euro as a "very stable and trustworthy currency." Another explanation may be that respondents still remember previous periods of high inflation or hyperinflation and consequently lack confidence in their domestic currencies (Backé, Ritzberger and Stix, 2007). This explanation is to some extent underpinned by the survey results which, for some countries, show high rates of agreement to the following statement: "I remember periods of high inflation during which the value of the local currency dropped sharply."¹⁴ These results might also be attributable to the poor availability of banking services and the low perceived safety of bank deposits, which might affect the choice between FCC and FCDs (Feige, 2003; Stix, 2008).¹⁵

As regards the use of euro cash for domestic transactions, chart 4 indicates that this does not seem to be a major motive for keeping euro cash in any of the SEE or CEE countries surveyed, at least in relation to the other two motives.

¹⁴ Please note that the questions on the euro's reputation and on people's recollection of past periods of inflation were read out to all interviewed persons, irrespective of whether they had reported foreign currency holdings or not.

¹⁵ Using data from Croatia, Slovakia and Slovenia, Stix (2008) shows that people's assessment of bank deposit safety significantly affects their choice of holding FCC or FCDs. His results also provide indirect support for the assumption that the provision of banking services has an impact in this context.

Motives for Holding Euro Cash

Source: OeNB Euro Survey 2007.

Note: Respondents who said they held euro cash were asked whether they agreed or disagreed on a scale from 1 (fully agree) to 6 (fully disagree) to a list of motives for holding euro cash (see legend).

However, the survey also includes a direct question on the use of the euro for domestic payments. In Albania, Bosnia and Herzegovina, the FYR Macedonia and Serbia, between 20% and almost 50% of the respondents said that they had made payments in euro in their respective country within the past six months.

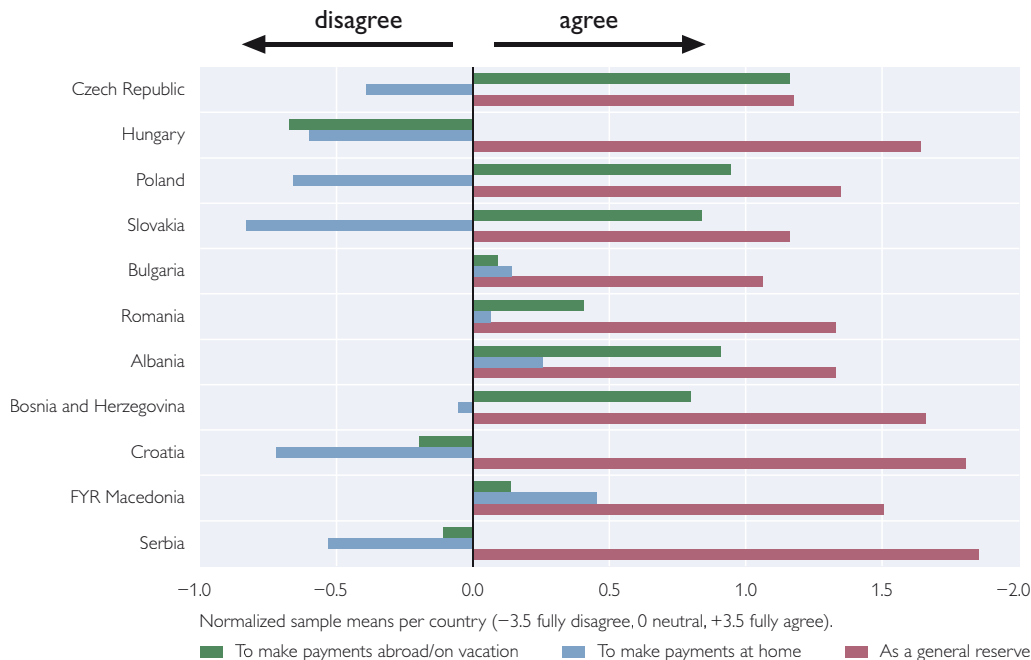
It is not surprising that the predominant motive for holding euro-denominated savings deposits is the store-of-value function – a fact which again points to asset substitution (see chart 5).

