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THE ATTRACTIVENESS OF FX HOUSING LOANS FOR HOUSHOLDS IN VIEW OF SUPERVISORY ACTIONS IN SELECTED EU COUNTRIES

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Abstract

The article relates to the attractiveness of FX housing loans for households which led to over increase in EU countries. Results of comparative analysis conducted for Poland, Austria, Romania and Hungary indicates that actions taken by the supervisory bodies dedicated to demand indicators influence credit increase limitation in different ways. Non-standard actions taken seem to be most effective. Nevertheless, looking at the Hungarian caseit brings high costs to the economy.

JEL classification: D14, E58, G21, G28
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Introduction

In Europe risk connected with FX loans increased after 2008 i.e. since the last financial crisis[1]. In many countries during that time FX loan portfolios reached high values not recorded earlier. Monetary policy easing was used as a tool by EU central banks to fight the crisis. The policy of low interest rates turned into a decrease of market rates and finally influenced the attractiveness of FX loans. The increase of FX loans in bank portfolios generates risk for the economy.

FX housing loans and supervisory actions to limit FX risk are relatively new problems.In the literature these issues are described in a few aspects. First of all, institutions of the financial security network like central banks and supervisory bodies being direct sources of information publish data about tools used. Due to the fact that transparency of these institutions is crucial for an efficient operating of financial markets, there is detailed information about actions taken available in public reports e.g. financial stability reports like those of the National Bank of Romania (NBR) 2006, European Central Bank (ECB) Jun. 2010, National Bank of Poland (NBP) Feb. 2016, Magyar Nemzeti Bank (MNB) Apr. 2011 and Nov. 2014. Also, occasional papers published within central banks are dedicated to FX loan problems. Some of them describe a specific currency issue like a paper dedicated to Swiss francs and thedevelopment in EU countries prepared by the Swiss National Bank (SNB) (Brown, Peter, Wehrmuller, 2009) or a financial dollarization issue described in the ECB paper (Basso, Calvo-Gonzalez &Jurgilas, 2007). Other are dedicated to countries where a problem of FX loans is significant e.g. Hungary (Pellenyi & Bilek, 2009; Kolozsi, Banai & Vonnak 2015), Austria (Beer, Ongena & Peter, 2010a). Research papers are also published by international organisations like the IMF (Rosenberg & Tirpak, 2008).

Empirical studies examine mainly the determinants influencing households' decisions regarding taking FX loans. According to results based on data from 1999 - 2008 there are a few factors like interest rate and exchange rate but also individual loan features connected with the type of interest rate or monetary regime in particular countries (Csajbok, Hudecz and Tamasi, 2010). Some authors also execute quantitative analysis to verify efficiency of supervisory actions which aim to limit FX risk and finally failure (Rosenberg & Tirpak, 2008). Other studies show that tightening rules for loans in a domestic currency may cause customers to switch to its substitution - FX loans (Brzoza-Brzezina, Chmielewski and Niedźwiedzińska, 2010).

After the literaturereview, the authors decided to verify previous results in view of increasing FXrisk in Europe after2008. In the article the FX loan problem is presented from a customer perspective which is a unique approach. The time period analysed starts at the moment the above-mentioned studies were completed. Analysis of an effectiveness of supervisory actions within reduction of FX loans is an added value of the article.The first supervisory actions were taken even before 2008 but without satisfactory results. Obvious benefits for borrowers and lenders caused that attempt to hinder the credit campaign which required more restricted actions. Additionally, a release of Swiss francs (CHF) by SNB on 15th of Jan.2015 caused an appreciation of its rate. Increase of the CHF exchange rate resulted in problems with long term housing debt servicing by borrowers. As a result, in some countries the FX problemdeveloped from a dilemma of supervisory bodies into a wide social – public debate. This article contains the analysis in four countries. In selecting those countries the authors would like to show the different features comparing to other EU countries. In Poland supervisory actions were taken at a quite early stage of portfolio development and were continued in subsequent years. Austria is an example where despite entering the euro area CHF loans were very popular. In Romania the loan market in domestic currency did not exist, FX loanswere mainly granted. Hungary deserves attention due to implementation of high cost programs that exceed standard actions.

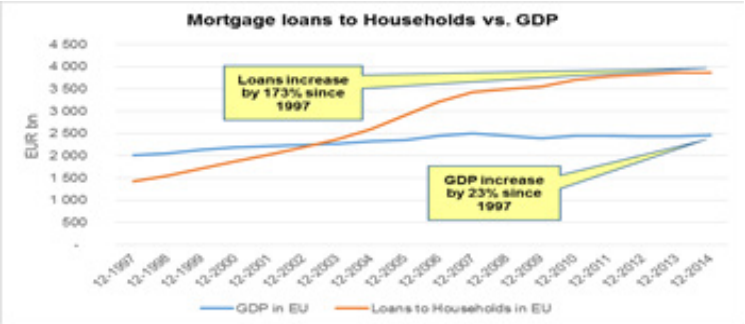
The article is dedicated mainly to supervisory actions dedicated to the demand side which is decisive in view of FX loan attractiveness for borrowers. The scope of analysis includes in particular 2007 - 2015, which is recognised as crucial by the authors to explain the essence of the problem.In this period supervisory bodies have taken prudential actions connected with FX loans.

Increase of FX loans in EU countries

A banking loan is perceived as one of the key factors stimulating economic growth. In the euro area (currently

1 For the purpose of the article the collapse of Lehman Brothers bank is treated as the beginning of the crisis.

Figure 1: GDP and housing loan growth in theeuro area countries



Source: Own estimations base on ECB data

19 countries) since the end of the 1990 along with the growth of Gross Domestic Product (GDP) the growth of loans to households is observed. The economic growth is connected with the increase of the supply in the property market and it carries development of housing loans.In the last 17 years GDP in the euro area increased by 23% and the portfolio of housing loans by 173% (Figure 1).

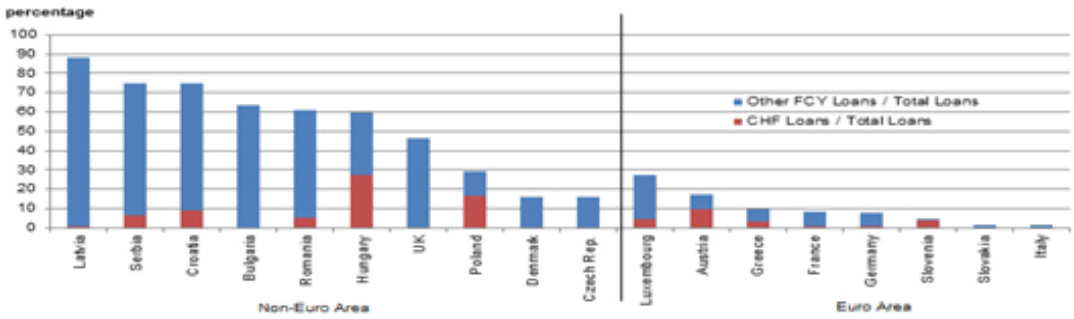
FX loans are not new products. They were offered in the early 1990s e.g. in the Nordic countries and in Italy (Rosenberg & Tirpak, 2008, p. 7). In so far as sustainable growth of loan volume is not perceived as a risk for the financial stability of the country, the growing share of FX loans give rise to many fears by supervisory bodies. Currently in non-euro areas FX loans can bear systemic risk (Yesin, 2013, p. 219). It is widely known that CHF loans bring the highest risk but Pinar Yesin argues that: 'Thus, other FX loans (probably to a large extent in euros) contribute to systemic risk far more than CHF loans in the non-euro area' (Yesin, 2013, p. 233). A significant share of FX loans, exceeding 50% of credit portfolios, in 2013 wasreported in Serbia, Croatia, Bulgaria, Romania and in Hungary. In Lithuania the share of FX loans reached almost 90%. Only two countries in the euro area noted a significant share of FX loans i.e. Luxemburg and Austria (Figure 2). The popularity of FX loans is why it is worthlooking at factors that influence their attractiveness from the borrowers' point of view.

