

# OeNB Euro Survey: Growing Uncertainty, but Overall Euroization Not Affected

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*Based on descriptive evidence obtained from the latest OeNB Euro Survey, this contribution examines whether the widespread use of the euro among households in Central, Eastern and Southeastern Europe (CESEE) has been affected by the ongoing sovereign debt crisis in the euro area. Although households' confidence in the euro has decreased substantially in all CESEE countries, it is still stronger than confidence in the respective local currencies in all countries except the Czech Republic. Despite this loss of trust in the euro, the relative weight of euro cash in the total economy is still substantial in several Southeastern European countries. Aggregate data on the development of foreign currency deposits in total deposits provide a mixed picture across countries. The overall degree of euroization – comprising cash holdings and deposits – has remained surprisingly stable in CESEE over time and has hardly been affected by the crisis in the euro area. Interestingly, in some countries the relative contribution of foreign currency deposits to overall euroization has increased against precrisis levels, whereas euro cash holdings have lost in relative importance.*

*JEL classification: D14, E41, G01, G11*

*Keywords: Euroization, global financial crisis, portfolio decision, survey data, Central, Eastern and Southeastern Europe*

## 1 Introduction

The widespread use of the euro in Central, Eastern and Southeastern Europe (CESEE) is likely to have been affected by the ongoing sovereign debt crisis in the euro area. Based on descriptive evidence obtained during the latest OeNB Euro Survey, we seek to address three questions: Have the global financial crisis and the sovereign debt crisis translated into higher levels of uncertainty among CESEE households? Did households' relative assessment of the euro versus the respective local currencies change? Did CESEE households consequently react by adjusting their portfolios, thus reducing the overall levels of euroization in the CESEE countries?

The OeNB Euro Survey is carried out twice a year – in the spring and in the fall – in ten CESEE countries. The most recent survey was conducted in May and June 2011, at a time when the overall situation in the EU in general, and in the euro area in particular, was increasingly dominated by the sovereign debt crisis. Survey results provide unique evidence on CESEE households' economic sentiments and behavior, in particular on their euro cash holdings and deposits. Thus, the survey results complement the debate on macrofinancial stability and euroization by providing evidence on a micro-level.

This contribution is structured as follows. Section 2 presents survey results on CESEE households' trust in the euro and in the respective local currencies as well as on their exchange rate expectations. Section 3 examines the possible impact of changes in household sentiment on cash euroization, deposit euroization and overall euroization. Section 4 sums up.

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## 2 Increased Uncertainty about Currency Developments

Since its launch in fall 2007, the OeNB Euro Survey has included questions about the perceived stability and trustworthiness of the euro as well as of the local currencies in the countries under review. Previous Euro Survey results showed an overall very high level of confidence in the euro in all countries surveyed, especially in comparison to the levels of trust in the respective local currencies (see Dvorsky, Scheiber and Stix, 2009b).

The wording of the relevant survey item is “*Over the next five years the euro [local currency, respectively] will be a very stable and trustworthy currency.*” Since this survey item deals with people’s sentiment, respondents’ interpretations of what to include in their answers might differ; thus, answers may comprise e.g. respondents’ expectations of price and exchange rate stability<sup>2</sup> or even of counterfeit protection.

In view of the ongoing sovereign debt crisis, the question arises whether CESEE households’ assessment of the euro’s stability has deteriorated and whether their trust in the respective local currencies has caught up with that in the euro.

Furthermore, it might be expected that respondents’ uncertainty about currency developments in general has increased. We study this issue by looking at the share of respondents who answer “don’t know” and by computing standard deviations for selected questions over time.

### 2.1 Trust in the Euro Affected by Sovereign Debt Crisis

The OeNB Euro Survey finds that confidence in the euro had already dropped substantially in all countries analyzed in May/June 2010, yet remained positive, which means that more than 50% of respondents expressed their trust in the future stability of the euro (see chart 1). It can be assumed that the first peak of the sovereign debt crisis, including bilateral loans for Greece and the creation of the temporary crisis mechanism (European Financial Stability Facility – EFSF) in May 2010 had fed into the survey results. Since then, trust in the euro has rebounded in the Southeastern European (SEE) countries except Albania, but the levels of trust found in May/June 2011 were still below precrisis levels. For the Central and Eastern European (CEE) countries, no such rebound can be reported (see chart 1).

However, it is important to bear in mind that the spring wave 2011 took place a few weeks before public attention on the sovereign debt crisis started to intensify again. Consequently, chances are that since then confidence in the euro has deteriorated even further.

