

# Bad product development results in systemic market failure – Foreign currency mortgage loans to Hungarian households\*

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*This article focuses on the supply side of household foreign currency mortgage loans in Hungary, on the relevant business policy aspects as well as on product development and management in a wider sense. It presents how the various risk types of this risky, long-term loan product were shifted to consumers by credit institutions. The long-term success of shifting these risks was actually prevented by its systemic aspect. The major long-term business policy mistakes are classified according to ten main features. Foreign currency lending to households in Hungary is a case study presenting that the completely laissez faire, laissez passer approach to household lending from both consumer protection and prudential points of view can lead to a systemic failure; market self-regulation does not work perfectly in the credit markets. It is difficult and time-consuming to subsequently remedy a systemic risk problem. Remedying the past problems and establishing the overall conditions for new fair lending is expected to be completed in 2015.*

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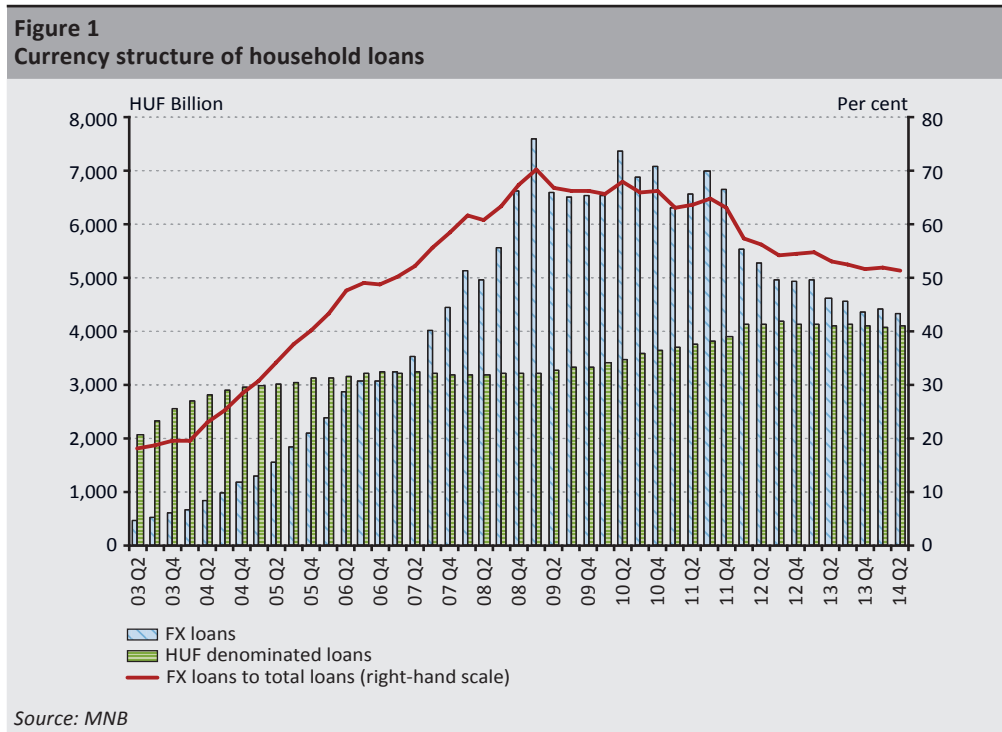
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# 1 Introduction

The anomalies of foreign currency lending in respect of consumer protection and its macroprudential consequences are presented through the features of the foreign currency mortgage loan, which is the most complex product among household FX loan products.<sup>1</sup> This gives a clearer explanation why household over-indebtedness<sup>2</sup>— mainly in foreign currency – became a major social problem after 2008. In mid-2014, in spite of earlier government measures, more than 50% of Hungarian household loans (HUF 4,300 billion, approx. EUR 14 billion) was still denominated in foreign currency. More than three quarters of FX loans were mortgage loans. The slow decline in these portfolios is attributable to the exchange rate effect, the slow pick-up in new forint lending as well as the high base effect.

Previous analyses have already presented the domestic and international factors of the evolution of this phenomenon (See, for example: *Bethlendi, 2011; Csajbók et al., 2010; Bethlendi et al., 2005*).



1 We do not make a distinction between FX loans and FX-denominated loans, because from a consumer’s point of view they often seem to be the same. FX loans mean all loans kept on record in foreign exchange.

2 It is deemed “over-indebtedness” due to its following characteristics (Bethlendi, 2009a). Firstly, households’ repayment burden was considered high in international comparison already prior to the outbreak of the crisis. Banks extended loans even with high payment-to-income ratios, if they took this indicator into account at all, as described later. Secondly, unlike in developed countries, a significant portion of households did not have any financial savings at all.