Demand factors influence borrowers' decisions

Satisfaction of housing needs of households is financed mainly by long term banking loans. Households make a loan taking decision conditional on the possibility of repayment, whichmeans a monthly instalment[2]. The monthly instalment depends on inter alia: amount of a loan, tenor, interest rate, margin[3] and other additional costs[4]. FX housing loans are very popular because they arepotentially more attractive comparing to domestic currency loans. Their popularity is connected with the interest rate and exchange rate.

2 In the article we disregard credit rationing by banks. Final decision is taken by a bank based on credit capacity.
3 Margin level is not part of our analysis in the continuation of the article.
4 E.g. loan insurance, missing downpayment, bridge insurance until mortgage register, notary costs, etc.

Figure 2: FX loans as a percentage of total loans to the non-banking sector (2013:Q2)



Source: http://www.voxeu.org/article/foreign-currency-loans-and-systemic-risk-europe

FX housing interest rate[5]

In general loans interest rate is based on the interbank rate adequate for a currency and the bank's margin. Over the years significant differences are being observed between interest rates in some countries. For example, in Poland in II Q 2012the difference between 3M Warsaw Interbank Offered Rate (WIBOR) and 3M London Interbank Offered Rate (LIBOR) reached 5 p.p.It means that foreign interbank rates may increase attractiveness of FX loans. In Europe it refers to LIBORand Euro Interbank Offered Rate (EURIBOR).

Exchange rate

FX loans are treated as speculative. The speculation means taking a loan while expecting appreciation of FX. For a borrower a loan is the more attractive the higherthe exchange rate at the moment of taking the loan. In the case of depreciation, the monthly instalment becomes lower. Such a mechanism exists for floating exchange rates. In countries with constant or fixed exchange rates the impact of exchange rate differences on loan attractiveness in common opinion is negligible.Additional 'security' to limit CHF exchange rate volatility was the attempt to fix the CHF rate with the EUR rate by NSB in Sep. 2011. The parity was set for 1,20 CHF for EUR. It brought a conviction of consistency (to some extent) to the CHF rate. According to analysis the CHF is treated as a safe haven and is preferred by investors.Similar but weaker attributes are noted for theEUR (Ranaldo & Söderlind, 2007, p. 22).

Other factors

In the literatureit is indicated that the perspective of EU accession and euro area accession may influence the popularity of loans in EUR. Entering the euro area means elimination of FX risk. Such opinion is held by i.e. Levy Yeyti (as cited in Rosenberg & Tirpak, 2008, p. 9).Social factors also impact the demandfor FX loans. Not many analyseshave beenpublished on the issue. Results show that there are some features of borrowers which influence their loan preferences. Resultsare not consensual because some factors that occur in some countries are not proved in others. Higher education, wealth and risk acceptance (Beer, Ongena, Peter, 2010b, p. 2208)influence willingness to take FX loans in Austria but are not important inHungary(Pellenyi & Bilek, 2009, p. 3).Other analysis indicates that customers are more willing to take FX loans if they can count on help from the government in case of financial problems (Schneider & Tornell, 2004, p. 24). Expecting governmental help increases vulnerability to moral hazard (Kolozsi, Banai & Vannak, 2015, p. 65).

Increasing risk connected with FX housing loans

Taking an FX loan carries several risks which were not foreseen by borrowers. The main reason was lack of knowledge about related risks. Finally, factors that encourage FX loan attractiveness, failed in the long term. One of the problems faced by borrowers was releasing the CHF rate by NBS on 15th of Jan.2015. It caused problems with debt repayment. Monthly liability calculated based on the current rate in extreme cases was doubled.

So far existing parity of CHF for EUR was more difficult for central banks to maintain in view of quantitative easing planned by the ECB. The monetary policy easing started by ECB imposes pressure on a weakening EURrate (NBR, Analysis on CHF – denominated loans, Feb. 2015, p. 9). Consequently, NBS might require intervention to keep CHF rate at the parity defined level.

The release of the CHF rate was not the only event that influenced exchange rate increase. A floating exchange rate system does not allow borrowers to foreseethe future rate of any currency.Short term fluctuations are misleading. In fact, there are many macroeconomic or political factors that influence exchange rates. Lack of possibility of proper foresight of the future currency rate is essential for long term housing loans.

Also,constant or fixed exchange rates are not fully free of currency risk. In such countries it is possible to devalue the domestic currency because currency rate defence in case of pressure is costly for the economy. For example, in 2009 defence of the Lat by the Latvian Central Bank required taking a loan from the EU and the IMF in the amount of EUR 7,5 bn and execution of several strict reforms (Board Decision dated 20 of Jan. 2009 regarding granting medium term financial help for Lithuania, EU Official Journal,2009/290/WE). In the case of constant or fixed exchange rates slight fluctuations or the depreciation of currency may cause bigger disruptions than in case of

5 In practice interest rate for housing loans is based mainly on 3-month indexes.

floating exchange rates(Rosenberg & Tirpak, 2008, p. 8).

The exchange rate is not the only element that is unreliable while taking a loan. Another element is an interest rate and a mechanism of fixing it. Generally, interest rate for long term FX loans is based on interbank rates for relevant currencies. A change of index should carry the change of loan interest rate. This rule is not necessarilyapplicable. According to the European Systemic Risk Board (ESRB) the mechanism of pricing used by Hungarian banks allowed them to setinterest rates by themselves, ignoring changes of foreign interest rates. As a result,interest rates were raised regardless of decrease in interbank interest rates.

Necessity of supervisory reaction

Risk connected with FX loans in 2011 became the subject of analysis by ESRB. The following findings were formulated (ESRB Recommendations dated 21 of Sep. 2011 regarding FX loans, EU Official Journal, 2011/C 342/01, p. 1-2): (1) in EU countries there are more and more FX loans offered without hedge; (2) an over increased FX loan portfolio may raise systemic risk; (3) so far actions taken to limit FX risk did not work out as result of practising an arbitrage of regulations; (4) supervisory reaction is needed: (a) to limit credit and market risk, (b) to limit over increased FX lending, (c) to limit financing and liquidity risk, (d) to encourage better risk assessment, (e) to avoid omitting regulations; (5)to increase risk awareness among borrowers; (6) to increase resilience of the financial system by the verification of credit capacity also during the loan repayment period; (7) to implement anti-cyclical tools to limit credit booms; (8) to identify stress test situations and redefine rules of setting prices including an appropriate capital; (9) to limit risk related financing and liquidity; (10) to ensure rules related to FX loans in hosting countries are as strict as in domestic ones.

