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Determinants of Currency Substitution/Dollarization - The Case of the Republic of Serbia

Abstract: Currency substitution/dollarization is a serious limiting factor for effective monetary policy, especially in transition economies. In addition, there is a negative impact of currency substitution on the banking industry, which is visible in the eroding quality of its lending due to indexation in debts of firms and individuals in foreign currency. Therefore, this paper analyzes the particular relevance of a currency substitution/dollarization phenomenon(s) in the case of the Republic of Serbia. We initially discuss various approaches and definitions of currency substitution and dollarization that found in the literature. Subsequently, we discuss the role of currency substitution in small and open economies in transition with some illustrations relating to the Republic of Serbia - we distinguish and analyze a locally and globally substituting currency from the substituted one and the consequences of euroization.

Keywords: currency substitution, dollarization, Serbia

JEL classification: E42, F31

1. Introduction: Terminology clarification and literature review

There is no consensus in economic literature on the use of the terms *currency substitution* and *dollarization*. Even though widely used as synonyms, different authors use these terms in different ways. The origin of confusion lies in the multiple roles of money. Both terms are used to describe the exchange of domestic currency to foreign currency in one or more of its traditional roles.

The phenomenon of currency substitution simply refers to a situation in which economic agents begin to use a foreign currency, usually because of macroeconomic instability at home. The definition of currency substitution rests on views of the role of money in the economy ranging from a very narrow to a very broad role. At one extreme in the literature, in the most cited work of Calvo and Végh (1992), currency substitution is defined as the use of different currencies as the mediums of exchange. At the other end of the spectrum, McKinnon (1985) defines *direct currency substitution* (two or more currencies competing as a means of payment within the same commodity domain) and *indirect currency substitution* (referring to investors` switching between non-monetary financial assets). Between these extremes we can find many definitions of currency substitution.

Komárek and Melecký (2001, p. 5-7) make the distinction between the terms *substitution* and *substitutability* (i.e. the ability to be substituted). These two terms lead to different research streams. The study of currency substitutability explores its potential effect on domestic and foreign variables, which is mainly of interest to economists and policymakers. On the other hand, the analysis of substitution explores the dimension of, and the potential for, partial displacement (substitution) of one currency with another currency. Substitutability does not necessarily imply substitution, and vice versa. Substitution is initiated by the right combination of shocks. "When studying the determinants of currency substitutability, it is quite useful to distinguish the three traditional functions of money in the economy, namely as: *(i) a unit of account, (ii) a provider of transaction services, and (iii) a provider of store-of-value services.* The habit of using a particular currency is considered a very important factor. This determines the ability of the currency to be substituted as a unit of account. The more prevalent the use of non-domestic currencies in transactions, the greater is their potential to substitute for the domestic currency in the context of this function of money. Similarly, the longer people use different currencies in account transactions, the more these currencies will potentially be substituted in this context. Most economists understand currency substitutability in terms of money as a provider of transaction services (because they have experience of currencies being mainly substituted by other assets in accordance with the provider of store-of-value services function of money). The concept of store of value is closely related to the concept of international capital mobility (McKinnon 1985). Any discussion about the theoretical bases and fields of currency substitution also calls for discussion about the money demand in a multi-currency economy. Such an economy can be characterized as: (i) a country where different currencies circulate, or (ii) two or more countries where two or more currencies can simultaneously circulate (in each country). In this context it is also useful to refer to work presented by Sahay and Végh (1995), who distinguish clearly between the currency substitution and asset substitution

phenomena. They argue that the first term represents the use of foreign currency as a means of payment and unit of account, while the second term relates more to the use of foreign currency as a store of value. The theoretical models for analyzing currency substitution can be divided into three main categories: *(i) cash-in-advance models (i.e. portfolio-balance models, money-in-the-utility-function models), (ii) models of transaction cost, and (iii) adhoc models.* The first two kinds of models are also called optimizing models, because their solutions follow from static or dynamic optimization. The ad-hoc models postulate the functional form of the currency substitution ratio with domestic demands." (Komárek and Melecký, 2001, p. 5-7)