At the same time, households’ trust in the euro shows a higher degree of uncertainty. For several countries, the last two survey waves have reported a substantially higher share of “don’t know” replies than precrisis waves. In some countries, the number of “don’t know” replies increased in the course of 2010, while in other countries the rise took place only in spring 2011 (see chart 2). In general, the share of respondents that felt unable to give an assessment of the future development of the euro has reached a comparatively high level, ranging between 15% and 25% of respondents in seven of the ten countries surveyed.

Furthermore, even among those respondents who expressed an opinion on future euro developments, a higher degree of uncertainty can be observed. In

<sup>2</sup> Respondents’ statements on exchange rates and price stability correlate to a certain extent with the direct survey results on respondents’ inflation and exchange rate expectations.

Chart 1

**Consent to the Statement: Over the Next Five Years, the Euro Will Be Very Stable and Trustworthy**

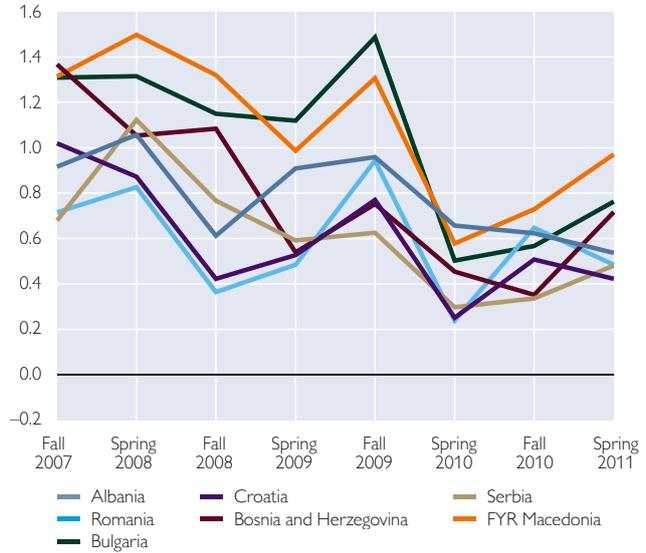
**CEE countries**

Normalized sample means per country (-2.5 fully disagree, 0 neutral, +2.5 fully agree)



**SEE countries**

Normalized sample means per country (-2.5 fully disagree, 0 neutral, +2.5 fully agree)



Source: OeNB Euro Survey.

Note: Respondents were asked whether they agreed or disagreed on a scale from 1 (fully agree) to 6 (fully disagree) with the statement above.

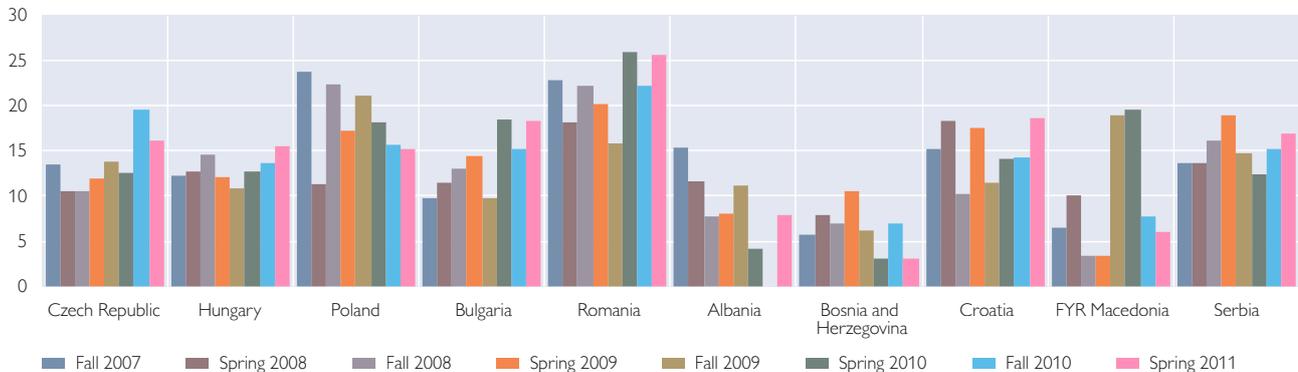
some countries, standard deviations of answers went up considerably against precrisis levels, reflecting an increasing divergence of people’s views on the expected stability of the euro. An ad hoc explanation for this increased divergence could be intensified media coverage on the sovereign debt crisis as well as the higher exchange rate volatility observed in recent months.

Chart 2

**Consent to the Statement: Over the Next Five Years, the Euro Will Be Very Stable and Trustworthy**

**Share of Respondents Answering “Don’t Know”**

% of total respondents



Source: OeNB Euro Survey.