Based on the above findings ESRB formulated recommendations for EU countries.Central banks in fact have no tools to influence FX loans but deciding about monetary policy they influence interest rates for domestic currency loans[6] (Brzoza-Brzezina, Chmielewski, Niedźwiedzińska, 2010, p 19) due to the fact ESRB recommendations are implemented by supervisory bodies. Actions recommended refer to both demand and supply side. For the purpose of the article the authors selected those recommendations which directly influence customers (Table 1).

ESRBalso advised implementation of new or more strict rules than indicated in the Recommendation B in case of a credit boom. As a result, customers should meet higher requirements.

Domestic supervisory boards are obliged to implement ESRB recommendations.Some of them took appropriate actions just before the ESRB formulated recommendations. There are differentapproaches to limiting FX loan development across EU countries. Differences relate to tools used and impact on customers. In the following part of the article the authors analyse FX housing loan development and actions taken by supervisor agencies in the selected EU countries.

6 Different if the central bank is also the supervisory agency.

Table 1: Selected ESRB recommendations related to FX loans

ESRB Recommendation	Direct impact on customer
A – Risk awareness among borrowers Informing borrowers about FX risk. Information should be sufficient to take conscious and rational decisions and should clarify changes in monthly instalments after a strong depreciation and an increase of foreign interest rates. Encouraging banks to offer loans in the domestic currency and hedge instruments.	Increasing FX risk awareness. Minimising asymmetric information by increasing knowledge about banking products. Choosing a loan in domestic currency or using hedges.
B – Credit capacity Offering FX loans only to those customers who have appropriate credit capacity for loan repayment and who are resistant to FX volatility and interest rate changes. Applying more strict standards such as debt to income ratio (DTI) and loan to the collateral value ratio (LTV).	Necessity of fulfilling requirements regarding income level and value of collateral.

Source: Own summary base on EU Official Journal, ESRB Recommendations

Impact of supervisory actions in the selected EU countries

Poland

Favourable conditions for development of housing loans started after 1980 in Poland. At that time, inflation fell, and economic growth started along with an increase in household income. Some people migrated to big cities (Łaszek, Augustyniak & Olszewski, 2015, p. 3) and it involved property demand. Limit in property supply and growing loan accessibility resulted in property price increase. As presented in Figure 3 in IQ 2008 average property prices were higher by around 60% compared to 2006. At the same time housing loans increased by around 136% and 7 times in the whole period observed. The government program that allows financing the purchase of property with a government premium positively influenced demand. The first program 'Family on its own' (The Act dated 8 of Sep. 2006)started in Oct.2006. After it ended, another program started January 2014 called 'A flat for youngsters' (The Act dated 27 of Sep. 2013). Both programs were offered in PLN.

FX loan development was encouraged by regulations connected with free movement of capital and implementation of international organisation law. Membership in *Organization for Economic Co-operation and Development* (OECD) since Nov.1996 and in the EU since May 2004 contributed to liberalisation of rules of offering FX loans by banks. Also important was implementation of prudential rules recommended by the Basel Committee. These rules are not binding but significantly increase a country's credibility and thus rating.

A favourable regulatory environment resulted in significant increase of FX loan share in total housing loans since IQ 2007. The highest share of FX housing loans in total loans for households is observed in IQ 2009 in the amount of 71%. In Dec.2011 the value of these loans exceeded 5 times the value recorded in IQ 2006. The dominant currency is CHF in the amount of a more than 90% share in FX housing loans. The interest rate is based on the LIBOR rate.

The low level of the LIBOR rate in comparison with the WIBOR rate influences an increasing attractiveness of FX housing loans in Poland. In the period observed the difference between LIBORand WIBOR rates was min, max <1,94; 5,04>. Also, the CHF/PLN rate influences customers' decision to take the FX loan. Until the start of the financial crisis in September2008 the CHF rate did not exceed 3 PLN. Starting from 2009 it reached on average 3,34 PLN, min, max <2,69; 3,98> (Figure 4). Taking an FX housing loan while the CHF rate is relatively high borrowers expected a possible CHF rate decrease leading to lower monthly payments.

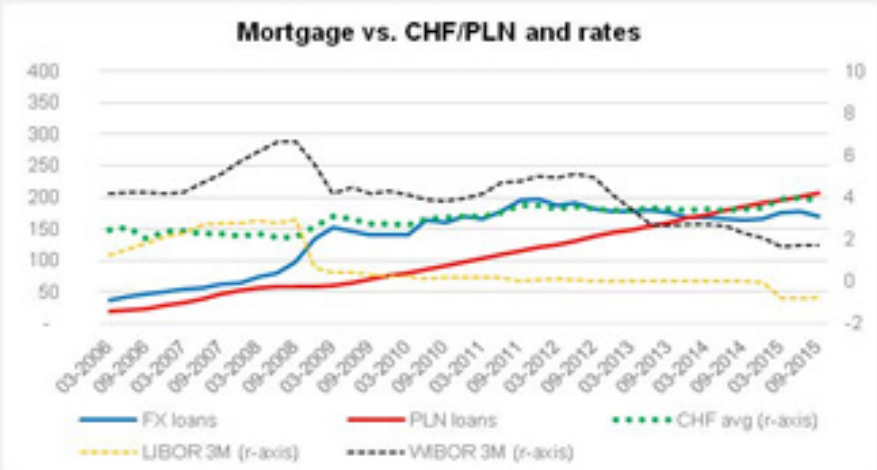
Figure 3: Comparison of FX and PLN mortgage loans in Poland

Note: Property prices avgmeans average transactional prices for the primary market calculated for the 17 biggest cities in Poland[1], FSA means actions taken by the local Supervision Authority.

Source: Own calculations based on FSA and NBP data

1 Białystok, Bydgoszcz, Gdańsk, Gdynia, Katowice, Kielce, Kraków, Lublin, Łódź, Olsztyn, Opole, Poznań, Rzeszów, Szczecin, Warszawa, Wrocław, Zielona Góra.

Figure 4: Comparison of FX and PLN mortgage loans vs. CHF/PLN and rates



Source: Own calculations base on FSA, NBP data and http://www.bankier.pl

Due to the growing FX housing loan portfolio and FX risk the related Polish Supervision Committee (KNF) worked out recommendations implemented by banks since July 2006.

Best practices for FX housing loans are described in Recommendation S and T. The most important items from a customer's point of view are presented in the table below (Table 2).

