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THE PROBLEM OF SWISS FRANC-INDEXED LOANS:

A REVIEW OF SOLUTIONS APPLIED SO FAR IN CENTRAL AND SOUTH-EASTERN EUROPEAN COUNTRIES

Abstract

The problem of the strengthening of the Swiss franc has not been solved by the temporary fixation of the accounting exchange rate at CHF/HRK 6.39 at the banks' expense in January 2015. A permanent solution is yet to be found as the current one applies only for a year. The purpose of this analysis is to present and compare the solutions applied so far in Central and South-Eastern European countries. A wide range of solutions indicates various options; from letting creditors and debtors agree on a solution (Austria, Bosnia and Herzegovina, Slovenia, and Romania), through strong government intervention (Hungary, Croatia), to hybrid solutions that combine agreements between creditors and debtors with "soft" government intermediation (Serbia, Poland).

It is not yet possible to conclude which solution would be the best. It has been shown that some interventionist solutions have not been so beneficial to debtors as they seemed at first (solutions applied in Hungary in 2011). In Croatia, the fixation of the accounting exchange rate and interest rates at a low level has been a major step towards the protection of debtors in the context of comparison with the affected countries. Although its impact is not visible at first sight, a stable exchange rate of the kuna against the euro provides the most important indirect protection also for debtors with Swiss-franc-indexed loan agreements.

The opinions and findings expressed in this document do not represent the official views of the Croatian Banking Association. The analysis has been prepared by Arhivanalitika for the Croatian Banking Association.

INTRODUCTION

Debtors, creditors and the political arena have in recent years been affected strongly by difficulties in the repayment of housing loans whose principal is linked to the value of the Swiss franc (CHF), which appreciated sharply after the outbreak of the Greek crisis in 2010. This has not been the case in Croatia alone. The same problem emerged throughout Central and South-Eastern Europe.

The problem has so far been addressed in various ways: from letting creditors and debtors negotiate and renegotiate loan terms, through to direct government intervention in contract provisions. For example, in Croatia, special laws were adopted which fixed interest rates (2014) and the exchange rate for calculation of instalments (2015). In Hungary, forced conversion of loans to domestic currency was made at the market exchange rate applicable in November 2014. This analysis comprises a detailed overview of these and numerous other interventions.

However, public and judicial debates on the Swiss franc problem have been dominated so far by legal, political and moral arguments. Up to this year, only one superficial attempt has been made to introduce economic and financial analysis into the debate – the attempt to analyse the size and location of profit from exchange rate gains. Even that attempt was part of the topics on justice and law. It aimed at showing that one party (banks) benefited from the appreciation of the Swiss franc to the detriment of debtors, and thereby reaped too much profit. The scope of that analysis was limited both in political and economic terms. The political limitation was due to the attempt to put the analysis in the context of proving the illegality of the currency clause. This was put to an end by the Supreme Court's decision on the validity of that instrument. The economic limitation arose from the imperative to prove that banks closed their foreign currency position by transferring exchange rate gains to parent banks by means of foreign exchange derivatives. However, there are few agents that speculate with large open foreign exchange positions, so that parent banks are also constrained by regulations on foreign currency positions, which to a large extent limit their exchange rate gains.¹

The first serious analytical approach to the Swiss franc problem was taken by the Croatian National Bank. Prompted by the decision of the Swiss National Bank of 15 January 2015 to abandon the ceiling on the franc, i.e. a full four years after the problem first emerged, the CNB issued the document entitled [Some facts about loans in Swiss francs and some options for government intervention](#). Though late, the analysis shed more light on the problem and pointed out

¹ Croatian National Bank, *Foreign exchange positions of banks reported in accordance with regulations*, Press release of 28 January 2015.

three important facts: (1) the amounts paid by debtors with liabilities indexed to the Swiss franc will not, on average, be much larger than they would have been in case of loans initially indexed to the euro; (2) debtors with Swiss franc loans (around 4% of Croatian families) are not necessarily the most vulnerable group of the Croatian society, as they are creditworthy, with 25% of debtors having loans exceeding around CHF 84.000 or 66% of the total debt (by contrast, 25% of debtors with the smallest loans account for only 5% of the total debt indexed to the Swiss franc); and (3) banks are no longer reaping profits from such transactions – there are no exchange rate gains because of the closing of foreign currency positions, while they incur losses because of higher share of non performing loans.

Notwithstanding the CNB's analysis, the *franc problem* has so far been poorly addressed despite its significant social importance. For this reason, this analysis aims at analysing the solutions to the Swiss franc problem applied so far in Central and South-Eastern European countries, where the problem has been most widespread.² This implies an economic and financial analysis that does not go into numerous and complex legal issues associated with this subject. The first section of the paper depicts the emergence of the problem. The second section presents the solutions applied so far in the countries where debtors were hit the hardest, while the third section concludes.

I EMERGENCE OF THE FRANCO PROBLEM

In the period of the credit cycle in the last decade, particularly from 2005 to 2008, favourable interest rates on loans in Swiss francs induced many creditors and debtors to link long-term currency-indexed loans to the Swiss franc instead of the euro. The total amount of Swiss franc-indexed loans in Croatia amounted to HRK 39.1bn in late 2008. The CHF/HRK exchange rate stood at 4.911 at that time. The value of all loan contracts that had been indexed to the franc at the onset of the crisis totalled almost CHF 8bn or 12% of the Croatian GDP. Like today, housing loans accounted for the lion's share of that portfolio. For a long time, such currency clause had not been perceived as a problem as the exchange rate of the franc³ remained fairly stable until March 2010. It fluctuated around the level that had been common in the preceding period, when most such loans and the bulk of their amount were contracted. However,

The franc did not strengthen continuously but in leaps, the first ones being associated with the unexpected escalation of the Greek crisis. Three leaps were recorded in 2010 and 2011 and one occurred in early 2015.

² The analysis is based on publicly available sources and reports delivered to the CBA by the banking associations from five countries (Poland, Hungary, Slovenia, Serbia and Romania).

³ The exchange rate of the kuna against the Swiss franc reflects the changes in the EUR/CHF exchange rate that are not influenced by the events and policies in the domestic foreign exchange market.

due to the weakening of the euro following the unexpectedly strong eruption of the Greek crisis in 2010, the value of the kuna first dipped to around HRK 5.5 for CHF by summer 2010. In late 2010, the franc soared again, to HRK 5.9. The first cycle of the Swiss franc strengthening ended with the franc standing at HRK 6.5 in the summer of 2011.

Figure 1 CHF/HRK exchange rate, 1/2005 - 5/2015



Source: www.hnb.hr.

The peak of summer 2011, when the CHF/HRK exchange rate stood at 6.5 was of short breath as the Swiss National Bank intervened in September 2011. The franc was capped at 1.20 to the euro, which in the domestic foreign exchange market translated into a narrow band of HRK 6.1-6.3 per euro in the period from September 2011 to mid-2014.

Renewed upward pressures on the franc emerged in the second half of 2014. The exchange rate first went up to HRK 6.37 towards the end of 2014. However, in January 2015, the Swiss National Bank unexpectedly changed its exchange rate policy and the CHF/HRK exchange rate jumped to HRK 7.36⁴ at the end of the month. At the time of writing this analysis, the exchange rate is slightly below the January level (HRK 7.27 as at 20 July 2015).