Note: Respondents were asked whether they agreed or disagreed on a scale of 1 (fully agree) to 6 (fully disagree) with the statement above. The figures represent the share of respondents who answered “Don’t know.”

## 2.2 Trust in the Local Currencies

Given that people's confidence in the euro has deteriorated in the course of the crisis, the question arises whether the relative confidence in the respective local currencies has increased in turn. This could trigger changes in households' portfolios, in particular with respect to currency composition.

Survey evidence on respondents' assessment of their respective local currencies is rather mixed. A majority of households in the Czech Republic, in FYR Macedonia and in Bosnia and Herzegovina expect the local currency to be stable and trustworthy over the next five years, whereas respondents in Hungary, Bulgaria, Romania and Serbia, in particular, rather tend to distrust their local currency. While for Hungary, Romania and Serbia, these results might reflect exchange rate depreciations of the respective local currencies vis-à-vis the euro over the past year, the low level of trust in the Bulgarian lev is somewhat surprising, given that the country's currency board arrangement has been in place for almost 15 years.

Contrary to answers obtained on households' confidence in the euro, respondents did not show an increased uncertainty or divergence of opinions in assessing their local currencies. The standard deviations for trust in the respective local currencies remained largely unchanged against precrisis levels, i.e. the extent of disagreement on this issue among respondents has not changed. In several countries, the share of "don't know" replies is considerably lower than before the crisis, showing that a higher share of respondents consider themselves able or are willing to express a view on the local currency's development.

Chart 3

### Trust in the Future Stability of the Local Currency vs. Trust in the Euro

Normalized sample means per country (-2.5 fully disagree, 0 neutral, +2.5 fully agree)

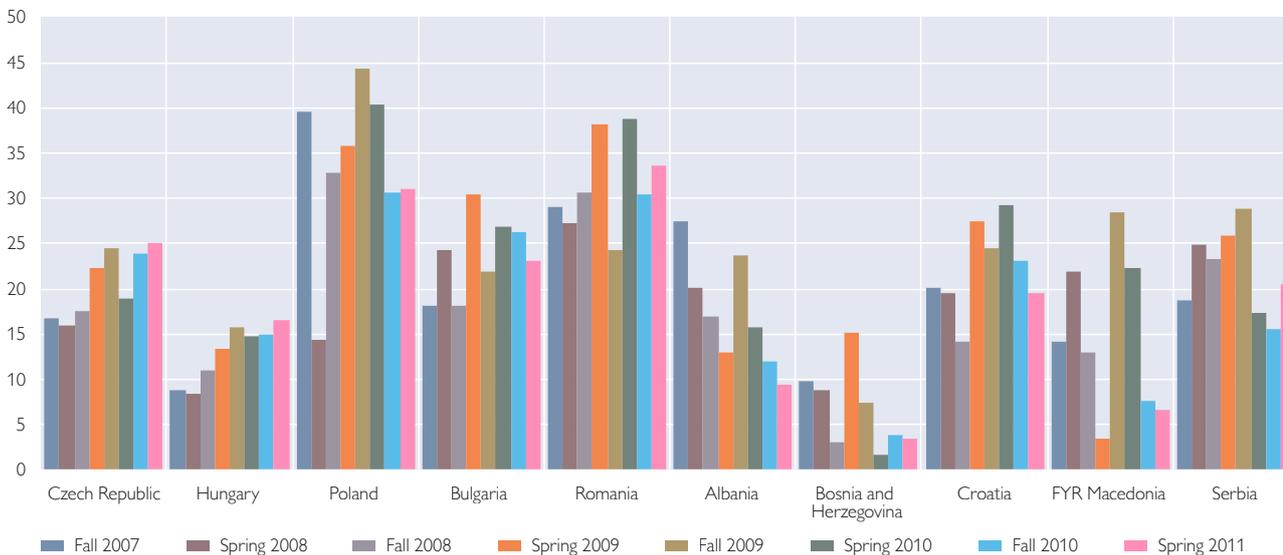


Source: OeNB Euro Survey.

Note: Respondents were asked whether they agreed or disagreed on a scale from 1 (fully agree) to 6 (fully disagree) with the statement above.

## Uncertainty about Expected Exchange Rate Developments

Share of respondents answering "Don't know" and "No answer" in %



Source: OeNB Euro Survey.

Note: Answers refer to the survey question "How will the exchange rate of the [LOCAL CURRENCY] develop over the next five years?"

However, the impact of the euro area sovereign debt crisis on respondents' relative trust in their local currencies has remained limited so far. Comparing the levels of trust in the euro and the respective local currency (chart 3) shows that the former still exceeds the latter in all CESEE countries except the Czech Republic. This finding corresponds well with the appreciation of the Czech koruna vis-à-vis the euro observed since spring 2009.