The first recommendation (1) means offering FX loans to customers with higher income (salary). Such customers may easily apply for a loan in PLN, but they prefer FX loans due to low costs of servicing.The aim of the second recommendation(2) was to increase FX risk awareness.The next recommendation (3) allows customers to repayingFX loansusing FX. As result banks were deprived of spread revenue and thus monthly payments were slightly lower. Another action (4) implemented standardisation of credit

Table 2: List of recommendations related to FX loans

Recommendation - date of implementation - description	Consequences for a customer
1. Recommendation S - July 2006 Bank should analyse a customer's credit capacity assuming that the interest rate for an FX loan equals the interest rate for a PLN loan and the capital is higher by 20%.	Higher income/ credit capacity is necessary to get an FX loan.
2. Recommendation S - July 2006 Bank should offer loans in PLN. Bank may offer loans in FX after having a customer's consent confirming his FX risk awareness. Bank should inform customers about additional costs of negative FX changes.	Increasing customers' awareness about FX risk.
3. Recommendation S - July 2009 Base on a customer request a bank should change the way of loan repayment and allow repayment using FX.	Customers have rights to buy FX at more favourable rates to repay loans.
4. Recommendation T - January 2011 (…) max. DTI ratio should not be higher than 50% in the case of customers having net income not higher than an average income in the economy and 65% for others.	Limitation max. amount of a loan, preventing customers from over indebtness and arbitrage among banks.
5. Recommendation S - January 2012 In the case of FX housing loans max. DTI should not be higher than 42%.	Further limitation of max. amount and offering loans in PLN.
6. Recommendation S - July 2014 Bank should eliminate FX risk by offering loans in the same currency as customer's salary. Cancelation of regulatory DTI and allowing banks to decide the appropriate level as a part of risk management.	Lack of possibility to get a loan in FX when one earns money in PLN.

Source: Own summary based on KNF recommendations

capacity calculation. Customers with a similar amount of salary should get a similar amount of loan and finally other features of loan offersare taken before decision like credit for other costs (e.g. notary), a property appraisal free of charge, or special offer for a margin. Further limitation in the amount of FX housing loans available (5) might shift some customers into the offer in PLN due to the higher amount of loan available. This recommendationlimited significantly FX portfolio growth. The last action (6) finally stopped FX loans. Since mid-2014only those who earn in FX may get a loan in the same currency.

KNF took appropriate actions in 2006, which is 5 years before ESRB issued its recommendations (Sep. 2011). KNF recommendations were connected with the current situation on the loan market. At the beginning it was not developed enough and its participants (households mainly)were not aware of FX risk. Low interest rate was the argument to choose the FX loan without an appropriate hedge against volatility of a currency.

Actions taken by KNF in that time led to the offering of FX loans for affluent customers and did not limit FX portfolio growth (Figure 3). Finally, actions taken in 2011 and 2012 limited the portfolio growth because new requirements were more difficult for customers meet. The last recommendationstopped FX loans definitively if a customer earns money in a different currency.Despite the fact that KNF actions were effective, there are serious problem with those customers who took loans with relatively low CHF rates. Especially after the CHF rate release monthly paymentseven increased double-fold. Also, LTV is higher, and it means that a loan will not be repaid after selling a property. In response the government tried to help.

The first project of the act regarding FX housing loans was submitted to the parliament in July2015. It related to diminishing the differencebetween capital remaining for repayment and the potential capital in PLN. Another proposal was submitted by the president. The project assumed that banks pay back spreads to customers and gives the possibility of loan restructuring. Finally, another project is under discussion but until finishing the article it was not yet finalized.

Austria

In Austria the Euro was adopted in 1999. Nevertheless,the most popular currency is CHF. Development of FX loans started after 1990 in Vorarlberg region which had an economic cooperation with Switzerland. People living there used to work in Switzerland and earn inCHF.For those borrowers, loans in CHF are not FX loans. Since 1995 the popularity of CHF loans started to spread (Waschiczek, 2002, p. 83).

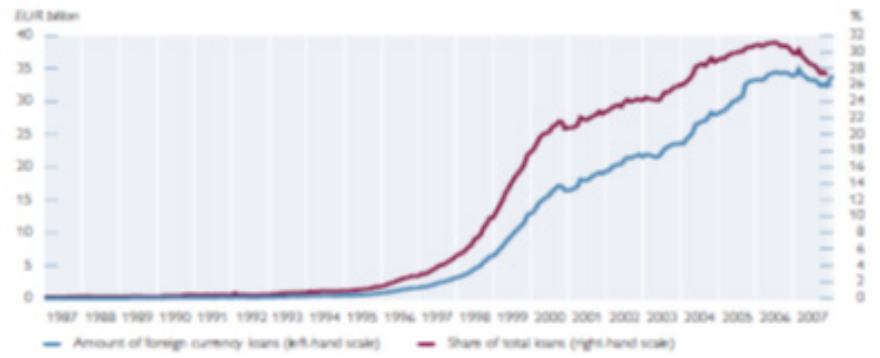
One of the main reasons of FX loandevelopmentis 'herd behaviour' connected with taking FX loans.Also, stability of the exchange rate contributed to the popularity of FX loan increase. The financial policy exchange rate was stable for about 20 years (Epstein & Tzanninis, 2005, p. 7).Until mid-2002 the share of FX loans reached 50% in Vorarlberg and Tyrol, and 24,1% in the whole country (Waschiczek, 2002, p. 83).During one decade (1996 – 2006) the value of FX loans increased up to around bn EUR 40 (Figure 5). A significant part of FX loans are housing loans. In December 2008 their share exceeded 70% and the value reached bn EU 27. In the period analysed since IQ 2006 till IIIQ 2015 FX housing loans increased around twice (Figure 6). In October 2008 the offer ofFX loans for households wasdiscontinued.

Historically a stable currency rate supported an increase of FX housing loans. Since 2006 till the end of 2008 the CHF/EUR rate was on average 1,6 CHF, min, max <1,54; 1,66> (Figure 7).

Interest rate level seems not to be a decisive factor in a borrower's decision to choosean FX loan. LIBOR level significantly decreased just after 2009 when FX loans were no longer offered. Nevertheless, till the end of 2008 the LIBOR rate was lower than EURIBOR (Figure 7).

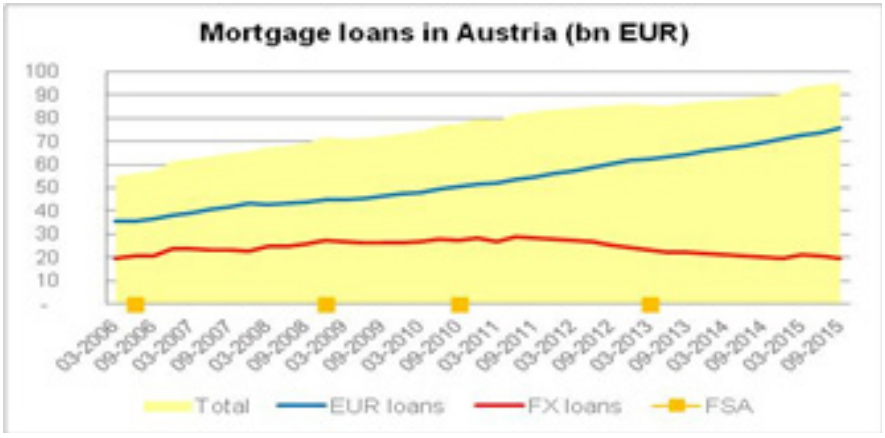
FX risk in Austria is connected not only with currency rate volatility and interest rate but also a loan as a product itself.In June2007 over 70% of FX loans for households were balloons connected with a repayment vehicle (investment funds or life insurance policy). The program was obligatory for long term loans, with tenor of over 10 years (Waschiczek, 2002, p. 86). Only 5% of such loans were in EUR (Beer, Ongena, Peter 2010b, p. 2202). A mechanism of the balloon loan was that a borrower was paying interest monthly andcapital at the loan maturity. Moreover, the borrower was paying premiums on the repayment vehicle and using money from this programmay repay the balloon part of the loan in the future (Waschiczek, 2002, p. 86). According to the loan agreement the bank had the right to change the loan currency from FX to domestic without the borrower's consent.The aim of the combination of the loan with the repayment vehicle was to secure FX and interest rate risk