The average CHF/HRK exchange rate stood at HRK 4.66 in the “normal” period from 2005 to 2009. Starting from that level, the rise in the franc value is translated into the following percentages to the critical dates: 27.2% until December 2010, additional 5% to the average exchange rate for the period from September 2011 to January 2015 when the SNB maintained a stable exchange rate of

⁴ The peak was recorded on 24 January (HRK 7.86 per one CHF), but the exchange rate was corrected by the end of the month.

The first intervention took place in summer 2011, at the time when Jadranka Kosor was head of the government. The Memorandum of that time included a significant reduction in costs of loan conversion to other currencies and the beginning of substantial loan rescheduling, which was left to creditors and debtors to negotiate.

the Swiss franc to the euro (HRK 6.22), and additional 18.2% to HRK 7.36 at end-January 2015.

After 15 January 2015, the weakening of the kuna against the franc has never been translated to the debt repayment burden. The Government intervened and fixed the administrative exchange rate for the calculation of the kuna value of annuity to CHF/HRK exchange rate of HRK 6.39 for a period of one year. The loss arising from the difference between the market and administrative exchange rates was to be borne by the banks. Without the fixation of the administrative exchange rate, the kuna would have weakened by around 58% against the Swiss franc relative to the average value in 2005 – 2009. This implies that the administrative exchange rate was fixed in early 2015 at the value which is some 37% lower than the average exchange rate in the 2005 – 2009 period. However, the exchange rate fixation is of a temporary nature, i.e. the problem has not been solved for good as the solution adopted applies for a year only.

The administrative fixation of the accounting exchange rate early this year was the last in the series of interventions that had begun with the first upsurge of the Swiss franc in mid-2011.

Under the public pressure, Martina Dalić, the Minister of Finance in the last year when Jadranka Kosor headed the government, assumed the role of the mediator between creditors and debtors. From autumn 2011 on, the rise in the CHF/HRK exchange rate was stopped thanks to the intervention of the Swiss National Bank – while the benefits under the Memorandum (which did not have the power of law) between the Government and the banks were in force. The Memorandum provided for gradual rescheduling of loans to periods of up to 40 years, a reduction in fees for early repayment and conversion, and a reduction in public notary fees for renegotiation of loan agreements. Programmes of bilateral renegotiation of loan terms between creditors and debtors have been in progress since that time. Contract renewals have been implemented in line with the banks' internal policies regarding debtors with loan repayment difficulties, but there are no reliable statistical data on their results.

The problem was thus only temporarily alleviated in September 2011. Judicial proceedings began thereafter, and the resolution moved increasingly to the judicial arena.

In late 2011, at the moment of transition from the government of Jadranka Kosor to the government of Zoran Milanović – Croatian banks still had HRK 31.8bn of loans pegged to the Swiss francs (around 10% of GDP). Out of that amount, HRK 28.2bn related to

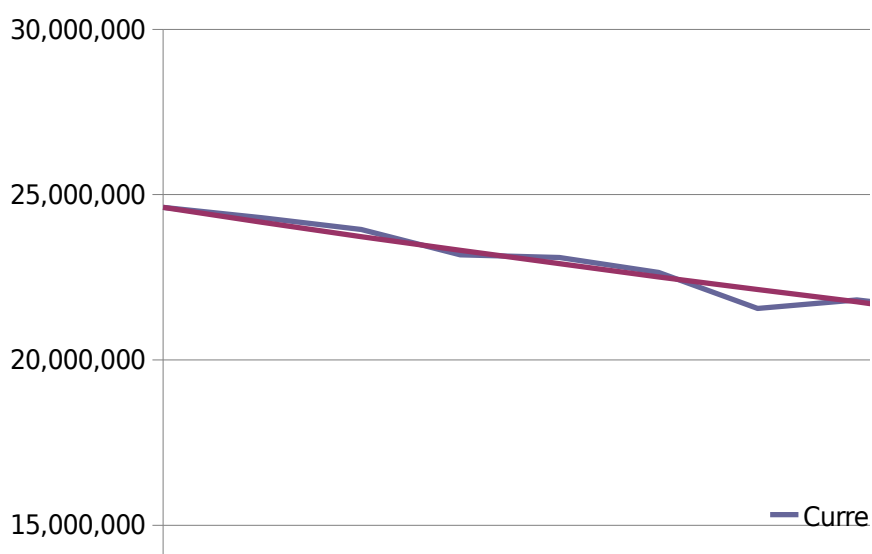
Swiss franc-indexed loans were sharply reduced during the conversion campaign in 2011. However, from 2012 to early 2015, the real amount of these loans continued to decrease at the rate that nearly corresponded to maturities of the principal, which means that loans were not refinanced to a large extent.

household loans, HRK 24.6bn of which were housing loans (around 7.5% of GDP).

Notwithstanding exchange rate differences that had increased the kuna value of principal ever since the onset of the crisis in late 2011, the total amount of loans was sharply cut in the first year, when the problem was most evident, i.e. 2011. Numerous clients repaid loans or exchanged them for loans linked to other currencies. The nominal amount of Swiss franc-indexed loans was reduced by 7% in 2011, although the franc appreciated by 9.4% in that period.

The deleveraging of the franc-denominated debt slowed down afterwards. The calculation according to the constant exchange rate (Figure 2) shows that the stock of home loans indexed to the Swiss franc was reduced by 22% from end-2011 to the end of the first quarter 2015, around 6% a year on average. The downward trend in the outstanding principal amount was entirely due to loan repayments since the repayment of principal denominated in the original currency of debt accounts for an increasing share of loan instalments as the repayment progresses. Therefore, early repayments nearly ceased after 2011, which means that most debtors decided to retain their Swiss franc loans. The reasons lie in a combination of various expectation-related factors. It is possible that some debtors expected that the exchange rate trend would be reversed (in which case instalments would be lower). Some of them perhaps expected that the outcome of judicial proceedings would be favourable for them due to constant public pressure, or political compensation (bearing in mind that the political visibility of the franc problem has never decreased significantly after 2011).

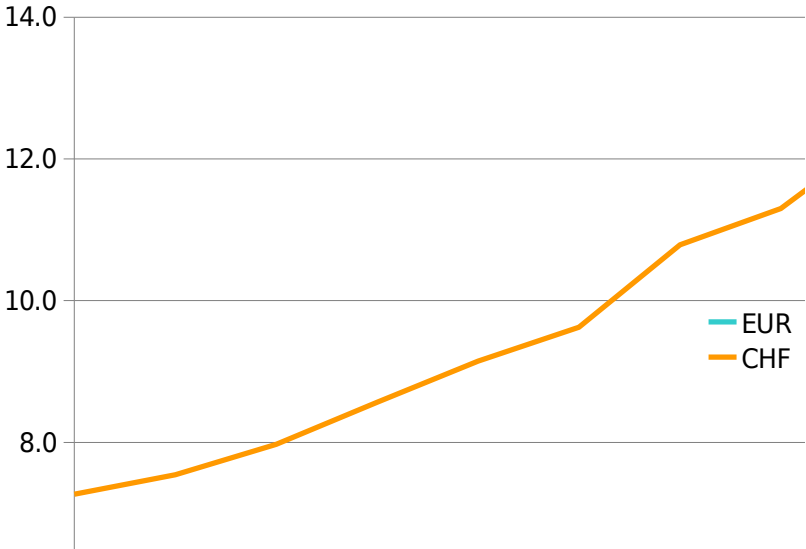
Figure 2 Swiss franc-indexed home loans, Q4/2011 - Q1/2015, in million HRK



Source: www.hnb.hr; own calculation.