Currency substitution occurs when foreign currency is partly or entirely used as a unit of account and medium of exchange. Currency substitution can be official or unofficial. The most sensitive measure of currency substitution is represented by the currency substitution index (CSI), which shows the fraction of a nation's total currency supply made up of foreign currency. In some countries, foreign banknotes may simply be hoarded and treated purely as a store of value. When this part of FCC can be estimated, it should be treated in the capacity of money as the store of value and included in the asset substitution index (Feige et. al. 2000, p. 7).

Two regions found to show larger-than normal degrees of currency substitution (or de facto dollarization) are Latin American and Eastern European transition economies. According to the currency substitution view, it is assumed that the switch from domestic to foreign currency as a means of payment, which results from high domestic inflation, is a costly and lasting process. Thus, as long as benefits from switching back to the low-opportunity-cost currency do not compensate for the costs associated with changing the currency denomination of transactions; the domestic inflation rate may fluctuate without inducing any changes in the degree of dollarization. In other words, there is a band for the inflation differential within and above which dollarization persists as transaction costs exceed any incentive to switch between currencies.

"In the final analysis, the relevance of currency substitution is an empirical issue. At an empirical level, the study of currency substitution faces a fundamental problem: there is usually no data available on foreign currency circulating in an economy. Therefore the importance of currency substitution is basically unobservable." (Calvo and Vegh, 1992, p. 21) There are two groups of methods for assessing foreign currency denominated cash in circulation. In small and open economies, where there is a high level in foreign currency inflow (in comparison to GDP) it is often very difficult to record statistics. Another method is conduct-

ing surveys on the amount of foreign cash in the population's possession, which is extremely unreliable due to many limiting factors (difficulties in defining representative samples of respondents, people are reluctant to reveal personal finances etc.). Due to these limiting factors, there is a series of indirect methods assessment developed. The simplest method for assessing the level of dollarization is based on the dynamics of the share of foreign currency deposits in the broadly defined money supply (Šošiæ and Faulend, 2002, p. 60).

"In an economy with unofficial dollarization, the effective broad money supply (EBM) consists of local currency (cash) in circulation outside the banking system (LCC), foreign currency (cash) in circulation outside the banking system (FCC), local checkable deposits (LCD), foreign currency deposits (FCD) held with domestic banks and local currency time and savings deposits (LTD). Quasi money (QM) consists of FCD and LTD. Thus, the typical definition of broad money (BM) falls short of the EBM by the unknown amount of FCC. The narrow money supply (NM) is typically defined to include only LCC and LCD. However, in a dollarized economy, the effective narrow money supply (ENM) also includes FCC. Thus,

$$EBM \equiv LCC + FCC + LCD + QM \equiv BM + FCC, \text{ where:} \qquad (1)$$

$$QM \equiv FCD + LTD \qquad (2)$$

$$BM \equiv LCC + LCD + QM \qquad (3)$$

$$NM \equiv LCC + LCD \qquad (4)$$

$$ENM \equiv NM + FCC \qquad (5)$$

$$(DIIMF) \equiv FCD/BM. \qquad (6)$$

In an unofficial dollarization arrangement, the recorded money supply falls short of the effective money supply largely due to the FCC omission, which is typically unknown and is not directly controllable by the local central bank. Due to the data limitation on measuring the amount of foreign currency in circulation (FCC) cited by Calvo and Végh (1992), the entire literature on currency substitution has been forced to accept as a proxy for dollarization, the observable amount of foreign currency deposits (FCD)" (Feige et. al. 2000, p. 5-6).