This article focuses on the business policy aspects of the supply side as well as on product development and management in a wider sense. It presents how the risk of this long-term loan product was shifted to consumers by credit institutions. The long-term success of shifting these risks was actually prevented by the increased credit risks stemming from the shifting itself and its systemic risk. In view of the extremely wide negative social effects of foreign currency lending, which resulted in a strong deterioration of the confidence in the financial intermediary system, economic policy also forced back a considerable portion of the costs of the risks into the banking sector. In the period when foreign currency household lending was expanding, decision-makers at regulatory and supervisory authorities were characterised by a completely *laissez faire, laissez passer* approach. Unlike in other countries of the region, practically no steps – neither from a prudential, nor from a consumer protection aspect – were taken to mitigate this phenomenon.<sup>3</sup> (For more details regarding the institutional deficiencies leading to this phenomenon and the regional comparison, see *Bethlendi et al., 2014* and *Bethlendi, 2011*.) Consequently, creditors enjoyed practically complete freedom in their product development and business policy. At the same time, our objective is to present the major long-term business policy mistakes, classified according to ten main features. However, the consequences reveal that foreign currency lending to households in Hungary can also be considered a case study demonstrating that household lending may result in a systemic failure and market self-regulation does not work.

## 2 Exclusively volume based, fast growth business plans

Significant structural changes have been observed in the household credit market in the past two decades. In Hungary, following the political transformation, until the end of the 1990s, banks considered lending to large companies as their main market. The household credit market was characterised by weak credit supply and a very low level of competition. From a very low base, household credit supply and thus the relevant portfolio started to grow in the 1998–1999 period. One of the underlying reasons was that with the saturation of the large corporations market and a decline in the available profitability, banks turned to household services, which were riskier and required more capital, but at the same time were expected to provide higher profitability. Due to the higher infrastructural costs of lending to households (branch network, IT, personnel, etc.), banks were under a kind of compulsion to increase volumes in order to attain proper returns, which entailed rapid

<sup>3</sup> This is also interesting because the credit institution sector is traditionally a strongly regulated industry. In the specific Hungarian case, prudential regulation failed to take account of the additional risks of foreign currency denominated mortgage loans stemming from the increase in loans outstanding. It deemed these loans low-risk ones, similarly to subsidised loans denominated in Hungarian currency. Moreover, there was also no consumer protection rule in place to limit this phenomenon.

strengthening in supply competition. The compulsion to increase volumes was very high in Hungary, as lending started from a very low base, and the achievement of a proper level of economies of scale required significant expansion. Simultaneously with that, a considerable expansion in household lending took place in developed countries (in the markets of parent banks) as well, serving as a kind of benchmark for the expansion of affiliate banks. EU accession also triggered some euphoria; money almost did not matter in foreign investors' investments in the CEE financial sector. Financial institutions were priced with very high growth prospects, and local management subsequently had to comply with.

*One of the main problems was that only the short-term volume growth targets were included in bank managers' bonus schemes; risk aspects (risk costs) of products were neglected (Feature 1).*

The performance of bank managers was usually compared to competitors. As a result, the wide spreading of loose lending conditions was enhanced by the rational, so-called 'rational herding effect' observed in the financial sector. If a bank manager was more prudent, he fell behind the competition for market share, losing his job already in the short run, and thus he was not interested in taking account of longer-term risk aspects.<sup>4</sup> As the incentive systems for top managers were trade secrets in the period when foreign currency lending was picking up, they cannot be publicly documented, but this phenomenon was still known in the market. Short-term incentives were typical, and they could basically be only volume-based, as risks appear only after several years. It should also be noted that this was not a unique Hungarian speciality. It was typical for the banking sector of the European Union as a whole that there were only short-term, volume-based performance requirements for top managers. New regulatory requirements enhancing longer-term incentives were introduced at EU level precisely as a result of the crisis.

The appearance and fast spread of state-subsidised schemes accelerated the development of the housing loan market considerably. Following the tightening of the state subsidy in 2003, banks were able to maintain their compulsion to increase volumes by the creation and strong supply of foreign currency denominated mortgage loans.<sup>5</sup>

Product innovations all served the increase in volume, which – following international trends – took place through the means described below in Hungary as well (*Bethlendi, 2006*). Compared to household indebtedness in developed countries, it was the foreign currency lending that made the domestic indebtedness specific.<sup>6</sup>

4 As a result, due to losing their market shares, banks in domestic ownership were quickly compelled to launch FX-denominated products.

5 As mentioned in the introduction, the whole article focuses on the supply side, i.e. the product development in a wider sense. Naturally, other factors – macroeconomic situation, monetary policy – and the demand side also played an important role in the surge in (FX) lending.

6 Of the developed countries, Austria was the only exception where foreign currency lending to households also appeared, as mentioned later. However, as a result of the measures taken by the authorities, they succeeded in limiting the spreading of the phenomenon in Austria.