### 2.3 Expected Exchange Rate Developments

The OeNB Euro Survey also explores households' expectations on exchange rate developments over the next five years. Not surprisingly, the share of "don't know" replies to this particular question had already been rather high before the crisis (see e.g. Dvorsky, Scheiber and Stix, 2008b). Chart 4 shows that for a number of countries, this share peaked in May/June 2009, i.e. only a few weeks after many CESEE currencies had experienced substantial depreciations. At the same time, the standard deviations of answers to this question did not change over time, implying that the heterogeneity of views for those who do form an opinion on exchange rate developments remained unchanged. The only exception in this context is Hungary, where the standard deviation for the question on expected exchange rate developments increased considerably from precrisis levels, reflecting a wider array of differing views among Hungarian respondents.

### 3 Do Changes in Sentiment Affect the Overall Extent of Euroization?

Earlier results from the OeNB Euro Survey have shown that foreign currencies are an important part of residents' financial portfolios in the CESEE region, with the euro playing a predominant role (see e.g. Scheiber and Stix, 2009). Before the

arrival of the crisis, in Albania, Bosnia and Herzegovina, FYR Macedonia and Serbia more than 30% of total currency in circulation was denominated in euro. The crisis highlighted that households react rather sensitively to changes in the perceived safety of deposits as well as the relative trustworthiness of the respective local currencies vis-à-vis the euro. As households are now becoming increasingly uncertain about both the future stability of the euro and exchange rate developments, they may be expected to adjust their portfolios.

In this section, we will study whether and to what extent euroization in its various dimensions changed as a consequence of the sovereign debt crisis.

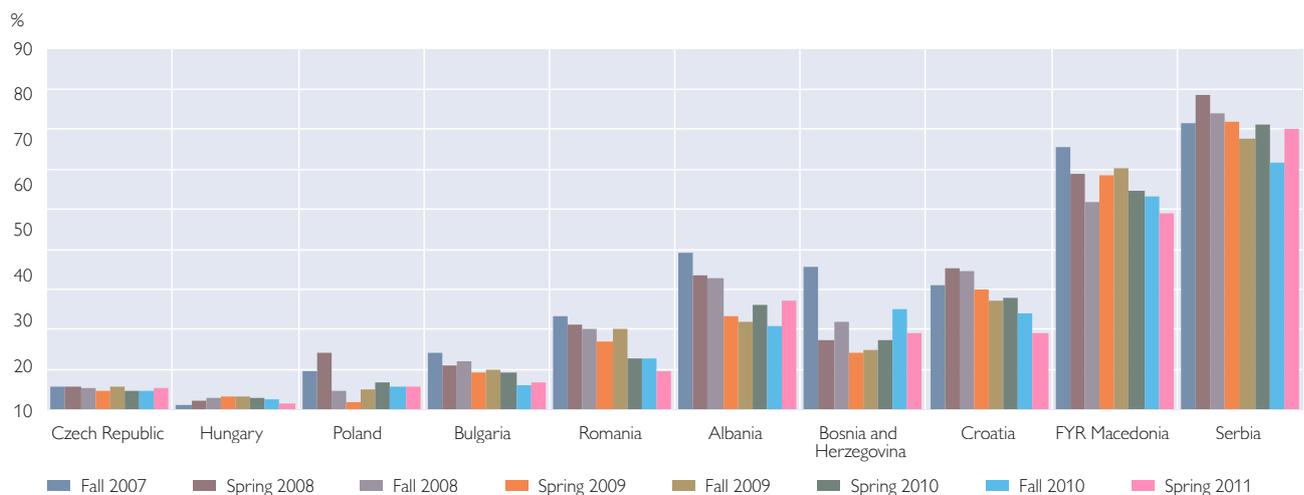
### 3.1 Declining Use of Euro Cash in Some Countries

The arrival of the crisis in 2008 in CESEE caused households in many of the countries surveyed to adjust their portfolios. Results from the 2009 spring wave indicated that in the Czech Republic, Poland, Bulgaria, as well as in Albania, Croatia and Serbia the share of respondents holding euro cash had declined significantly compared to six months earlier. This decline was found in particular in those countries that had seen substantial deposit withdrawals at the same time (i.e. Albania, Bosnia and Herzegovina, Croatia and Serbia). The most plausible explanation for these somewhat conflicting results was found to be that households had used parts of the money withdrawn to replace lost or decreased income (see Dvorsky, Scheiber and Stix, 2009b). In the meantime, the share of respondents reporting that they hold euro cash has increased again in some countries, but remains below precrisis levels (with the only exception of Serbia).