The quality of housing loans indexed to the Swiss franc has been steadily falling (Figure 3). However, the quality of such loans relative to euro-indexed loans deteriorated rapidly before the end of 2011, during the first cycle of the franc strengthening in 2010-2011. This is evident in the large disparity between the quality of these two types of loans, already present in late 2011. Following the first blow of the crisis, the ratio of non-performing Swiss franc-indexed housing loans was established and has ever since been 2-2.5 times larger than the non-performing loan ratio (NPL ratio) for euro-indexed loans. It is possible that after 2011 the NPL ratio for Swiss franc loans has not grown much more rapidly than the NPL ratio for euro loans as demand for Swiss franc loans completely disappeared, while there was still some demand for euro loans. This is why more recently granted euro-indexed loans artificially improve the NPL ratio for loans indexed to that currency. If the pace of growth in the NPL ratio for franc- and euro-indexed loans is really similar, this could mean that the large majority of remaining debtors preserved their creditworthiness, which partly explains their decision to remain linked to the Swiss franc after 2011.

Figure 3 Partly recoverable and irrecoverable loans as percentage of gross home loans granted, Q4/2011 - Q1/2015



Source: www.hnb.hr, Supervisory disclosure.

As public pressure remained strong at the beginning of the government of Zoran Milanović (2012), amendments to the Consumer Credit Act (of 2013, with effect from 1 January 2014) prescribed lower, fixed interest rates (3.23%) on Swiss franc-indexed housing loans. At that time, the average market interest rate on

The first legal intervention has been in force since 2014 - the Consumer Credit Act prescribed a fixed interest rate on loans indexed to the Swiss franc (3.23%), some 2 percentage points below the market interest rate at that time.

previously granted long-term home loans indexed to the Swiss franc stood at around 5.35%.⁵

The interest rate reduction of some 2 percentage points on average significantly alleviated the debt burden for debtors. The extent of this alleviation cannot be calculated precisely as its impact differed across debtors. The precise calculation would require data on individual loan accounts, which are not available. Still, an approximate effect can be illustrated by a hypothetical example showing a combined effect of changes in the exchange and interest rates on expected cash flows from loan payments.

The illustration based on the example below starts from the debtor's logic that views repayments in both forward and backward directions: how much more must be paid (after a parameter changes – exchange or interest rate) and how this amount relates to the instalment expected at the time of loan approval. Debtors' backward looking view is not sophisticated in this situation. They do not wonder how much better or worse is their position compared to the position with a euro-indexed loan. In line with the principles of behavioural economy (anchoring effect, Kahneman and Tversky)⁶, changes in the expected cash flow compared with the starting reference point (expected instalment) determine a subjective perception and the economic (and political) behaviour of debtors.

Hence, assumed is a Swiss franc-indexed housing loan, granted at the exchange rate of HRK 4.66 for one franc in 2006, with a maturity of 22 years and a floating initial effective interest rate of 4.4%. For the purpose of simplification, the interest rate and the instalment are calculated and paid on an annual basis⁷, with the first instalment falling due in 2007. The interest rate is unchanged in 2007 and then grows by 0.35 percentage points in 2008, and by 0.5 percentage points in 2009 and 2010 each, but falls by around 0.4 percentage points in 2011, to 5.35%⁸, while from 2014 to maturity the

⁵ The calculation at a lower interest rate began from 1 January 2014. The source of data on interest rates: CNB Statistical survey, Table G5b.

⁶ See Daniel Kahneman and Amos Tversky, *Judgement under Uncertainty* in Darko Polšek and Kosta Bovan (editors), 2014, **Introduction to Behavioral Economics**, Zagreb: Institute of Social Sciences Ivo Pilar, pp. 57-74.

⁷ The monthly calculation of instalments of real loans somewhat differs from the simplified example with annual calculations.

⁸ CNB statistics on average interest rates on previously granted CHF-indexed loans is available only for the period since December 2011, for which statistics are aligned with the statistical standard of the European Central Bank. Data on average developments in interest rates are not available for the period from the loan approval date to December 2011, but it is known that practices regarding interest rate changes differed significantly across banks, and their impact depended strongly on the time of loan approval. For this reason, all assumptions used in the calculations should be taken with a grain of salt.

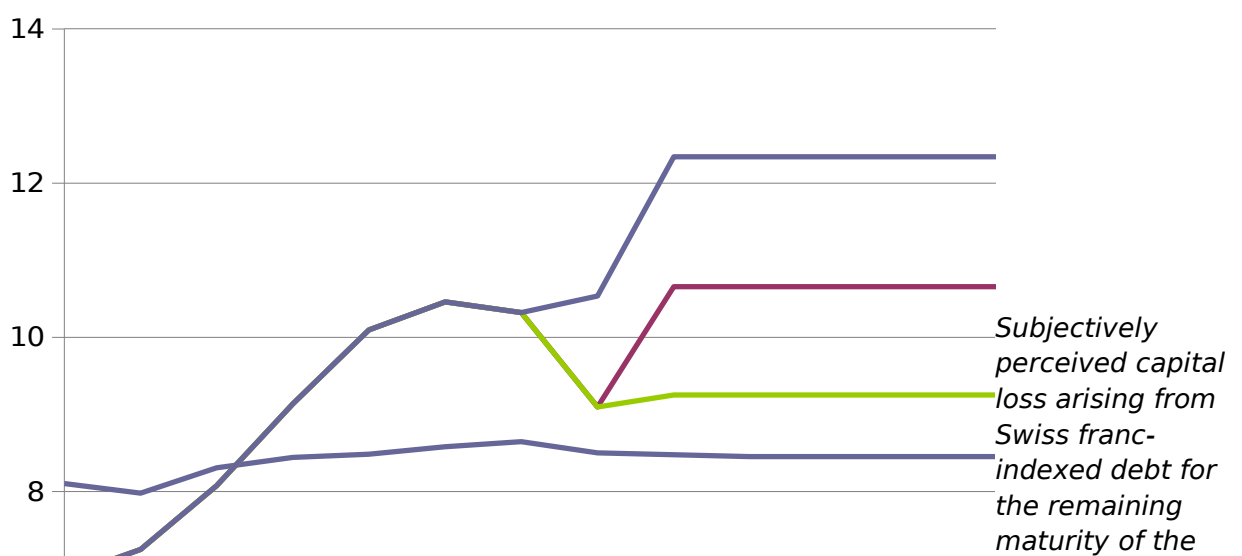
calculation is made at the legally fixed interest rate capped at 3.23%. Calculation assumptions are illustrated in the Appendix at the end of the paper.