Figure 5: Loans to Austrian households in FX currency (1987-2007)



Source: Oesterreichische Nationalbank (OeNB), Financial Stability Report 16, p.109

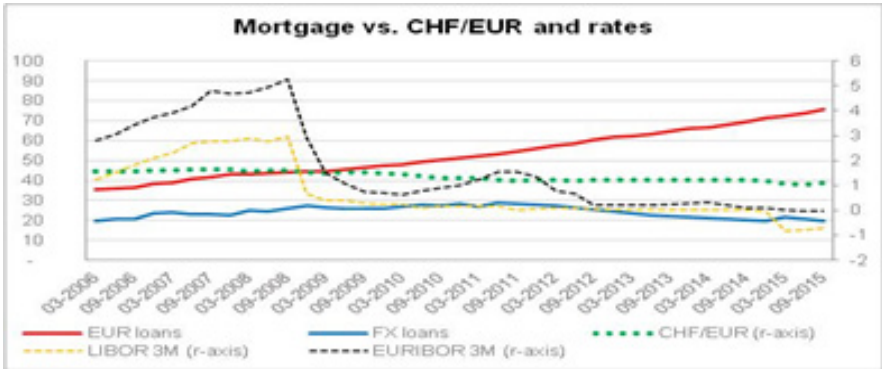
Figure 6: Comparison of FX and EUR mortgage loans in Austria



Note: FSA means actions taken by the local Supervision Authority

Source: Own estimations base on OeNB data

Figure 7: Comparison of FX and EUR mortgage loans vs. CHF/EUR and rates



Source: Own estimations based on the OeNB data and http://www.bankier.pl

but in fact risk was higher. In the case of negative changes in the financial market, those instruments did not bring profits assumed andthereby increased risk of lack of full repayment of the balloon part of the loan.

In reaction tothe increased FX risk the local supervisor Austrian Financial Market Authority (FMA) published guidelines regarding best practices in relations with customers and also rules of proceeding with FX portfolios and the risk related. The first recommendations regarding FX loans were taken by FMAin October2003 (Min. Standards for Granting and Managing FX Loans). Main activities having an impact on customers are the following: (1) requirements of sufficient income or assets enabling repaying a loan in case of increasing of FX rate; (2) requirements of collateral whichvalue is higher to cover increased FX rate.

In June2006 FMA together with the central bank informed financial institutions about risk connected with FX loans: interest rate volatility, exchange rate volatility, repayment vehicle and otherunexpected costs. This material aimed to increase risk awareness.

Risk related with FX loans increased during the financial crisis. 10th of Sept.2008 FMA recommended banks stop offering FX loans to households (FX Loans and Loans with Repayment Vehicles, FMA, 2008). Another guideline tightening to daterequirements were published in March2010 (Extension of the FMA Min. Standards for Granting and Managing FX Loans and Loans with Repayment Vehicles): FX loans are not appropriate for mass customers and an assessment should be done on the individual basis. Guidelines allow offering FX loans only to customers: (1) having salary in the same currency as the loan; (2) affluent - high net worth individuals – with a very good rating. Moreover, offering loans with balloon repayment linked with repayment vehicles is forbidden.

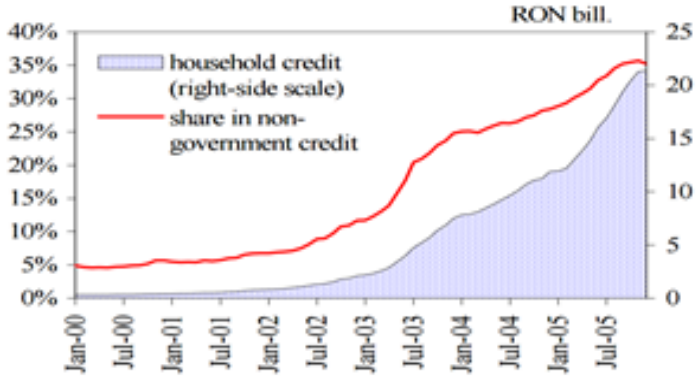
The bank should offer an alternative currency for existing customers but a decision to change the currency should be taken by the customer.The last update of standards for FX loans took place in January 2013 (Min. Standards for the Risk Management and Granting of FX Loans and Loans with Repayment Vehicles, FMA, 2013). It considered ESRB recommendations mainly (see Table 1).

Banks were obliged to: (1) present written information about a product's features and risks; (2) inform about the necessity of full loan repayment even if the repayment does not bring the return expected; (3) offer loans in the domestic currency before granting an FX loan. Activities taken by FMA started in 2003. In this period Austria had a long experience in offering FX loans. The changing macro environment and increasing FX risk forced FMA to tighten activities in the following years. Generally, since the end of 2008 FX loans are not offered and its share in loan portfolios is decreasing (Figure 6).

Romania

Increasing value of loans for households started just after 2000 (Figure 8).Earlier the economy and low development of the banking sector were not favourable. The transformation started 10 years later than in Hungary. An intensive economic growth started inmid-2001along with a dropin inflation. Also, macro conditions improved. The EU perspective attracted inflow of foreign capital which enabled banks to fulfil increasing demand for loans. Around 10% of people used to work abroad earning FX, mainly EUR, and sent money home to families. Due to salary increases credit capacity improved and this allowedhouseholds to take loans (Duenwald, Gueorguiev,

Figure 8: Credit to households in Romania (bn RON)



Source: Financial stability report, National Bank of Romania 2006, p. 37

Schaechter, 2005, p. 6). A credit boom took place in the period 2003 - 2005 (Duenwald et al., 2005, p. 3) when the value of loans for households increased from around 5 bn leu (RON) to above 20 bn RON (Figure 8).

Development of the banking sector was preceded by restructuring. This process started at the end of 1990 when the *Banca Comerciala Romana* took over the retail part from the central bank.In this period commercial banks and branches of foreign banks started activities. Over the years 1991-1998 the number of credit institutions tripled. Romania also recorded considerable progress in regulations and supervisory actions executed by the NBR (Financial stability report, NBR, 2006, p. 49).