Although the share of households holding euro cash has decreased, the relative weight of euro cash in the respective national economies is still sizeable in some of

Chart 5

#### Currency Substitution Index



Source: OeNB Euro Survey.

Note: Currency substitution index = euro cash / total currency in circulation.

the countries surveyed. In Serbia and FYR Macedonia, for example, the share of euro cash in circulation still exceeds the amount of local currency in circulation. This is particularly remarkable as survey results are likely to be subject to substantial underreporting.<sup>3</sup> Chart 5 displays the development of the currency substitution index (CSI) over time, i.e. the share of implied per capita euro cash holdings in total cash in circulation. Chart 5 shows a clear regional pattern with comparatively low levels of CSI in the CEE countries and substantially higher levels reported from some SEE countries. The development of the CSI over time renders a rather differentiated picture across countries: The CSI remained at its initially low level in the Czech Republic, Hungary and Poland. For Bulgaria and Romania a declining trend can be found, with none of these countries recording a CSI of above 10% in spring 2011. The remaining countries, namely Albania, Bosnia and Herzegovina, Croatia, FYR Macedonia and Serbia, still show substantial – but for some countries possibly decreasing – levels of CSI.

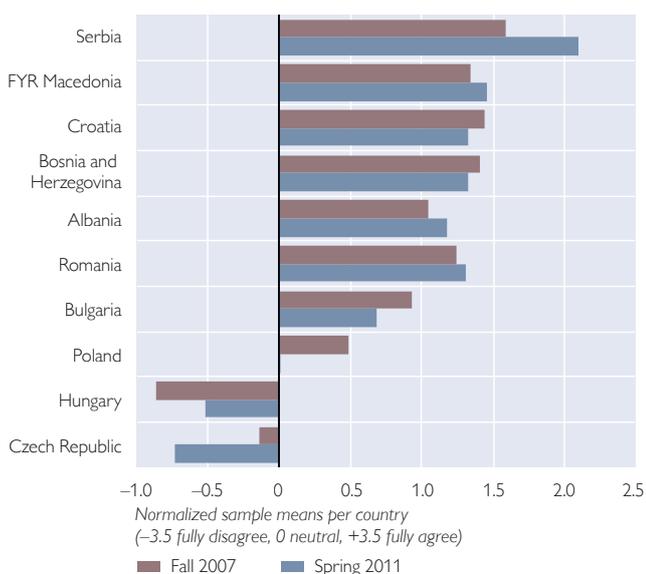
Why do euro cash holdings continue to play an important role especially in some SEE countries? And, secondly, have the arrival of the financial crisis in the region and the subsequent financial market turmoil brought about a change in households' motivation to hold euro cash?

Since its launch in spring 2007, the OeNB Euro Survey has provided very useful insights into people's motives for holding euro cash (Dvorsky, Scheiber and Stix, 2008b). All respondents stating that they hold euro cash are asked why they

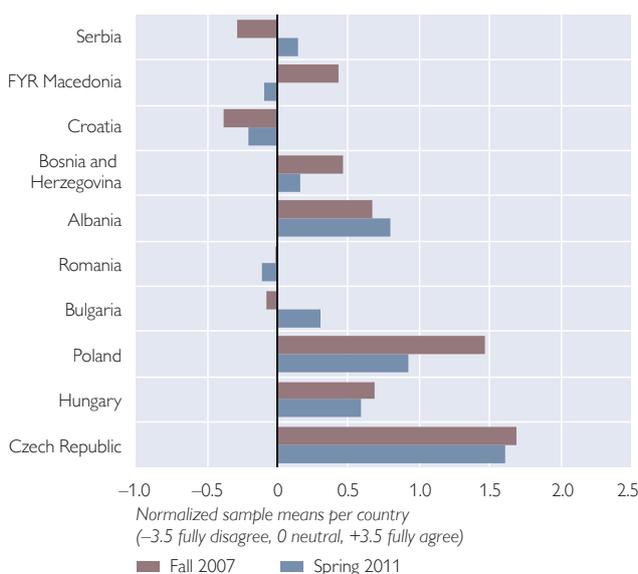
Chart 6

## I Hold Euro Cash...

### ... as a general reserve or as a means of precaution



### ... to make payments abroad



Source: OeNB Euro Survey.

Note: Respondents were asked whether they agreed or disagreed on a scale from 1 to 6 with various reasons to hold euro cash. Respondents answering "Don't know" or "No answer" are excluded.