Following Feige et. al. (2000, p. 7-8) for the rest of the formula and definitions, *currency substitution* occurs when foreign currency is partly or entirely used as the unit of account and medium of exchange. The most sensitive measure of cur-

rency substitution is represented by the currency substitution index (CSI), which shows the fraction of a nation's total currency supply made up of the foreign currency. Thus,

$$CSI \equiv FCC/(FCC+LCC) \tag{7}$$

Since domestic transactions are typically settled by debiting and crediting local demand deposit (LDD) accounts, when institutional circumstances warrant, it may also be useful to modify the CSI and use (CSIn) instead, the latter defined as the fraction of the effective narrow money supply made up of foreign currency.

$$CSIn \equiv FCC/(ENM) \tag{8}$$

Asset substitution involves the use of foreign denominated monetary assets as substitutes for domestic ones, in their capacity as a store of value. It is measured by the asset substitution index (ASI), defined as the ratio of foreign denominated monetary assets to domestic denominated monetary assets excluding cash outside banks:

$$ASI \equiv FCD/(LCD+QM) \tag{9}$$

Dollarization is a summary measure of the use of foreign currency in its capacity to produce all types of money services in the domestic economy. It is measured by the unofficial dollarization index (UDI), which represents the fraction of a nation's broad effective money supply composed of foreign monetary assets. Thus:

$$UDI \equiv (FCC+FCD)/EBM \tag{10}$$

A strong positive association between exchange rate volatility and currency substitution as well as instable domestic money demand are the key implications of early theoretical literature on currency substitution and pose an additional challenge for monetary policy effectiveness. Although originating from currency substitution, this argument can also be made regarding *asset substitution*: "Specifically, as the flight to readily available foreign-currency assets becomes less costly, the demand for reserve money in a dollarized economy should be more sensitive to a monetary expansion or to a change in the exchange rate." (Levy Yeyati, 2006, p. 87)

The major negative impact of currency substitution on the banking industry is visible in the decreasing quality of its lending due to indexation in debts of firms and private individuals in euro. The long-term depreciation trend of the Serbian national currency (Serbian dinar - RSD) increases nominal debts of bank

debtors. As a consequence, more and more debtors are defaulting on their loans, which altogether lead to a decreasing quality of bank assets, i.e. increase the ratio of non-performing loans to overall assets. Negative trends of FX market influence bank assets and profitability due to the fact that foreign exchange risk is being transformed via currency indexing into default risk.

2. Determinants of the scope of currency substitution in Serbia

Serbia is a typical transition economy where periods of financial instability and high inflation are almost permanent conditions. This has triggered the psychology of a lack of confidence in the monetary authorities and the national currency, which is the first step in currency substitution. Intensive foreign trade with the EU influenced the trust in the national currency, so the non-bank sector (firms and households) gradually conducted a "silent substitution", mainly in the Deutschemark which served as the measure of value at the time. Following the introduction of the single currency in the EMU, informal accounting transactions have been in euros. However, due to the extreme volatility of the Serbian dinar exchange rate, the use of the euro instead of the national currency became formal since banks implemented the mandatory foreign currency clause, especially for their long-term lending. This practice seemed economically justified both due to the double-digit inflation rate and the double-digit annual depreciation of the Serbian dinar at the time. This caused many additional problems. With the introduction of foreign currency denomination in economic transactions, banks actually transferred foreign exchange risk to its clients, since their nominal debt (denominated in local currency) followed the fluctuation of the exchange rate. The consequences of this are certainly negative, both for monetary policy and for the debtors. In this situation of high currency substitution, monetary policy becomes ineffective, with negative implications for monetary stability and money supply. On the other hand, it expressed a tendency to bind bank lending to the euro and further enhance the dynamics of distrust in the national psychology of money. So, nonbanking transactors, learning from the practice of banks and negative experiences with high inflation and high depreciation of the dinar, started depositing foreign currency deposits. This had two associated negative implications. First, in the economy where available sources of funds in foreign currencies, banks were oriented towards extending foreign currency loans or loans with a foreign currency clause in order to balance out the currency composition of liabilities and the currency structure of assets. Second, a high level of currency substitution put additional pressure on the foreign exchange market. This could have resulted in additional depreciation of the national currency. This is a typical vicious circle where currency substitution feeds itself, while negative effects

radiate through the banking sector and entire economy. In addition, the state of Serbia also contributed to currency substitution by subsidizing interest on loans that was not limited only to loans in dinars, but also foreign currency loans. This directly stimulated both dinar and foreign currency loans.