The amounts shown in Figure 4 represent first approximations as the calculations use annual calculations and the Excel PMT function. The loan amount is arbitrarily set at 100 because the absolute loan amount has no effect on the conclusions.

Figure 4 shows a comparison of the periodic (annual) first instalment which a debtor expected at the beginning of the repayment period (the lower straight blue line) and instalments at the exchange rate of HRK 7.36 and HRK 6.39 (which are assumed to apply through to the end of the repayment period). The instalment at the exchange rate of HRK 7.36 for one franc would be 26% higher than instalment if the CHF/HRK exchange rate was HRK 6.39, where in both cases the interest rate is capped at 3.23%. The variant with the market interest rate implies the repayment line above the red line, which means that the total effect of the intervention is much larger than implied by comparison between instalments at lower fixed interest rate of 3.23%. It is also evident that the effect of interest rate fixation in 2014 reduced a mortgage loan instalment by 13.6%, with no changes in other loan parameters. Of course, the result presented would be significantly different if the CHF/HRK market exchange rate falls below 6.39 in the remaining period to 2028, when the last instalment falls due (the green line would then converge to the blue one).

Debtors perceived the significant growth in instalments as a decrease in the net worth of their personal property, which affected their behaviour.

Figure 4 Comparison of the initial and expected loan instalments at various CHF/HRK exchange rates



The change in the instalment amount determines a debtor's subjective assessment of a change in the present value of net

Subjectively perceived capital loss arising from Swiss franc-indexed debt for the remaining maturity of the loan may be estimated at 22%.

wealth and the related change in behaviour. A change in the present value of the debtor's net wealth may be calculated as the present value of the difference between the expected cash flow shown by the green and blue lines in the remaining 14 years of loan repayment, after fixation of the administrative exchange rate. In line with behavioural finance assumptions, all amounts repaid earlier are ignored. For the purpose of simplicity, the discount rate is set at the level of the initial contract interest rate (4.4%). The present value of the difference through the remaining 14 years of repayment is equal to 22.2% of the initial principal value. This means that the subjective feeling of loss of wealth under current repayment terms, and assuming no change in these conditions through to the end of the repayment period, would be the same as if the market value of the purchased real property decreased by around 22%.

If instalments were calculated at the market exchange rate of HRK 7.36 per CHF, the decrease in the present value of the debtor's net assets from 2015 onwards would be a much higher 37.3% of the initial loan principal. Therefore, the freezing of the administrative exchange rate for calculation of instalments at HRK 6.39 had the same effect as if the present value of the debtor's net assets increased by 15.3% (assuming that the remaining instalments are never calculated at the exchange rate other than HRK 6.39).

Behavioural finance principles applied in the analysis above do not aim at objectivity. An objective analysis that strives to illustrate total social effects cannot avoid a comparison with loans indexed to the euro, raised in the same period as Swiss franc-indexed loans. The logic is simple: currency clause linked to the euro was the only alternative offered, while no bank offered loans with fixed exchange and interest rates.⁹ The exchange rate of the euro also strengthened in the period under review (though much less than the Swiss franc), while interest rates on euro loans remained at market levels (much higher than 3.23%, at around 5.6% according to the latest data). Therefore, the question is how equivalent is the change in the debtor's asset position associated with the Swiss franc appreciation to the hypothetical situation of a loan initially granted with a link to the euro?

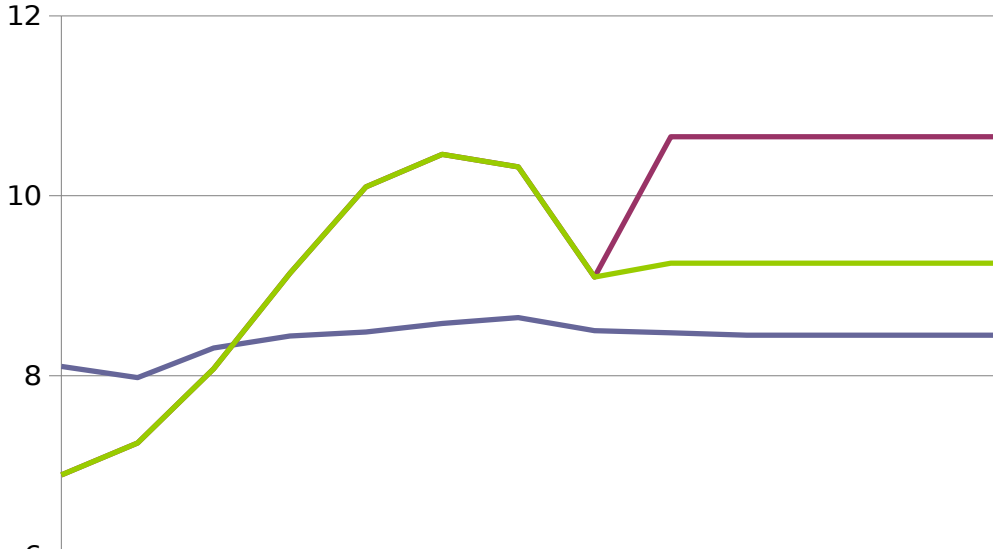
Figure 5 shows minor differences from the realistic euro alternative. Following the 2014 intervention associated with interest rates and the one in 2015 associated with the exchange rate, the franc-indexed instalment was around 10% higher than the comparable euro-linked instalment at market terms. Without interventions regarding the administrative exchange rate (and if instalments were

⁹ The CNB also made comparisons with pure kuna loans, but they are not presented in this paper as only a very small number of clients opted for such loans, which have the highest interest rates.

Under a forward-looking approach that would take a euro-indexed loan as a reference anchor, the conclusion would be that the value of the debtor's net assets fell by around 9%.

calculated at the average CHF/HRK exchange rate of HRK 7.36), the CHF-linked instalment would be 26% higher than the equivalent instalment in euro. If these differences are translated to the reduction in the present value of the debtor's net assets in the remaining repayment period, the imminent capital loss at the frozen exchange rate stands at 8.6% of the initial principal. If annuities are calculated at the market exchange rate estimated at CHF/HRK 7.36, the fall in the present value of the debtor's net assets would be 24% of the initial principal. As mentioned earlier, due to the anchoring effect (comparison with the initial instalment and not with the realistically possible alternative), debtors subjectively perceive larger capital losses than the ones associated with changes in the instalments as in Figure 5.

Figure 5 Comparison of annuities of loans indexed to CHF and EUR



The presented (subjective and objective) changes in the present value of net assets explain why debtors organised themselves almost everywhere and exerted strong political pressure aimed at compensating some of the losses they perceive although such losses have not been realised. The following section provides a comparison of solutions applied in Central and South-Eastern European countries.

II OVERVIEW OF SELECTED COUNTRIES

The debtors' reactions were similar everywhere, i.e. severe. The impact on banks and governments depended on the number of debtors and their ability to organise themselves politically. Along with Croatia, the strongest pressure was, as expected, seen in Hungary and Poland, where the share of Swiss franc-indexed loans was the highest. This section provides also a detailed presentation of the situation in Serbia and Romania, while other Central European countries are only mentioned at the end of the section.¹⁰

Among all the countries observed, the problem assumed the largest proportions in Hungary.