<sup>3</sup> As this is a highly sensitive question, Euro Survey findings on amounts of foreign cash holdings should be regarded as constituting the lower bound of actual figures.

decided to do so and are presented with a choice of 9 different reasons. Among the most important motives indicated are “as a general reserve or as a means of precaution” and “to make payments abroad.” Chart 6 compares survey results regarding these two answer categories from spring 2007 and spring 2011, thus allowing for a comparison of the present with the precrisis situation.

The first motive, “... as a general reserve or as a means of precaution,” relates to euro cash holdings as a store of value. Chart 6 clearly reveals that the euro’s store-of-value function had been the key motive for holding euro cash in all SEE countries before the crisis and has remained so ever since. Interestingly, the reduced trust in the euro and the generally higher uncertainty regarding currency developments (see section 2) do not seem to have affected these results.

This observation might reflect the fact that reported levels of trust in the respective local currencies still fail to catch up with the respective level of trust in the euro (see chart 3). Moreover, a potential exchange of euro cash holdings for third currency holdings (e.g. U.S. dollar or Swiss franc) has not taken place so far.<sup>4</sup> Substituting euro holdings by holdings in another secondary currency might not be a practicable option because of possible network effects (Feige, 2003; Reding and Morales, 2004; Stix, 2010a).<sup>5</sup>

The second motive displayed in chart 6 relates to the use of euro cash for transactions abroad, e.g. during shopping trips or vacations to (neighboring) euro area countries. This second motive had been found to be the most important one in the CEE countries in 2007, and the situation has remained virtually unchanged since then, which possibly reflects the more advanced economic situation of the countries concerned.

### 3.2 Foreign Currency Deposits Remain Substantial in Households’ Portfolios

An analysis of monetary statistics on household savings deposits in 2009 (both local and foreign currency-denominated) showed that CESEE households have reacted, on average, more sensitively to the financial crisis than households in more advanced economies. In eight of the ten CESEE countries surveyed, October 2008 saw outflows of household savings deposits (see Dvorsky, Scheiber and Stix, 2009b). Using OeNB Euro Survey data, the microeconomic analysis by Prean and Stix (2011) confirms that households react very sensitively to changes in the perceived safety of deposits.

In the meantime, growth rates of households’ total savings deposits (exchange rate adjusted) picked up to grow again in all CESEE countries, but at a slower pace. In particular in Bosnia and Herzegovina, Croatia and Hungary, growth rates remained subdued, possibly reflecting the countries’ difficult economic situation.

<sup>4</sup> Evidence from earlier survey waves on the currency composition of households’ foreign currency cash holdings revealed that the importance of U.S. dollar cash in the CESEE region had already started to decline at the time of the euro cash changeover in 2002 when most people in these countries exchanged their legacy currency (e.g. Deutsche mark, Austrian schilling) cash holdings for euro or the respective national currencies. Since then, the share of currencies other than the euro in CESEE households’ foreign cash holdings has remained relatively small. Only for Albania, 9% of survey respondents still reported to hold U.S. dollar cash in spring 2008; this share, however, has meanwhile gone down to a mere 5% of respondents (spring 2011).

<sup>5</sup> The use of euro cash for payments at home was found to be an important factor in some CESEE countries. According to OeNB Euro Survey results obtained in the period from spring 2007 to spring 2008, between 40% and almost 70% of respondents in SEE countries reported that they noticed people making payments in euro in their own country (Scheiber and Stix, 2009).

Table 1

**Deposit Substitution Index  
(Exchange Rate Adjusted)**

	Aug. 2008	Apr. 2010	Sep. 2011
	%		
Czech Republic	4.8	4.3	3.9
Hungary	17.6	16.4	13.0
Poland	9.7	7.2	6.2
Bulgaria	57.5	55.7	51.6
Romania	35.6	32.6	31.1
Albania	41.9	40.2	43.7
Bosnia and Herzegovina	50.4	49.5	47.0
Croatia	68.4	76.9	77.0
FYR Macedonia	58.0	63.1	58.2
Serbia	97.6	97.6	97.4

Source: National central banks.