Currency substitution can perhaps serve as a protection for banks, which tie their investments to the euro in order to preserve the real value of their loans. Such a strategy was giving proper results in Serbia until recently, as long as economic growth rate supported increased loan repayment by debtors, i.e. while the inflow of foreign direct investments provided relative stability of the exchange rate. However, when the global crisis hindered inflows of foreign funds, foreign investments were diverted to domestic economies, while economies in transition were faced with a lack of foreign capital inflow. This has had an impact on profitability of the banking industry. Reduced investments were accompanied by economic growth slowdown and a growing number of credit borrowers that could not repay their debts. Reduced inflow of foreign capital reflected in a sharp depreciation of the Serbian dinar exchange rate, which was 16% in the first year of the crisis. An increase in the nominal debt due to currency clause was about the same rate. Due to aforementioned negative trends, the indicator of bad loans (non-performance loans) to total loans reported a record level of 18.8% in Q3 2011. In the same quarter, categories C and D (the riskiest assets) reached the level of 20.8% of total classified assets, while profitability indicators decreased 25% (ROA) and 40% (ROE).

Dramatic erosion of banks` profitability, as well as assets quality, is a result of a highly euroised economy. Euroisation proportions can be analyzed through the share of foreign currency deposits in total deposits and loans with foreign currency loans in total loans.

Figure 1 shows the dynamics of currency composition of the deposit potential of the banking sector in Serbia in the period 2005-2011. It is indicative that the currency substitution, even at the beginning of the period, was extremely high due to the negative episode of

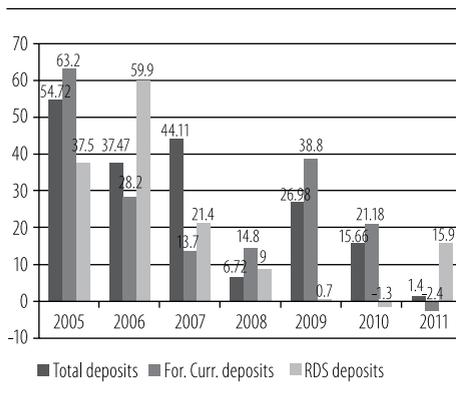**Figure 1: Currency structure of deposits in Serbian banks (2005-2011, %)**
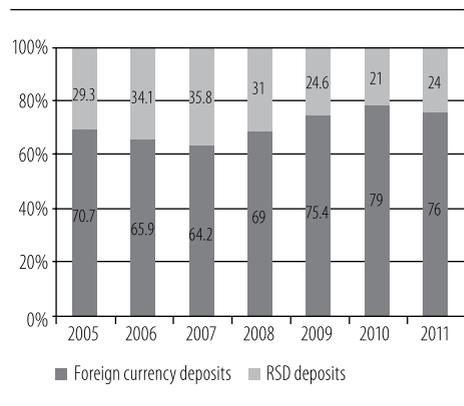
Source: Authors` calculations based on the National Bank of Serbia, www.nbs.rs

monetary instability, as well as frequent and intense depreciation of the exchange rate of the Serbian dinar.

Since the financial turmoil episodes were characteristic of the observed period, the intensity of currency substitution was increasing. At the end of the period, more than 3/4 of deposits in Serbian banks were denominated in foreign currencies (of which over 90% were in euros), which implies that the currency substitution, together with the exchange rate, is one of the most important variables of the banking sector's profitability. Regarding the data for the top 10 Serbian banks, the average share of foreign currency deposits in total deposits was 70.54% at the time. This means that currency substitution in the remaining banks is even more pronounced than in the first ten banks.