FX loans for householdsin 2007 – end of 2013 increased more than 5 times and in the peak exceeded 37 bn RON. It is typical for the Romanian market that till the end of 2013 the share of loans in domestic currency did not exceed7% of housing loans for households' average. The *Prima Casa Programme* contributed to development of FX loans. This government initiativewas directed to people who did not have a flat or a housing loan. Over the years 2009 - 2013 almost 100 thousand guarantees were concluded in the amount of 4 bn EUR. These loans consisted of about 90% of total loans granted by banks (Bucharest Area Residential MarketView, CBRE Global Research and Consulting, 2013, p. 3).

Low EURIBOR rateis closely correlated with the attractiveness of FX loans. The difference between interest rates in EUR and in RON reached 13,14 ppin IQ 2009 and min. 1,36 ppreached in II Q 2015 (Figure 10). It was the highest difference in the analysed period across countries mentioned in the article.

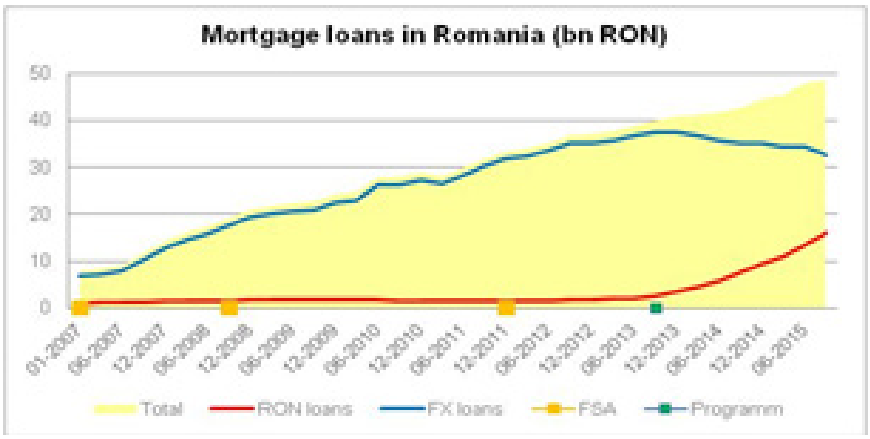
In Romania the directed floating exchange rate is in force (Zbierzchowska, 2010 p. 42). It means that NBR may influence exchange rate by FX interventions. Its role is to maintain the long-term trend of FX rates whose target value is defined. Decisions about FX interventions are taken by the central bank independently. This tool is used in practice, it was described in international press like the Financial Times (Ross, 2012).

Despite eliminating the negative FX rate by NBR, significant increase of the EUR/RON rate took place in the period 2007till the end of IQ 2009. In this period the rate reached an average 3,61, min, max <3,22; 4,28>. Since IIQ 2009till the end of IIIQ 2015 stabilisation of the FX rate was observed – average value was 3,36 and min, max <4,09; 4,50> (Figure 10).Taking housing loans at the relatively high EUR rate borrowers expected lowering rates. Expected EU accession (in 2007) was an additional reason increasing the popularity of loans in EUR.

Due to increasing FX loans and risk connected to it, the first Supervisory actions were taken by NBR in February 2004. Their aim was to counteract households over-indebtness by implementing max. DTI - 35% for housing loans and 30% for consumer loans. Additionally, a new limit was implemented fixing a max. LTV at the level of 75%.

A progressive credit boom caused further supervisory actions. In August 2005 requirement for total DTI was tightened at the level of 40% and in September2005 the supervisory agency limited total FX exposure in credit institutions to up to 300% oftheir own funds. In Ocober 2006 there was subsequent tightening of DTI – fees and other costs were included in DTI calculation.

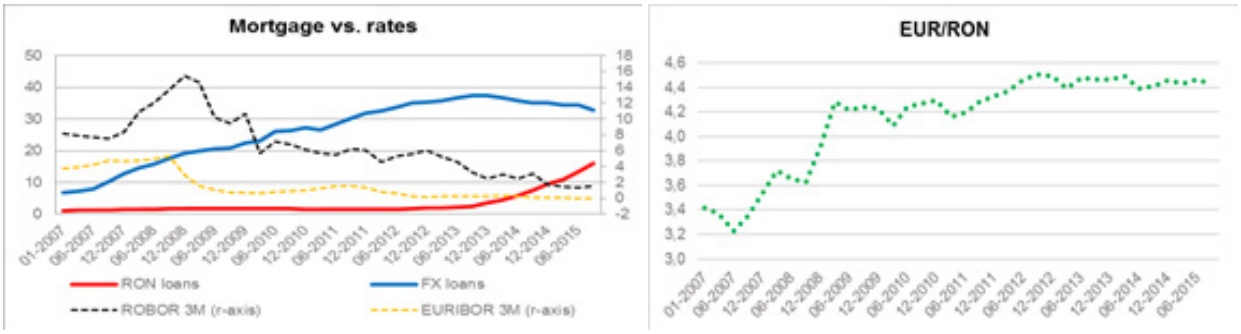
Figure 9: Comparison of FX and RON mortgage loans vs. rates



Note: Programme indicates significant changes in the Prima Casa Programme

Source: Own estimations base the Banca Nationala A Romaniei data

Figure 10: Comparison of FX and RON mortgage loans vs. rates and EUR/RON



Source: Own estimations base the NBR data and http://www.bankier.pl

After accession to the EU in 2007,the supervisory agencyadjusted local regulations to European ones and part ofthe earlier tightening rules were eased. In March2007 DTI and LTV were cancelled and banks were authorised to decide about its levels. It was in line with the EU approach promoting a self-regulation model (Analysis on CHF-denominated loans, NBR, 2015, p. 25). The financial crisis contributed to implementing in August 2008 higher requirements for credit capacity.After ESRB recommendations further FX risk tightening took place and in Ocober2011LTV limits were restored: (1) 85% for FX loans, (2) 80% for FX loans,no FX hedge, (3) 75% for loans in EUR,no FX hedge, (4) 60% for loans in other currencies, no FX hedge (Neagu, Tatarici &Mihai, 2015, p. 27 – 30).Tightening FX credit rules in 2011did not bring spectacular effects (Figure 9).Also, higher requirements regarding provisioning for FX loans comparing to loans in the domestic currency were not effective (Brown, Ongena &Yeşin, 2010, p.1).Changing conditions in *Prima Casa Programme* in Aug. 2013 contributed to a slower loan increase. Since then loans were offered only in RON. Interest rate for loans in a domestic currency was higher by 1,5 – 2 ppthan for loans in EUR.The BNR decision regarding interest rate decrease enhanced loans in the domestic currency (Dina, 2014, p. 1). Despite supervisory actions tightening credit rules, loans in EUR were increasing till the end of IIIQ 2013. This tendency was changed after changing conditions in the *Prima Casa Programme*. It was the first time in the considered period when loans in RON started to rise.