The good reputation of the euro as well as people's recollection of past periods of inflation may also have contributed to this development. Furthermore, as with the reasons for holding euro cash, respondents from some countries said that they hold euro-denominated savings deposits in order to make payments abroad. Interestingly, Hungarians did not regard this motive as important in connection with deposits, but as quite important in the case of cash holdings. Again, according to the respondents of all countries surveyed, making payments in euro in their own country was not a major reason for holding euro-denominated savings deposits.

Apart from the three classical motives for holding FCC or FCDs, the OeNB Euro Survey's questionnaire addresses a number of other possible reasons for euroization. Chart 6 presents a set of selected additional motives for holding euro cash. First, respondents were asked whether they held euro cash because the euro is better protected against counterfeiting than the respective local currency. This reason was found to be of some relevance in Albania, Bosnia and Herzegovina, and the FYR Macedonia. Second, people were asked if their euro cash holdings were ascribable to payments that they received in euro. In all countries surveyed,

Chart 5

Motives for Holding Euro Savings Deposits

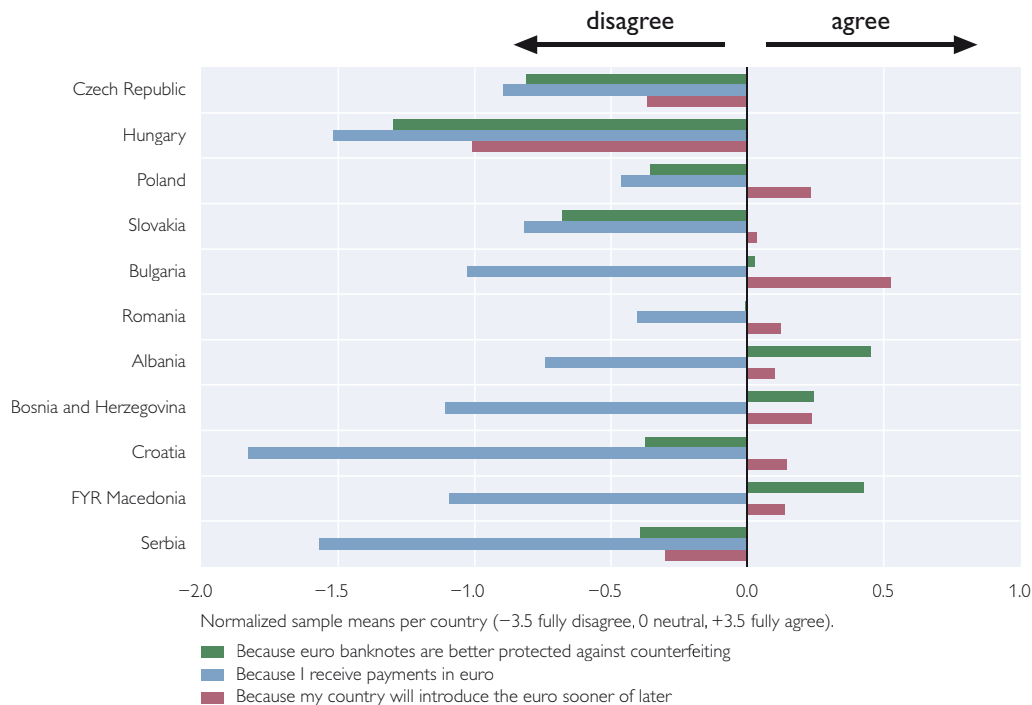


Source: OeNB Euro Survey 2007.

Note: Respondents who said they held euro savings deposits were asked whether they agreed or disagreed on a scale from 1 (fully agree) to 6 (fully disagree) to a list of motives for holding euro savings deposits. For some countries (the Czech Republic, Hungary and Poland) the number of observations is very low (less than 40).

respondents on average disagreed with this notion, which might be related to the fact that the question touches on a sensitive issue. Third, the increased use of the euro in the region may, at least partly, be attributed to the prospects of the respective country's monetary integration with the euro area (see Levy Yeyati, 2006). Thus, respondents were asked whether they held euro cash because they expected their country to introduce the euro at some stage. Of the EU Member States under investigation, this consideration reportedly played a role only in Bulgaria and, to a lesser extent, Poland. It is interesting to note that this expectation was also found to be of relevance in some SEE countries although they have not even joined the EU yet.