Hungary

Household loans in foreign currencies other than the euro (of which Swiss franc-indexed loans accounted for the lion's share) with a maturity of over 5 years were first seen in Hungary in 2003. A more prominent upsurge in this type of loans began in late 2004 and early 2005. This coincided with an increase in the supply of Swiss franc-indexed loans in the Croatian market, which is explained by the role of the same international banks active throughout Central Europe. By providing financing, these banks offered this financial product across their international networks.

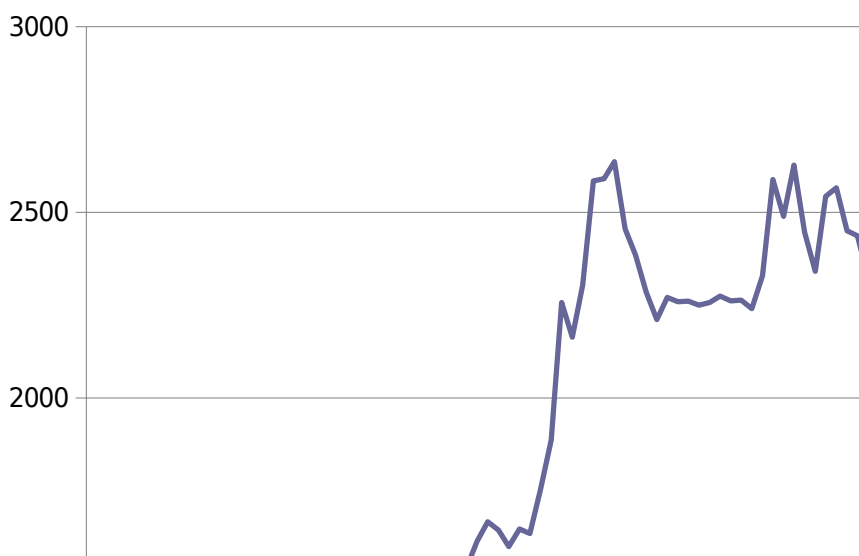
In September 2011, at the time of the first peak of the Swiss franc (Fig 1), household home loans in foreign currencies other than the euro amounted to 2.65bn forint (HUF) or around EUR 9bn according to the current exchange rate, accounting for 9% of the Hungarian GDP for 2011. Therefore, in relative terms, the problem was bigger than in Croatia,¹¹ where home loans stood at around 7.5% of GDP at that time (total Swiss franc loans to households came to around 9% of GDP in Croatia).

Figure 6 shows that home mortgage loans in Hungary were reduced in two large waves. The first occurred in late 2011, and the second in early 2015, when the conversion of currency-indexed loans to loans denominated in domestic currency was accounted for in banking books under the law of November 2014.

¹⁰ A significant share of such loans, of around 10% of GDP, was also recorded in Austria, but that case is only briefly mentioned at the end of this section as the Austrian government has not intervened, either directly or „softly“, into the relationship between creditors and debtors and the problem is instead being solved by means of judicial and other common mechanisms of regulating debtor-creditor relations. It should be noticed that Swiss franc-indexed loans were nowhere forbidden, regardless of the size of the problem.

¹¹ Total Swiss franc-indexed loans were even larger in Hungary, but this analysis does not include loans of other financial intermediaries and other types of loans. Particularly widespread in Hungary were consumer mortgage loans that were only 20% less than home mortgage loans in September 2011 according to Magyar Nemzeti Bank.

Figure 6 Household home loans indexed to foreign currencies other than the euro in Hungary, 1/2005 - 5/2015, in billion HUF



Source: Magyar Nemzeti Bank, database EN0709, Table 2.

In the first stage of problem solution (the second half of 2011), the Hungarian government offered the following three options to debtors, followed by a permanent solution involving the conversion of loans to domestic currency in late 2014:

- 1 **Repayment of the outstanding debt at a preferential administrative exchange rate of HUF 180 for one CHF** from September 2011 to the beginning of 2012. The administrative exchange rate for early loan repayment was around 25% below the market rate at the time. This means that around one-fourth of the outstanding principal was *de facto* written off, but only to debtors that repaid their debt before maturity. This measure was used by few, more affluent debtors that could raise the money for early repayment (the 25% write-off was not applicable to refinanced loans). As expected, this measure solved the problem for a negligent share of debtors (3-4% according to the estimates of the Hungarian Banking Association) as most people were unable to raise repayment funds. However, the fall in the loan amount in Figure 6 shows that the principal was then reduced by around 20-25%. This means that this opportunity was used by a small number of wealthier debtors with loans several (5-6) times larger than the average. To make the paradox even more striking, banks were burdened by exchange rate losses, which disturbed the foreign exchange market and pushed the forint down even more (Figure 7 below), so that debts of less

In 2011, Hungary offered three models: early repayment in cash with a bonus of around 25%; deferred payment of part of the principal and interest (balloon), and the sell and lease back option. The act on forced conversion at the market exchange

affluent debtors, who could not make use of the preferential repayment in the domestic currency, further increased. Therefore, this measure further aggravated the problem for the majority of people.¹²

- 2 **Introduction of the fixed administrative exchange rate for the calculation of outstanding loan instalments (CHF/HUF at 180 and EUR/HUF at 250) and a “balloon” for accumulating exchange rate differences.** The majority of debtors who were unable to repay loans at preferential terms were offered to accumulate the difference between the value of repayment amounts at market and administrative exchange rate for calculation of instalments in a special account (“balloon”). Half of the interest on the “balloon” was state-subsidised, while accumulated exchange rate differences entered the final conversion in the domestic currency and their repayment is to start again as of 2016 (see 4 below). The Hungarian prime minister announced that debtors cannot expect any discounts regarding balloon repayment. Many debtors opted for this model – around 25% according to the data of the Hungarian Banking Association.
- 3 **Option to sell real property and assume the status of a protected lessee (sell and lease back).** According to the data of the Hungarian Banking Association, around 3% of debtors with the greatest difficulties in loan repayment opted for a model under which they sold their property to the state fund (the money from the sale must be used for early loan repayment), so that such debtors could continue to use the property under a contract at a preferential rent, much lower than the loan instalment. However, this model was unacceptable for the majority of debtors experiencing repayment difficulties. Around 30% of all debtors (which approximately equalled the NPL ratio for household loans in 2012) opted for direct renegotiation of loan terms with banks. This process progressed in line with bank policies, outside the scope of government measures.
- 4 **The fourth option, which was actually an obligation – final conversion to domestic currency loans at the market exchange rate – was introduced in late 2014.** In November 2014, the Hungarian parliament adopted the law under which most loans indexed to foreign currencies (including all home loans) were converted to domestic

Hungarian regulations after the conversion introduced a ceiling on the maximum margin of 4.5% above the money market interest rate, and this interest rate is much higher than the rate applied in Croatia.