Note: Deposits substitution index = foreign currency deposits / total deposits, household sector. Data on foreign currency deposits for Croatia do not include deposits indexed in foreign currency. Entries for Bosnia and Herzegovina comprise savings deposits of private households and the corporate sector. The constructed index keeps the exchange rate fixed at the September 2007 level and therefore depicts the actual change of foreign currency savings deposits through net flows.

in Albania and Croatia, this index has increased since August 2008. Interestingly, in Croatia, the entire increase of 8.6 percentage points happened already before May 2010 and the DSI has since then remained stable, while in Albania, the rise in deposit substitution has accelerated only since the intensification of the sovereign debt crisis. This development is somewhat surprising since households' relative trust in the kuna and lek (as compared with trust in the euro) does not differ markedly from the results obtained for the other SEE countries (chart 3). For Croatia, two ad hoc reasons may be considered: First, the country's growing integration with the EU might have made euro deposits more attractive for households. Second, Croatia exhibits the highest share of euro-denominated loans in total loans to households across CESEE, which might provide an incentive for banks to advertise savings deposits in euro. For Albania, there is anecdotal evidence from Greek commercial banks that Albanian migrant workers have increasingly been transferring savings deposits from Greece to Albania during summer 2011.

Furthermore, it may be expected, that CESEE households have shifted their foreign currency savings from euro to other foreign currency deposits. At the current juncture, this hypothesis can only be confirmed for some countries. Aggregate statistics for the Czech Republic and Romania indeed reveal that the euro's share in foreign currency deposits has declined by 2.7 percentage points and 1.7 percentage points, respectively, since May 2010. In Bosnia and Herzegovina and Bulgaria, however, the euro's share remained broadly unchanged over time.<sup>6</sup> OeNB Euro Survey results complement these statistics: Respondents reporting to hold foreign currency savings deposits mainly hold these deposits in euro.

Given households' reduced confidence in and growing uncertainty about the euro since the conclusion of the first support program for Greece in May 2010, one might have expected people to adjust their portfolios and to shift their savings, e.g. from euro-denominated deposits to local currency deposits. Evidence in favor of this hypothesis can be found in the aggregate data up to September 2011 (see table 1). The deposit substitution index (DSI), defined as the share of foreign currency deposits in households' total savings, has declined between 1 and 6 percentage points since August 2008 in 7 out of 10 countries. On average, more than half of this decline has occurred since May 2010. In three countries, the DSI has not declined. In Serbia, the DSI has remained at an exceptionally high level of 97%, while

<sup>6</sup> For the other countries surveyed, no data are available on the denomination of foreign currency deposits.

To sum up, there is some evidence of households substituting euro deposits for local currency deposits, but the euro continues to play a predominant role in SEE households' foreign currency deposits despite the sovereign debt crisis. On the one hand, the literature explains this phenomenon by hysteresis and habit persistence in households' portfolio decisions (Feige, 2003; Ize and Yeyati, 2003; Stix 2010a). The still high levels of the DSI in SEE (ranging from 31% to 97%) correspond with the survey results, according to which households continue to perceive foreign currency deposits as more attractive than those denominated in local currency. This might reflect both current economic conditions as well as expectations about the future (in particular exchange rate expectations). Stix (2010b) confirms this argument by microeconomic analysis, showing that exchange rate expectations significantly influence agents' assessment of the attractiveness of euro-denominated assets. On the other hand, the recent decline in the DSI of seven countries indicates a high sensitivity of households with respect to the credibility of currencies. If an acute crisis situation arises – concerning the currency in which they save – they tend to reactivate former patterns of behavior in adjusting their portfolios rather swiftly.

### 3.3 Overall Euroization Index

Given the results concerning currency and deposit substitution, we now turn to the question whether the recent developments in relation to the sovereign debt crisis had any impact on the overall degree of euroization in the CESEE region.

As has been shown in earlier publications, the overall degree of euroization comprising both euro cash holdings and foreign currency deposits, has remained surprisingly stable over time in virtually all countries surveyed and proved to be hardly affected by the global financial crisis in 2008 and early 2009 (see Dvorsky, Scheiber and Stix, 2009b and 2010).