Given the currency composition of the deposit potential of banks, it is not surprising that the currency of the banking sector loans follows the same trend. According to the National Bank of Serbia, of total bank lending in 2010, 66% were in foreign currencies (or indexed), while only 34% were in Serbian dinar. In 2011, the currency substitution, measured by the currency structure of loans, further increased. 69% of total loans were denominated in foreign currencies, while only 31% were in Serbian dinars. Such a currency structure is a result of a steady increase in the share of foreign currency deposits in total deposits although the deposit potential of the dinar significantly increased over certain periods (see Figure 2).

Figure 2: Annual increase in deposit rates in the Serbian banking sector (2005-2011, %)

Source: Authors` calculations based on the National Bank of Serbia, www.nbs.rs

Figure 2 is a good illustration for currency structure dynamics of Serbian banks deposit potential increase. Transitional transformation in Serbian banking industry apparently had been successful: the level of financial intermediation has increased. Not only that imperfect information problem, but optimum conditions for economic growth financing is acceptable in the early years of transition (2001-2005) and reached 4-5%. Currency substitution has additionally increased by a more intensive growth of foreign currency deposits, compared to the growth of local currency deposits. It was particularly worrying in 2005,

2009 and 2010. The deposits grew to 63.2%, 38.8% and 21.18%, respectively. It is encouraging that in 2011 aforementioned trend reversed, since the growth rate of foreign currency deposits is negative, while that the growth rate in local currency deposits of 15.9%.

It is interesting to compare Serbia with other countries in the region of Southeast Europe. Although countries implemented both various strategies of monetary policy, as well as different exchange rate regimes. For example, the Croatian economy has a much lower inflation rate than Serbia, but is also facing a very similar degree of euroisation as Serbia.

Figure 3 shows the extent of currency substitution in Serbia and selected countries in the region, measured by the share of foreign currency loans in total loans, i.e. foreign currency deposits in total deposits. One can see that countries of the former Yugoslavia have higher levels of currency substitution in comparison to the countries of Central-Eastern Europe and other South European economies. The only exception is Latvia, which recorded an extremely high level of currency substitution (74% of foreign currency deposits, and 90% of foreign currency loans). It can be seen that countries with a currency board (Bulgaria, Bosnia and Herzegovina, and Lithuania) have high ratios of currency substitution (one or both). In this group of countries, two major economies – Poland and Turkey, focused on increasing confidence in the domestic currency, and managed to reduce currency substitution to an acceptable level.

Figure 3: Euroisation of economies of Central-Eastern Europe and Southeast Europe (2010, %)
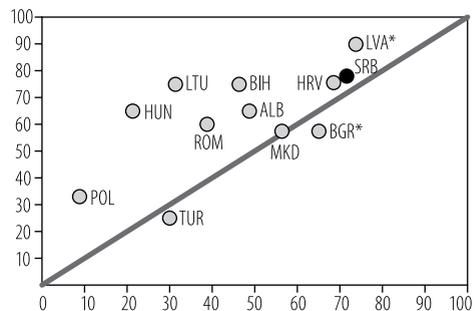
*Data for 2009
Source: IMF, 2009, p. 22

3. Driving forces of currency substitution in Serbia

Analysis of the scope of currency substitution in Serbia is instructive, but in order to be completely analytical, it is necessary to analyze the very essence of the aforementioned process. In order to group the factors it is necessary to understand the motives of holding local currency deposits and "rushing" into foreign currency. On one side, there are psychological factors that reflect an inherent distrust in

the domestic monetary policy due to negative experiences in the past. This group of factors is certainly the most rigid one. This is because it is only by measures of persistent dinarization, together with long-term credibility of monetary policy and related practices in monetary and currency stability, that the psychology of Serbian economic transactors can be "reversed".