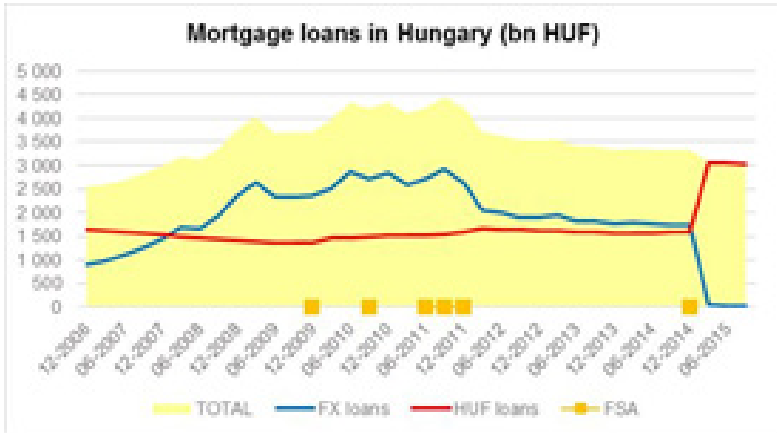
Hungary

The banking system started in 1948 whenthe MNBhad a monopolyfor monetisation and all credit functions. Despite the centralisation of monetary functions MNBpossibilities regarding offering loans were limited to business entities. Reform of the banking system started in the early 1980s, at the moment of foreign banks entered Hungary and started operational activity. In 1987 the five biggest national banks possessed more than 90% of loans, deposits and international transactions. In this period competition did not exist because commercial banks specialised in particular sectors of the economy. Finally, in the 1990sthe banking sector was privatised (Hasan & Marton, 2000, p. 6 – 10). Since then FX loans were available but their development started just after 2005 (Sepsi & Fenyves, 2014, p. 17). It is worth mentioning that informing customers about FX loans was implemented already in January 1997 in the Act CXII of 1996 (Brief outline of the regulation concerning FX lending in Hungary, ESRB, 2013, p. 2). Membership in the OECD (1996) and in the EU (2004) enabled favourable conditions for FX loan development, as it did in Poland.

In the period analysed FX loans for households reached the highest value around 3 bn forint (HUF). It's interesting for the Hungarian market that at the end of IIIQ 2015 total value of housing loans was slightly higher than before the financial crisis. Till the beginning of 2015 loans in HUF were stable (Figure 11).

A willingness to take FX loan resulted among other factors from the stable HUF/EUR rate. Its level (+/- 15%) was protected by the MNBfrom 2003till 2008 when it resigned from the double monetary policy target.After 2008 the MNB subordinated the interest rate policy to the stability of exchange rates which increased volatility of interest rates and supported exchange rate stability (Kolozsiet al., 2015, p. 65). The perspective of EU accession and actions taken in the period of 2006- 2007 with aim to enter the euro area foster taking FX loans.In the period analysed till releasing the CHF rate by SNBCHF/HUF rate significantly increased by 65% andthe average reached 209,13 HUF, min, max <150,28; 298,72> (Figure 12).

Figure 11: Comparison of FX and HUF mortgage loans in Hungary



Source: Own estimations base theMNB data and http://www.bankier.pl

Over-indebtness of households was identified just before the financial crisis. Starting with 2000till 2003 this phenomenon was caused by theprogram of funding housing loans. FX loans were popular in the subsequent period 2004 –2008 (Balas, 2013, p.23).An additional factor increasing FX risk were free decisions of defining interest rates by banks. Full freedom existed till 2011 when the first 'Transparent Pricing'tightening rules were introduced.The fixed rate was maintained in the long-term despite decreasing interbank rates which was a positive change for customers (Łaszek et al., 2015, p. 10). Keeping a high interest rate and depreciation of domestic currency deepened customers' difficult financial situation in making increasing monthly repayments. As result, the quality of loan portfolios worsened, and non-performingloans reached a24% share. Finally,supervision actions were taken. Changes were implemented by the Hungarian Financial Supervisory Authority till the end of September2013 and the MNB after taking over the supervision.

In December2009rules regarding FX loans were tightened. According to the Government Decree on Prudent Lending 361/2009 FX loans may be offered only to customers with a stable income in the same currency, with salary amount not lower than 15 times of the min. salary. Moreover, the following rules were implemented: (1) 80% DTIfor loans in EUR and 60% for other currencies. Details of rules for DTI calculations were not defined and thus banks had the possibility of their interpretation; (2) LTV was fixed at the level of 75% for housing loans in HUF, 60% for loans in EURand 50% for other currencies (Report on Financial Stability, MNB, Apr. 2011, p. 39-40).

In August2010 offering FX housing loans was prohibited[7]. However, in May 2011 the ban was relaxed, and FX loans could be offeredto customers with a stable income in the currency of the loan, with salary amount not lower than 15 times of the min. salary. The total banning of FX loans was not in line with EU regulations. To improve interbank information about customers and their debt, a credit bureau was established in September2011

7 Act XC on the creation and amendment of certain laws on economic and financial issues.

Figure 12: Comparison of FX and HUF mortgage loans vs. rates and exchange rates

Source: Own estimations based on the MNB data

(Mero & Piroska, 2015, p. 14). At the same time the Early Repayment Scheme (ERS) was announced.It enabled an early repayment of the total FX housing loan at the fixed preferential rate: HUF/CHF 180, HUF/EUR 250 and HUF/JPY 2. The difference between the rates was a banking loss. Offering the program to customers who were able to repay the whole loan was the significant limitation of the program; partial repayment was not possible (Balogh, Gereben, Karvalits, Pulai, 2013, p. 159). The program was more popular than expected.1,35 bn HUF was repaid which was 24,1% of existing loans and 170 thousand of terminated agreements. The program was finished in February2012 (Report on Financial Stability, MNB, Apr. 2011, p. 34).

As a result of the cooperation between the government and the Hungarian Banks Associationthe Exchange Rate Cap Scheme (ERCS) was issued in Dec. 2011. The aim of the program was to solve problems of borrowers having FX loans.In the case of customers with small delays in repayment the program allowed loan repayment for 5 years based on an exchange rate cap scheme: HUF/CHF 180, HUF/EUR 250, HUF/JPY 2,5. The loan repayment was connected with saving part of the payment which was the difference between the fixed rate and market rate on the special account in HUF with preferential interest. After 5 years the borrower was repaying capital and interests were paid half by the borrower and by the government. The program was addressed to customers having loans in an amount not higher than 20 mio HUF and did not use the ERS. The program was not popular because it was too complicated and the preferential loans in HUF wereperceived as an additional obligation.Even offering the program to all customers without limitations since September2012 did not improve the situation and finally use of the program was lower than expected by MNB. In the case of non-performing loans in the amount of at least 78 thousand HUF since 15th of May 2012 customers may apply for FX conversion into HUF at the average MNB rate calculated in the period of 15 May – 15 Jun. 2012 (i.e.HUF/CHF 248,5, HUF/EUR 298,6 and HUF/JPY 2,99). The bank wrote down25% of the debt after the conversion into HUF and part of the losses could diminish tax obligations. The property value could not exceed 20 mio HUF and the written down part of the loan did not in fact reduce the debt because of the high interest rate of the loan in HUF. Only a few people could benefit from the program due to high requirements.The ERCS was inefficient and its use was respectively 15,9% for customers with small delays and 17,5% for nonperforming loans.