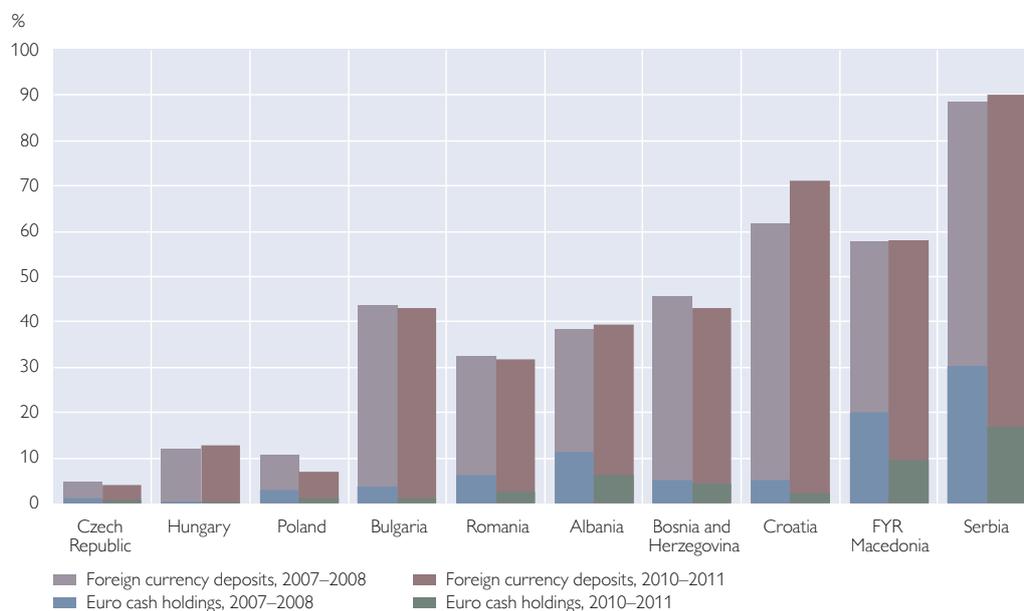
Chart 7 shows the development of the overall euroization index (EI)<sup>7</sup> over time. It compares the average EI calculated for spring 2011 and fall 2010 with the average EI calculated for fall 2007 and spring 2008. In most countries surveyed, the EI has remained virtually unchanged over time. It continues to show the well-known regional pattern of relatively low levels of euroization in CEE and substantially higher levels in SEE, ranging between over 30% in Romania and nearly 90% in Serbia. A notable exception in this context is Croatia, which records a substantial EI increase by more than 10 percentage points compared with precrisis levels. This development is driven by an increase in the DSI as discussed in section 3.2.

Interestingly, the composition of the EI has changed for some countries as of May/June 2011: In Serbia, FYR Macedonia, Croatia, Albania and Romania, the relative contribution of foreign currency deposits to overall euroization has gone up, whereas euro cash holdings have lost some of their relative importance.<sup>8</sup> This

<sup>7</sup> The euroization index (EI) is calculated as the sum of euro cash and foreign currency deposits over the sum of total (euro and local) cash and total (foreign currency and local currency) deposits.

<sup>8</sup> Looking at both table 1 and chart 7, the increase in the relative contribution of foreign currency deposits to overall euroization is somewhat surprising for FYR Macedonia and Romania. However, it is important to note that the EI (chart 7) was calculated as an average of two survey waves and that data for changes in the DSI (table 1) refer to monthly data which were available until September 2011. As opposed to the EI, the DSI keeps the exchange rate fixed at the September 2007 level.

## Euroization Index by Components over Time



Source: OeNB Euro Survey.

Note: Euroization index = (euro cash + foreign currency deposits) / (total cash + total deposits). Figures are calculated as the average from the fall 2007 and spring 2008 surveys and the fall 2010 and spring 2011 surveys.

pattern complements a finding of Feige (2003), who reports a negative correlation between indices of currency substitution and deposit substitution for some Latin American countries. Feige presumes that rising confidence in the banking system could have led to a decrease in the use of foreign currency cash and an increase in foreign currency deposits, possibly leaving the overall degree of dollarization unchanged. By contrast, in CESEE this shift toward foreign currency deposits took place although the level of trust in the banking system was found to be lower in the period under observation. This loss of confidence, however, was probably contained throughout the region by the extension of deposit insurance schemes in the course of 2008–09.<sup>9</sup>

#### 4 Summary

In this paper, we study whether the widespread use of the euro in CESEE has been affected by recent developments in the neighboring euro area. The OeNB Euro Survey reveals that confidence in the euro has dropped substantially in all CESEE countries but that CESEE households nevertheless still consider the euro stable and trustworthy. Furthermore, we find that the sovereign debt crisis did not lead to a significant change in the relative assessment of local CESEE currencies vis-à-vis the euro.

Despite decreasing confidence in the euro, the relative weight of euro cash in the total CESEE economy is still sizeable: Also, the share of implied per capita

<sup>9</sup> See e.g. Prean and Stix (2011), who provide evidence on Croatia.

euro cash holdings in total cash in circulation is still substantial for several SEE countries, at more than 70% for Serbia and almost 50% for FYR Macedonia.

Recent aggregate data on the development of foreign currency deposits in total deposits provide a mixed picture across countries.

The overall degree of euroization, comprising both euro cash holdings and foreign currency deposits, has remained surprisingly stable over time in virtually all countries surveyed and its level has proved to be hardly affected by the recent developments in relation to the sovereign debt crisis. Interestingly, for some CESEE countries the relative contribution of foreign currency deposits to overall euroization is found to have increased against precrisis levels, whereas euro cash holdings have lost in relative importance.

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