The second group of factors is of economic nature and comes from the ancient human instincts: to utilize (financial) resources as rationally as possible. When inflation is double-digit and there is a sharper depreciation of the national currency (despite occasional foreign exchange reserve interventions by the National Bank), the logic dictates the economic transactors to orient themselves towards currency substitution aimed at the preservation of the real value of financial assets.

Table 1: Correlation between the currency substitution, inflation and exchange rate in Serbia

	FX Deposits	RSD Deposits
Inflation Rate	0.21741306	0.10067692
Exchange rate dynamics	-0.2776336	**0.72268055**

Source: Authors` calculations

Table 1 shows the correlation between currency substitution (expressed in terms of currency structure of deposit potential of the Serbian banking sector) and the two most influential factors of aforementioned trend: inflation rate and exchange rate dynamics (where appreciation represents positive changes, while depreciation represents negative changes). Except for the coefficient of correlation between the movement of dinar-denominated deposits and the exchange rate dynamics (strong positive correlation), other coefficients indicate that there is a weak positive correlation. In the case of foreign-currency denominated-deposits and exchange rate dynamics there is a weak negative correlation. These results are in line with the economic logic: when the inflation rate increases, the share of foreign currency deposits also increases, as does the share of local currency deposits, yet to a much lower extent. A proportional local currency deposits increase under inflation is not logical, but it could be attributed to the fact that in the aforementioned period the Serbian banking sector empowered dramatically. As a consequence, the dinar deposit base increased (mostly from transaction deposits), regardless of the growing rate of inflation.

With depreciation of the Serbian dinar, the share of foreign currency deposits increases slightly whilst the share of local currency deposits significantly reduces. From this analysis it can be concluded that the exchange rate dynamics is a more significant variable in comparison to inflation with regard to the dynamics of currency substitution. There are two possible explanations: first, there is always "hidden taxation" within inflation so depositors consider it as an explicit measure of devaluation of their financial assets. The second explanation is that information about the movement of the exchange rate has the character of "headlines". Therefore, the public is refocused on the movement of the exchange rate as the most important economic variable, regardless of the fact that the inflation targeting strategy was adopted by the National Bank of Serbia as early as in 2006. This is a typical pitfall encountered by the strategy of inflation targeting in transition countries although the currency substitution is a common problem which manifests through reduced efficiency of monetary policy. The public was aware that the cause of the economic problems was, and still is, that the exchange rate of the national currency is deeply ingrained. Therefore, central banks in transition countries are in a difficult position when it comes to the inflation targeting strategy implementation, since the entire public attention is focused on the exchange rate rather than the rate of inflation.

Even the most transparent monetary policy cannot achieve optimal results under such circumstances unless the coexistence of low inflation and a stable exchange rate in the long run is ensured. Otherwise, all central banks face is a kind of "obstruction of economic agents" instead of "the market works for the central bank, the market represents a unique, non-constructive opposition." In case of depreciation of a domestic currency, the public realizes the loss of the real value of their financial assets and reacts more vigorously, by more intensive conversion of the local currency into the foreign one.

The main dollarization factors are high and volatile inflation, strong and continuous depreciation of local currency, insufficiently developed capital market, market imperfections and inadequate regulations. Each of these factors, either taken separately or jointly, is by all means a cause of the loss of trust in the domestic currency and the subsequent occurrence and spreading of dollarization. What is particularly important for policy makers is to determine the key dollarization factors in the domestic economy, in order to implement adequate measures for its reduction. The key drawbacks of financial dollarization can be summed up as follows (Ivković, 2011, pp. 111-113):
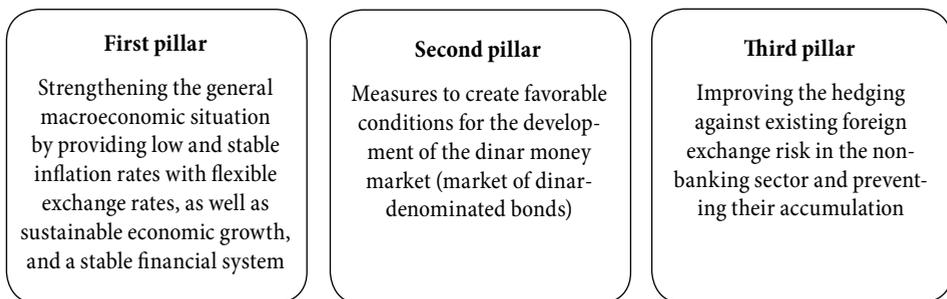
- it makes the economy more sensitive to external shocks,
- increases the balance of risks in the economies in which there is a currency