Chart 7 shows the results of the OeNB Euro Survey on people's expectations regarding the prospective introduction of the euro in their country. Not surprisingly, over 70% of respondents from Slovakia expect that the euro will be introduced by 2009 or 2010, as the country's official target date is January 2009. For the other EU Member States, results are quite mixed: The share of respondents who expect the euro to be introduced by 2012 at the latest is relatively high in Bulgaria and substantially lower in Poland, Romania, Hungary and the Czech Republic. The results for the six EU Member States analyzed are broadly consistent with survey data obtained by the Flash Eurobarometer, in particular as regards cross-country differences (see European Commission, 2007). In this context, particular attention should be paid to the share of nonresponses and of people who said they thought their country would never introduce the euro. To a certain extent, these (non)responses can be seen as a reflection of the respective

Additional Motives for Holding Euro Cash

Source: OeNB Euro Survey 2007.

Note: Respondents who said they held euro cash were asked whether they agreed or disagreed on a scale from 1 (fully agree) to 6 (fully disagree) to a list of motives for holding euro cash.

government's communication policy on this issue: Some EU Member States currently do not have an official target date for the introduction of the euro or have abandoned their previously envisaged target dates.¹⁶ Turning to those SEE countries that have not yet joined the EU, the respondents from all countries except Croatia clearly believe that introducing the euro is a more distant perspective for their countries. In this region, too, the nonresponse item may be related to government policies with respect to EU relations.

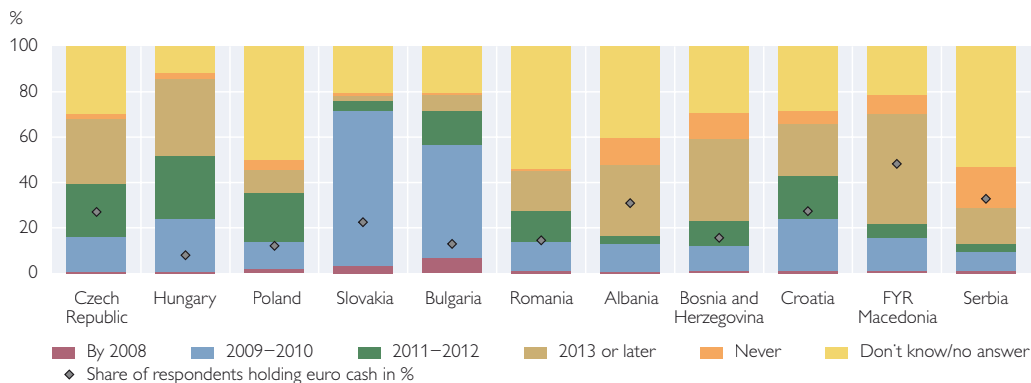
6 Conclusions

First results of the OeNB Euro Survey, which was conducted in 11 CESEE countries, show that the euro dominates foreign currency-denominated assets (both cash and deposits). This might be related to the fact that among the population in the region the euro enjoys a good reputation as a stable and trustworthy currency.

The survey reveals considerable differences across countries with respect to both the distribution and the amount of euro cash holdings. In general, euro cash appears to be more important in the SEE than in the CEE countries: While in SEE

¹⁶ The Czech Republic, Hungary, Poland and Romania currently do not have an official target date for the introduction of the euro. The Czech Republic even dropped its originally envisaged target date of 2010. Bulgaria, by contrast, has officially announced it will introduce the euro "as soon as possible."

Chart 7

Expected Date of Euro Adoption

Source: OeNB Euro Survey 2007.

about 26% of respondents hold a median amount of about EUR 470 in cash, in CEE some 17% hold around EUR 190. Among those respondents who have savings deposits, we find that in SEE countries a higher share makes savings in foreign currency than in CEE countries.

Taken together, the results on foreign currency cash holdings and deposits suggest that the euro plays a more substantial role in SEE than in CEE. This corresponds well to the results regarding the motives why people hold foreign currency-denominated assets. In the SEE countries, people tend to agree to the statement that they hold euro as a general reserve or a means of precaution. By contrast, in CEE the most important reason to hold euro cash is to pay for shopping abroad. This suggests that in SEE euroization mainly takes place in the form of asset substitution, while in CEE countries this is the case only to a lesser extent.

Overall, the OeNB Euro Survey provides a unique source of information on the role of the euro in CESEE and it is expected to deliver interesting time series over the medium term, leaving ample room for further research in this area.

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