¹² [Beware Hungary's cure for the Swiss franc mortgages hangover. www.ft.com](http://www.ft.com) (1 July 2015). From April to December 2011, the kuna lost around 9% of its value relative to the franc, while the forint fell by around 24%, which means that the forint weakening was largely due to internal and not external factors. For more details, see Figure 7 below.

currency by force of law. The effect of this law is clearly evident in the above figure – the calculation was made in November, but the transfer in books and monetary statistics was effective as of early 2015. The market exchange rate as at 7 November 2014 was applied in the conversion. The difference between the market exchange rate at the time of the conversion and the exchange rate at the time of loan approval was not taken into account. Therefore, Hungarian debtors continue to repay loans in domestic currency, which is the same as if they were to repay foreign-currency indexed loans at the market exchange rate in November 2014. The funds accumulated in the meantime in special accounts – “balloons” – were also included in the conversion at the exchange rate prevailing in the market in November 2014, and are to be added to the principal amount 5 years after the enforcement of the 2011 measure. At that time debtors will again be obliged to pay that part of the principal amount, i.e. exchange rate differences. The government has already announced that it has no intention to subsidise these repayments.

The November conversion act still helped debtors, in two ways. The first one was purely accidental. The act entered into force before the January decision of the Swiss National Bank to abandon its policy of defending the franc’s ceiling against the euro (for the sake of comparison, the CHF/HRK exchange rate was 6.35 on the Hungarian accounting day in November 2014 vs 7.36 as of end January). The Hungarian government and debtors were lucky in that regard (in November 2014 no one could foresee that the Swiss National Bank would cease to prevent further strengthening of the exchange rate). The second aspect of help is related to regulation of interest rates on converted loans in domestic currency. The Hungarian law provides for the application of the fixed margin from original loan contracts, with the largest margin being capped at 4.5% above the money market interest rate in forint (Bubor).¹³

The formula for interest rate formation, Bubor + 4.5%, allows a much higher interest rate (around 6% – Bubor is around 1.5%) than the interest rate on Swiss franc-indexed loans which is in Croatia set under the Consumer Credit Act (3.23%). This is the consequence of much lower market interest rates in Croatia than in Hungary. For example, at the time of the largest expansion of Swiss franc-indexed loans, loans were granted at the average interest rate of 4.4% in Croatia, while the minimum average monthly floating interest rate

¹³ [Hungary Passes Bills on Mortgage Loans, Retail Loans Limits](#). Bloomberg (1 July 2015). One-week Bubor was fixed at 1.5% a year on 20 July 2015.

on new loans in Hungary was around 5.5%.¹⁴ Even today, average interest rates on home loans in Hungary are much higher than in Croatia.

The level of Hungarian interest rates in comparison with Croatian rates may be attributed to higher costs and risks.

The first explanation for the level of interest rates in Hungary is associated with the fact that bank operations are much more expensive in this neighbouring country than in Croatia. Regulatory cost is transferred to the level of margins and interest rates.¹⁵ However, the most important explanation is related to the fact that the forint exchange rate is more flexible than the exchange rate of the kuna. This raises the risk associated with domestic currency loans whose principal is indexed to a foreign currency. There is also an additional transfer to currency-induced credit risk which is due to the rise in the debt burden following domestic currency depreciation. For this reason, the non-performing loan ratios for household loans in Hungary were higher than 30% during the crisis (according to the most recent data for the first quarter of 2015, the NPL ratio for total loans is nearly 25%), which is almost twice as high as in Croatia (Figure 3). This does not mean that Hungarians are inherently worse payers than Croatians, but it is the effect of a much larger drop of the forint than of the kuna. In particular, compared with Croatian debtors, Hungarian debtors were exposed to a difficult combination of much higher average interest rates and a more rapid decrease in the value of the domestic currency. Figure 7 shows that the forint has weakened against the euro by 19% more than the kuna from the beginning of 2007 up to now. The greatest difference in the pace of the weakening of the two currencies originates from the time of the steep fall in the forint, when the first measures of the Hungarian government in the second half of 2011 were taken. This is why the Hungarian conversion exchange rate of November 2014 is nearly equivalent to the current market exchange rate in Croatia, while the

As a result of currency-induced credit risk in Hungary, the NPL ratio is almost twice as high as in Croatia.

¹⁴ The data for Croatia: CNB report on Swiss franc loans of 21 January 2015; available at www.hnb.hr, section Press Releases. Data for Hungary: minimum of column 14, Table 2, section Statistical Time Series, Money and Capital Markets, Magyar Nemzeti Bank, http://english.mnb.hu/Statisztika/data-and-information/mnben_statisztikai_idosorok (20 July 2015).

¹⁵ Hungarian banks are more heavily taxed than Croatian. This primarily refers to the special tax on banks introduced in 2010 as a temporary tax on assets, at a rate of 0.53%. This measure was part of the efforts of the new Orban government to reduce the fiscal deficit. The tax remained in force even after the fiscal consolidation, which was reflected in the spread of interest margins to the detriment of bank clients, as well as the fall in bank returns. In addition, a special tax of 0.3% is applied to all financial transactions in Hungary. In February 2015, the Viktor Orban government signed an agreement with the EBRD under which it undertook to cut the tax rate on bank assets to 0.31% in 2016, to 0.21% in 2017 or 2018 and, as a final step, to the European average in 2019.

current Croatian accounting exchange rate of 6.39 is around 12.7% more favourable to debtors than the exchange rate at which the conversion to domestic currency was effected in November 2014.

Figure 7 Indices of the nominal value of the forint and the kuna against the Swiss franc, 1/2007 - 6/2015 (1/2007 = 100), end-of-month exchange rate¹⁶



Sources: www.hnb.hr, Statistical survey and www.mnb.hu, Statistical Time Series, Exchange Rates, own calculation of indices.

The above comparison shows that, compared with other countries (apart from eurozone members – Austria and Slovenia, and Bosnia and Herzegovina, which has a currency board), the stability of the kuna against the euro was the best indirect protection for debtors from the effect of the franc strengthening. Therefore, any future permanent solution should take into account the necessity of maintaining exchange rate stability. It is obvious that Hungarian exchange rate conversions of November 2014 failed to offset completely the adverse effect of the weak forint although the conversion was effected before the change in the exchange rate policy of the Swiss National Bank. The effect of the forint weakening was so strong that, together with much higher interest rates than in Croatia, it probably could not be offset even by the effects of the last year’s decision of the Hungarian Curia on the return of the calculated effects of changes in floating interest rates and differences between the buying and selling exchange rates.

¹⁶ This illustration is accurate for a comparison of a Swiss franc-indexed loan in Hungary and Croatia raised in January 2007. The calculation would be different for loans granted in other periods, but the differences are not significant since the exchange rate remained stable around the January 2007 level during the entire period of credit expansion.

The final calculation for the comparison of the cases of Croatia and Hungary cannot be made at this moment. The franc may weaken, while the forint may strengthen in the future, more than the kuna. The Hungarian government may go back on its promise that it would not further subsidise the repayment of exchange rate losses, i.e. “balloons”. It may also regulate interest rate formation in a different way. Similar to Croatia, political pressure associated with the franc problem is latent, and it is too early for firm conclusions.

Nevertheless, the comparison clearly shows how much is the exchange rate stability of domestic currency vs. the benchmark currency indirectly relevant for Swiss franc debtors. Therefore, with reference to potential loan conversions, one should not forget another aspect of risk that could unexpectedly threaten the stability of the key exchange rate. This refers to a country’s international liquidity. A threat to that liquidity could diminish CNB capacity to intervene in case of foreign exchange market turmoil.