The National Asset Management Agency was established by the government to help borrowers. Its role was buying property at30 – 55% of their value and renting them to those customers. In this way customers did not lose homes (Sepsi & Fenyves, 2014, p. 18).

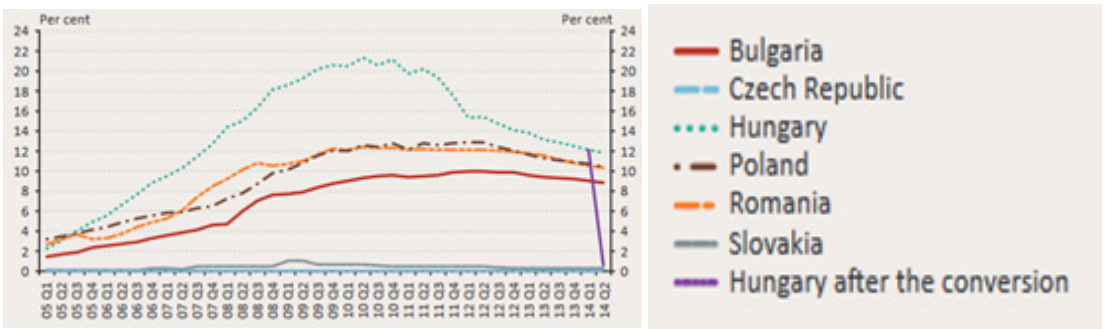
In November2014 the government implemented the 'Fair Banking System' rules being a widening of the'Transparent Pricing' dated 2011. These rules related to methods of establishing pricing in an objective way and providing information for customers[8]. In this way banks were encouraged to establish an interest rate base on a reference rate.

Finally, in November 2014 MNBtook a decision about an obligatory currency conversion into HUF. Loans were converted in January2015. The defined conversion rate dated 7th of Nov. 2014 was applied given: 256 HUF/CHF and 309 HUF/EUR (Gdy się chce, to można! Węgrzy spłacają już kredyty po sztywnym kursie franka, 2015). Customers having loans in CHF avoided results of HUFdepreciation which happened after the CHF released.

The conversion related to around500 thousand

8 Act CXLVIII of 2011 on Transparent Pricing

Figure 13: FX Loans for Households as a percentage of GDP–comparison



Source: Achievements of the MNB 2013-2015, p. 30

credit agreements.As result the value of FX loans for households decreased to 303 bnHUF which was below 5% of the total loan portfolio reaching 6,210 bn HUF (Trends in lending, MNB, Jun. 2015). Finally, one of the biggest FX loan exposures in Europe dropped from 14% GDP to 1% GDP (Figure 13). In Hungary the cost of the process was around 1,5 bnHUF which is around 20 bn PLN (Węgry leczą kaca po franku. Przewalutowanie kredytów kosztuje 5 proc. PKB, 2015).

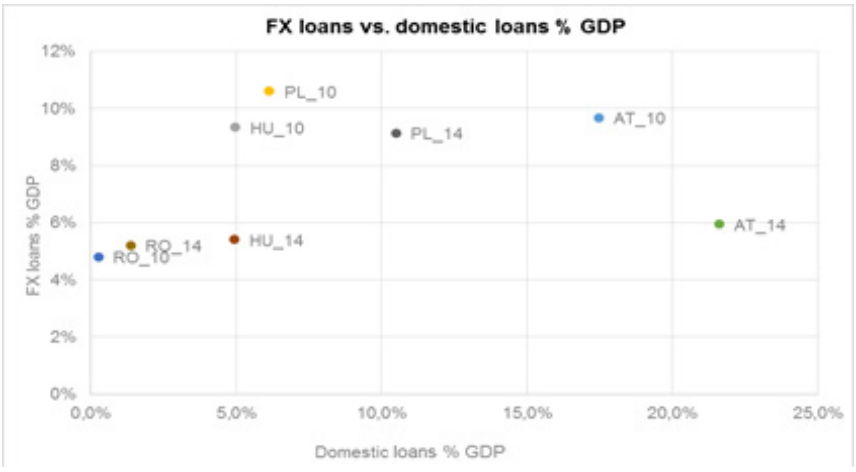
The last decisions influencing FX loans were taken by the central bank as macro prudential tools in January2015. The MNB establisheda Payment-To-Income (PTI) level for borrowers with monthly income below 400 thousand HUF at the level of: 50% for HUF, 25% for EURand 10% or other currencies. For borrowers earning above 400 thousand HUF it is 60%, 30% and 15% respectively. Moreover, the LTV level was established at the level of 80% for housing loans in HUF, 50% in EUR and35% in case of other currencies (Report on Financial Stability, MNB, Nov. 2014). Supervisory actions taken in Hungary should be assessed as efficient but costly. Programs dedicated to solving the significant increase of FX loans exceeded standard rules. The most radical action taken in 2015 solved the FX loan problem definitively. So far, no other country has taken such a decision.

Conclusions

FX loans for years were very attractive in Europe. Without doubt lower monthly repayments comparing to loans in a domestic currency increased their popularity. A comparable analysis of action taken by the supervisor agenciesin Poland, Austria, Romania and in Hungary shows that these actions were largely effective in limitation of FX housing loan value in the economy.The highest decrease of FX loan share in relation to GDP over the years 2010 – 2014 was recorded in Hungary. The share dropped around 42,2%. Another country which presents high efficiency in this respect is Austria (38,6%) followed by Poland (13,9%). In Romania FX loan share in relation to GDP did not decrease (it even increased by 8,4%) but the relation of loans in domestic currency to GDP increased significantly in this country (above 400,8%). Such increase resulted from the fact that the housing loan market in the domestic currency did not exist till 2014.Loan development in the domestic currency started along with the Prima Casa Programme. Poland is the second country with loans in the domestic currency increase reaching 70,7%, followed by Austria 23,6 %. Hungary is the only country where a small drop in this relation was recorded by -0,5% (Figure 14).

An increase of loans in the domestic currency as a result of tightening rules for FX loans is in line with the theory of loan substitution. This tendency, visible mainly in Poland, Austria and Romania is convergent with studies executed by Brzoza – Brzezina, Chmielewski, Niedźwiedzińska (2010). In the case of Hungary, a decision about currency conversion was taken from above that's why we cannot treat it as a voluntary substitution. The countries analysed implemented ESRB recommendations. Some of them had taken appropriate actions earlier. After the supervisory actions the attractiveness of FX loans decreased. Additional requirements for customers caused

Figure 14: FX loans and domestic loans as % of GDP



Source: Own calculations based on Eurostat andEBC data

a lack of possibility to take FX loans.

As presented in the article non-standard actions taken in Hungary were most effective. Its implementation was costly. It also required a close cooperation at the government and the supervisory levels. Significant impact on FX loan limitations in Romania brought modifications in the program supporting people buying a flat on preferential conditions. The change of loan currency to domestic initiated development of those loans. In Poland and in Austria the implemented requirements of a consistency of income and loan currency stopped FX loans in practice.

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