mismatch of revenues and expenditures of market participants,

- increases the implicit (default) risk of banks in the conditions of a higher local currency depreciation,
- reduces the efficiency of monetary policy by weakening the interest rate channels and strengthening the transmission effects of the FX rate,
- increases inflation volatility.

4. The National Bank of Serbia and currency substitution

The National Bank of Serbia is aware that the major systemic risk is a highly euroised banking industry. That is the reason why it launched the range of mechanisms to encourage the use of local currency in 2010. Dinarization strategy aimed to increase the share of the local currency-denominated deposits from 28% at end-2009 to 48% over the period of the two to four years. Awareness of the need to create favourable conditions for dinarization stems from the potential negative implications of depreciation of the Serbian dinar, as well as from the relative success of some countries that went through a similar process (Turkey, for example, succeeded in decreasing foreign currency denominated deposits from 60% to 10% in the period of 1998-2008 whilst foreign currency denominated loans were reduced from 40% to 10%). The National Bank of Serbia is supported by the commitment of the international financial institutions (especially by the European Bank for Reconstruction and Development, the so-called "Vienna Initiative plus"). In order to achieve the aforementioned goal, it is necessary for the dinar loans growth over the next four years to average at the annual rate of 41.67%, which is difficult to achieve given the growth potential of the credit market. The dinarization strategy is based on three pillars, which include coordinated actions to strengthen confidence in the domestic currency, as shown in figure 4.

Figure 4: Strategy of dinarization in Serbia

First pillar	Second pillar	Third pillar
Strengthening the general macroeconomic situation by providing low and stable inflation rates with flexible exchange rates, as well as sustainable economic growth, and a stable financial system	Measures to create favorable conditions for the development of the dinar money market (market of dinar-denominated bonds)	Improving the hedging against existing foreign exchange risk in the non-banking sector and preventing their accumulation

Source: Marković, B., 2010, p. 4

Within these three aforementioned pillars, entire sets of activities to support the strategic orientation towards dinarization were launched: the Serbian central bank reduced the reserve requirement rate from 10% to 5% on dinar deposit sources, while the rate for the foreign currency deposit funding sources is 30%. Also, cash participation in cash dinar loans was abolished, while foreign currency credits (loans with a foreign currency clause) accounted for 30%. Interest subsidizing focused only on dinar loans, while most of the banks developed both loans and savings offers in dinars. International financial institutions showed interest in issuing local currency bonds. Local banks issued short-term bonds, while the Société Générale Bank Serbia, after the short-term dinar bonds, issued the long-term dinar bonds. This was encouraging for the development of the local currency bond in the secondary financial market. In addition, feasibility studies on dinar currency savings were carried out and showed that it was more cost-effective to save in dinars in the period of 2001-2010. As an additional systematic measure, the National Bank of Serbia and the Government of Serbia adopted a "Memorandum of dinarization of the Serbian financial system" to signal the commitment of both monetary and fiscal policy creators to strengthen confidence in the local currency and optimize the mix of monetary and fiscal policy.