After the conversion, Hungarian banks had foreign currency liabilities, while their assets were in forint, and they had to close promptly their suddenly shortened foreign currency positions. It seems that this risk was not felt in the Hungarian foreign exchange market. Hungary has recently recorded extraordinary foreign currency inflows due to the rapid growth in exports. On the other hand, domestic demand remains subdued, so that imports growth is not fast enough to offset the impact of exports. In the first quarter of 2015 alone, the current account surplus was around EUR 2bn (for comparison’s sake, the deficit in the Croatian current account was EUR 1.3bn in that period), while the capital account surplus was around EUR 1bn. Three billion euro of new inflows in only three months, coupled with inflows from previous periods and the second quarter of 2015, were sufficient to offset the conversion’s effect on the currency positions of banks (i.e. the large sale of the central bank’s international reserves to banks), without reducing international reserves (which even grew slightly in the observed period). Therefore, the timing of the Hungarian conversion turned out to be a happy choice in view of the country’s balance of payments position.

In its analysis of the Hungarian case, the CNB mentions the high adequacy of Hungarian international reserves in comparison with Croatian reserves. One should note the fact that the share of foreign currency deposits in total deposits in Hungary stood at 20.5% at end-2014, while it was 67.5% in Croatia. Foreign currency deposits in Croatia are larger than the international reserves of the Croatian National Bank, while in Hungary this ratio is much more in favour of reserves. This implies that Hungarians had many more degrees of freedom when dealing with the issue of conversion than the Croatian

The cases of Hungary and Croatia cannot be compared due to rather different currency structures in the banking systems, different balance of payments positions, and the lower adequacy of Croatian international reserves. In addition, the benefits for Hungarian debtors are not as obvious as previously perceived.

National Bank would have had if it seriously considered any form of the conversion model.

However, it is even more important to notice that the Hungarian model has not so far proved to be as favourable to debtors as it was initially presented to part of the Croatian public. Benefiting richer clients through early repayments in 2011 at a preferential exchange rate expedited the drop in the value of the forint, which raised the debt burden in the domestic currency for most of the debtors. From the beginning, average interest rates were much higher than in Croatia. The forint weakened much more than the kuna in the period after loan approval. Hungarian debtors have yet to repay the “balloons”, while the government – in contrast to the Croatian government – considers the issue solved at this moment.

Poland

At the peak of the use of Swiss franc home loans in Poland in 2011, currency-indexed loans totalled 198 billion zloty. This accounted for 62% of all home loans. The largest share related to Swiss franc-indexed loans. According to Bloomberg, these loans still amounted to a high USD 34bn in the first quarter of 2015 (around EUR 31bn) or 7.5% of GDP.¹⁷ This means that the problem in Poland is of almost equal proportions as in Croatia. However, due to the large population in Poland, the problem affected a much larger number of debtors – around 565 thousand.

In contrast with Hungary and Croatia, the problem was not so much evident in the Polish public until the Swiss National Bank decided to abstain from further interventions in January 2015. Before that, the debtors coped silently with the increased loan instalments as they had a weaker legal foothold for complaints than debtors in other countries. In particular, the Polish supervisory authority (which is independent from both the government and the central bank) adopted in March 2006 a special regulation on foreign currency housing loans and currency-indexed loans. It prescribed that a bank always has to first offer a domestic currency loan to a client. Clients who nevertheless chose a foreign currency-indexed loan had to sign a special statement on the understanding of risks. In assessing a debtor’s creditworthiness in foreign currency, banks had to apply 20% more restrictive provisions on the ratio between the loan amount and the estimated real estate value, while they had to calculate creditworthiness at a higher interest rate, as if it was a domestic currency loan.

¹⁷ [Poland Presses Banks to Bear Costs of Swiss Franc Loan Conversion](#). Bloomberg (1 July 2015).

The case of Poland is interesting because it illustrates the power of market demand. Demand for the cheapest possible products could not be stifled even by very restrictive provisions on client information and creditworthiness calculation. For this reason, the example of Poland supports the argument that the problem would today be equally relevant in Hungary and Croatia if regulations on Swiss franc loans were stricter from the beginning. With hindsight, one may say that such loans should have been forbidden, but a notorious fact is that they were nowhere forbidden and they spread extremely rapidly even when special regulatory restrictions were introduced, as was the case in Poland.

In January, the independent Polish supervisory authority proposed voluntary conversion of foreign currency loans to domestic currency, where banks would participate in the write-off and/or balloon formation similar to the Hungarian model of 2011. The cost of this proposal was estimated at somewhat less than 20% of the principal value.¹⁸ However, Marek Belka, governor of Poland's central bank, refused this proposal, warning that this solution would create great losses for banks, with a possible loss of nearly a half of Poland's international reserves. Therefore, the CNB is not the only central bank which, due to the argument concerning the adequacy of international reserves and the maintenance of financial stability, warns about the risks of proposals to follow uncritically the "Hungarian model" of forced conversion.

In early 2015, the Polish Bank Association agreed on several possible solutions, of which those that could be implemented by banks alone have already been introduced, while others are still being discussed in public. The packet, nicknamed "six-pack", has been signed and implemented by 11 big banks so far. It includes the following measures:

- 1 Reduction in interest rates in such a way that a fixed margin is calculated on the negative LIBOR;
- 2 Reduction in the difference between the buying and selling exchange rates for six months;
- 3 Rescheduling of obligations for debtors who live in the real property covered by the loan;
- 4 Giving up on requirements for additional collateral from clients who timely meet their obligations;
- 5 Possibility to convert loans to zloty at the current midpoint exchange rate of the National Bank of Poland;
- 6 More flexible restructuring of liabilities for troubled debtors.

Regulations in Poland have not yet been adopted, but a proposal at hand advocated by the banking association includes a strong social component. This case is interesting because it shows that even more rigid regulations on Swiss franc loans at the time of the credit boom failed to stifle demand, so that proportions

¹⁸ Ibid.

The Polish Bank Association estimates that costs of this programme would be EUR 72 million or 0.23% of the remaining bank exposure arising from Swiss franc loans (which would be equivalent to the cost of HRK 48 million in Croatia).

Also proposed is the establishment of a special social fund in which banks and the government would invest EUR 40 million, and which would have to take on the repayment burden of up to EUR 360 a month for a period of 12 months for debtors with difficulties arising from objective reasons, such as illness or loss of job.

Finally, proposed is the establishment of stabilisation funds (each bank would establish a separate fund) with the total capital of EUR 72-145 million; their purpose would be to cover exchange rate losses so as to offer the option of conversion to zloty at a preferential accounting exchange rate for persons with below-average income that did not buy flats larger than 75 m² or houses larger than 100 m².

Serbia

According to the data of the Association of Serbian Banks of April 2015, the outstanding principal of Swiss franc-indexed loans amounted to around EUR 1 billion, the bulk of which was accounted for by housing loans (EUR 964 million). Swiss franc loans accounted for 31.4% of total home loans, or 2.9% of GDP. This means that the problem was smaller than in Croatia, Hungary and Poland. Nevertheless, debtors in Serbia were offered possible solutions on three occasions:

- 1 The first response of the banking industry goes back to December 2012, when the Association of Serbian Banks agreed to allow clients to voluntarily convert Swiss franc-indexed loans to euro at the market exchange rate, without additional costs. Very few clients used this option.
- 2 The National Bank of Serbia and the Association of Serbian Banks agreed on the text of a Recommendation in May 2013. The Recommendation followed the Hungarian “balloon” model and allowed loan repayment over three years at the below-market exchange rate (the exchange rate valid on the loan approval date increased by 8%), where the exchange rate difference is accumulated in a special account – balloon, without interest – and is repaid after the expiry of at least three years. The possibility to choose this option was made available only to debtors who raised loans of less than EUR 80.000. Very few clients used this option.
- 3 Following the upsurge of the Swiss franc in January 2015, the National Bank of Serbia and the Association of Serbian Banks

Before January 2015, free conversion at the market exchange rate and a balloon model for loans up to EUR 80 thousand were available in Serbia. In February 2015, offered were additional combinations of conversions with a 5% principal write-off and lower interest rates.

agreed on four new options for debtors with Swiss franc loans, which became part of a decision of the National Bank of Serbia:

- a) a CHF-indexed loan is converted into a EUR-indexed loan at a preferential exchange rate which is 5% lower than the market exchange rate (the current Croatian equivalent of this exchange rate would be around 6.9 (=0.95*7.27)), while the interest rate applied is the one used for new EUR-indexed loans, with the optional extension of the loan repayment term, on the client's request, by a maximum of five years;
- b) a CHF-indexed loan is converted into a EUR-indexed loan at the current market exchange rate, while the exchange rate applied is the rate at least 1 percentage point lower than that applied to new EUR-indexed loans (but not below 3%), with the optional extension of the loan repayment term, on the client's request, by a maximum of five years;
- c) retention of the CHF-indexed loan and reduction of the interest rate by 1 percentage point (but not to below 3%), with the optional extension of the loan repayment term, on the client's request, by a maximum of five years;
- d) retention of the CHF-indexed loan, with a balloon being formed so as to reduce the monthly instalment by 20% for a period of three years; the reduction is accumulated in a special account (no interest is charged on this amount), the total principal amount is repaid in 12 equal monthly instalments after the expiry of the original maturity date.

Obviously, all offered options are less favourable than the solution currently applied in Croatia.

Romania and other countries

According to the data of the Romanian Banking Association, in November 2014, 75.000 clients had Swiss franc-indexed debts to banks totalling EUR 2.2 billion or 1.5% of the Romanian GDP. As expected, the problem is less pronounced in Romania due to the lower level of financial development.

Up to now, there were no special regulations or joint actions of banks to solve the Swiss franc problem. All issues associated with renegotiation of loan terms were left to individual banks and their clients. Also, banks in Romania believe that there are constitutional and legal provisions due to which parallel changes in loan terms for

In other countries affected by the Swiss franc problem (Romania, Bosnia and Herzegovina, Austria and Slovenia), the solution was left to creditors and debtors.

all or a large number of clients could be seen as legally disputable. For this reason, all is left to bilateral relations between banks and their clients.

According to the Romanian Banking Association, in renegotiations that began in January 2015 (there were no special actions before the Swiss National Bank abandoned its 1.20 currency ceiling to the euro), Romanian banks have used different instruments: reduction in the accounting exchange rate or the interest rate and flexible renegotiation and rescheduling of loan liabilities for troubled clients, all for the purpose of maintaining the loan burden at levels approximately equal to those in late 2014.

Similar solutions have been applied in the other two countries strongly affected by the Swiss franc problem - Austria and Bosnia and Herzegovina. In Slovenia, where the creditor-debtor relationship is also addressed exclusively by the judiciary, the only political "intrusion" took place in February 2015, when a common statement was agreed on by the Ministry of Finance, the Ministry of Economic Development and Technology, the Bank of Slovenia and the Bank Association of Slovenia. The common statement argued that consumer rights were not systematically violated in the granting of Swiss franc-indexed loans, and banks took on the obligation to renegotiate loan terms without additional expenses in order to address debtors' problems on an individual basis.

III CONCLUSION

The overview by country shows a wide range of solutions applied, from completely liberal (Romania and other countries), through hybrid (Poland, Serbia), to extremely interventionist solutions (Croatia, Hungary). The models of dividing the cost of exchange rate differences vary accordingly.

All presented models have two things in common. First, none of the models disputed the principle of the currency clause and provided for the return to the initial exchange rate for all debtors. Second, with the exception of Hungary, state budget funds (subsidies to debtors) were nowhere used directly for the purpose of addressing the Swiss franc problem. The costs of subsidies were largely borne by banks under the voluntary model (Serbia, the most recent 5% write-off at conversion) or by force of law (Croatia, Hungary). The only model applied everywhere is the model of bilateral renegotiation of terms for debtors with repayment problems.

The Polish proposal of a social fund, which is to be financed by banks as well, has not yet been implemented, while the Hungarian state fund that repurchased real property from the most vulnerable debtors did so at a discount. Therefore, it is not clear whether it protected itself completely from risks or whether values of some properties fluctuated so much that it is possible that some losses arose and created fiscal costs. Even if this was the case, it involved only a minor number of debtors (only 3% of debtors in Hungary chose the sell and lease back model) and a minor amount, so that any possible loss may be considered fiscally negligible.

The stability of the domestic currency against the euro – though acting only indirectly – has so far proved to provide the best protection to debtors. Because of such exchange rate policy in Croatia, the Hungarian model of conversion according to the November 2014 exchange rate (before the change in the exchange rate policy of the Swiss National Bank) did not create currency conditions for debtors that would be close to conditions for Croatian debtors after the freezing of the accounting exchange rate at CHF/HRK 6.39. In general, the Hungarian model has not so far proved to be as beneficial to debtors as initially presented. Benefiting richer clients through early repayments in 2011 at a preferential exchange rate expedited the drop in the value of the forint, which raised the debt burden in the domestic currency for most of the debtors. From the beginning, average interest rates were much higher than in Croatia. The forint weakened much more than the kuna in the period after loan approval. Hungarian debtors have yet to repay the “balloons”, while the government – in contrast to the Croatian government – considers the issue solved at this moment.

APPENDIX

Assumptions of the simulations whose results are presented in Figures 4 and 5

	CHF		EUR	
	Ex-change rate	Interest rate	Ex-change rate	In-terest rate
2006	4.657	4.4%	7.323	5.5%
2007	4.468	4.4%	7.336	5.7%
2008	4.554	4.8%	7.223	5.7%
2009	4.861	5.3%	7.340	6.0%
2010	5.286	5.8%	7.286	6.3%
2011	6.035	5.3%	7.434	6.1%
2012	6.238	5.4%	7.517	6.1%
2013	6.154	5.4%	7.574	6.1%
2014	6.282	3.2%	7.630	5.7%
2015	6.390	3.2%	7.694	5.6%

Fixed parameters applicable for 2015 are applied from 2016 onwards.