Despite the taken measures that were initially successful, the results of the ongoing implementation of dinarization strategy are still very modest. All measures of the National Bank of Serbian aimed at de-euroization came down to the limitations and prohibitions of foreign currency loans and foreign currency deposits that were cost burdening for bank liabilities (Chailloux et al, 2010, p. 15-16). Such administrative approach without a responsible and credible monetary policy, i.e. ignoring the first strategy dinarization pillar, simply has no potential for success. This is supported by the fact that two years after the commencement of the dinarization strategy the share of local currency loans is only 25%, while the share of loans in foreign currencies is 75% (data for Q2 2012). Even more illustrative data on currency substitution in Serbia is that only 2-3% of savings in Serbia is in Serbian dinars. The ratio of foreign currency vs. dinar deposits decreased only 2%. It is normal that the unstable Serbian dinar exchange rate, as well as inflation, plays a very important role in the process of de-euroization, but these factors are not yet dominant. This is proved by the examples of countries in the region (Croatia, Bosnia and Herzegovina, Bulgaria, Macedonia), which all had a relatively low inflation rate, as well as a fixed (or strictly controlled) exchange rate, but still have a relatively high level of currency substitution.

Conclusion

In this paper we analyzed the phenomenon of currency substitution and its effects in the case of Serbia, as well as measures for de-euroization. First we discussed the meaning of the term *currency substitution*, since there is no consensus in literature on this phrase. We distinguished the terms *currency substitution* and *euroization*, and later discussed currency substitution, although we have used the term de-euroization to mean "the opposite to currency substitution". This only shows how currency substitution and euroization are interconnected. Then we went on to examine in detail the factors and determinants for currency substitution and its scope in Serbia. Later on we analyzed the driving forces behind the currency substitution in Serbia. We believe that we gave a wide overview of the currency substitution issue in the case of Serbia although our efforts were mostly based on description with elementary statistics. In our future research we will use more advanced statistics and orient more quantitatively to examining the phenomenon of currency substitution in more detail.

Besides Latin America, currency substitution, as a monetary phenomenon, is particularly pronounced in the Southeast Europe due to a traditionally unstable economic environment and decreasing values of national currencies. Currency substitution appeared as a natural expression of aspirations of economic agents to preserve their wealth and maximize their function, whereby foreign cash and bank deposits play an important role within assets. Although currency substitution is a "natural phenomenon" in almost all countries of the Western Balkans having national currencies, the case of Serbia is particularly interesting, both because of a strong intensity of the national currency and the sterility of monetary policy in terms of strengthening confidence in the domestic currency.

De-euroization strategy in Serbia, based on measures to increase economic transactors` confidence in the domestic currency (through administrative mechanisms that are supposed to stimulate the Serbian dinar denominated savings), was not supported by a credible monetary policy in the past, especially price stability and foreign exchange stability. This situation has contributed to an extremely high level of currency substitution, with all the negative implications: first, under these circumstances, since the local currency circulates only in everyday transactions, monetary policy was not able to achieve its objectives. Second, the banking sector, according to the ALM concept, based on foreign currency deposits and forced lending in foreign currencies (along with foreign currency clause). Therefore, the potential borrowers` repaying their loans in time is directly related to trends in the foreign exchange market. In other words, the existence of the currency clause has the effect of accumulation of default risk, since in the

circumstances of high currency substitution level, foreign exchange risks transformed into the additional default risk. Thus, high levels of currency substitution, together with the unstable exchange rate, affect dramatically the state of the real sector (net debtor sector). This is because every subsequent depreciation of the Serbian dinar nominally increases debts. There is a similar situation in the banking sector, as every depreciation also marks deterioration of the credit portfolio quality, with all the negative implications for a bank's financial performance. The aforementioned processes highlight the need for an offensive action aimed at strengthening confidence in the domestic currency as well as in both monetary and fiscal policy, as a function of reducing currency substitution to a reasonable level (15-20%). Once again, it shows that an economic agent's confidence is lost quickly, but the containment of negative psychological factors and the restoring of confidence in the domestic currency is a painstaking process.

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