*Creditors eased households' liquidity constraints by all means, which at the same time meant considerable subprime<sup>7</sup> lending as well (Feature 2). (i) Specific to CEE: low-interest rate FX loans were able to ease households' liquidity constraints to a significant extent; banks were able to lend much larger amounts to more clients. (ii) Reaching clients with lower financial savings through high loan-to-value products (LTV, the ratio of the loan to the value of the real estate used as collateral). (iii) Dissolving the income constraint of the client: by extending the maturity of the loan (to 30–35 years), by granting more flexible repayment options or by less strict checking of income, or by completely refraining from checking income (*purely collateral-based lending*). Using these credit features, clients with lower or more volatile income may also receive relatively larger amounts of credit. (iv) Sales also became increasingly aggressive over the years. *Sales by agents (third-party sales channel) soared at the peak of the upswing in lending.*<sup>8</sup>*

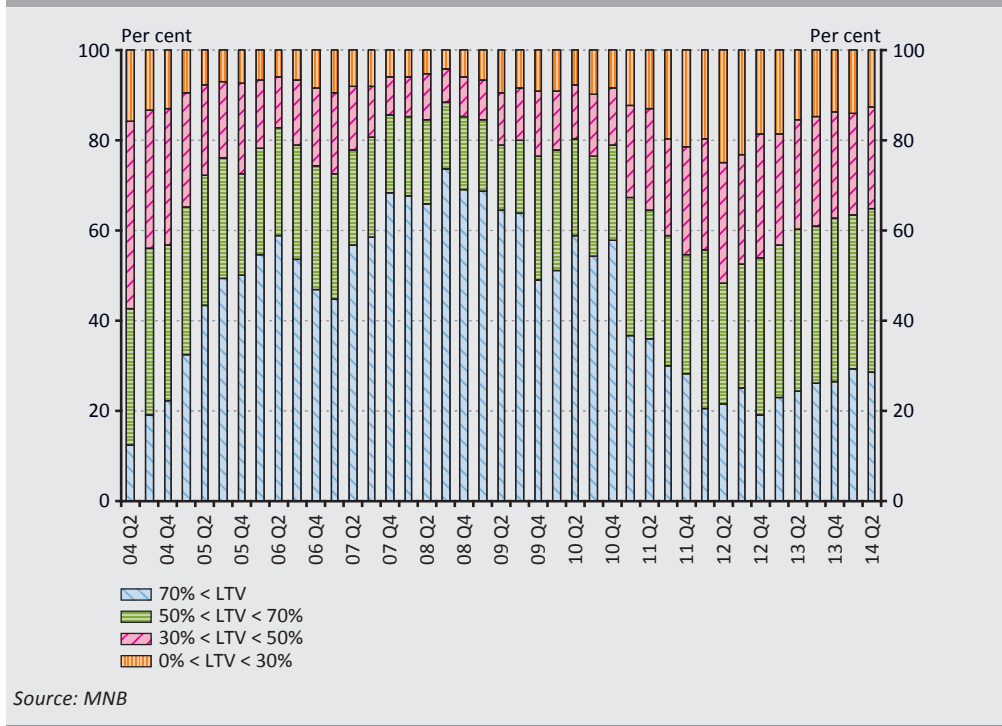
The above resulted in strongly risk-based competition, practically with *lending to a clientele, a significant portion of which* (being subprime due to solving the income constraints) *probably could not even have received forint loans (due to the much higher interest rates) or only smaller amounts of such.* Thus in Hungary, *foreign currency lending simultaneously became a subprime crisis as well.* Prior to 2008, the strengthening of risk competition is clearly shown by the increase in LTV ratios in the case of new loans. At the peak of the excessive lending – during 2007 and 2008 – the initial LTV ratio exceeded 70% for nearly two thirds of new loans, already indicating very strong subprime lending. In the period of the appreciation of the Swiss franc, the result of these loans was that the net housing wealth of debtors became negative, i.e. in many cases their loan debt significantly exceeds the value of the real estate that serves as collateral (higher than 100% LTV).

The subprime nature of foreign currency lending (in terms of product characteristics and also at the client level) is well illustrated by the difference in risks that materialised in credit default between the forint and foreign exchange schemes. It played an important role in the favourable risk features of subsidised forint-denominated housing loans that the state-subsidised scheme was provided with tight credit conditions (e.g. lower maximum LTV ratio) and with a conservative loan purpose (home purchase). Credit conditions of FX housing loans were looser, although the loan purpose could still be considered conservative. However, a significant portion of general purpose loans (also called “American” mortgages) already had completely subprime features (high LTV, only collateral-based lending, etc.).

7 A term used in the United States; a credit granted to subprime, i.e. second-class – less creditworthy – debtors; it does not have a precise definition or limit. Subprime mortgage loans are characterised by high payment-to-income ratios and lending with a high LTV ratio. The probability of default in the case of these loans is significantly higher than in the case of normal mortgage loans.

8 Sales by agents played a determining role in the case of the large players of FX lending. Later, even the banks that basically relied on sales in branches joined this phenomenon. In the case of almost all credit institutions, the portfolios collected by agents entailed significantly higher loan losses compared to the sales in branches. Loans through intermediaries and FX loans are two features that result in higher probability of default compared to direct bank loans denominated in forints (Balás et al., 2015).

**Figure 2**  
**Breakdown of new housing loans to households by LTV**



The MNB’s Reports on Financial Stability and some authors (e.g. Király et al., 2008) also called attention to the strengthening of the risk-based competition and the subprime nature of lending.

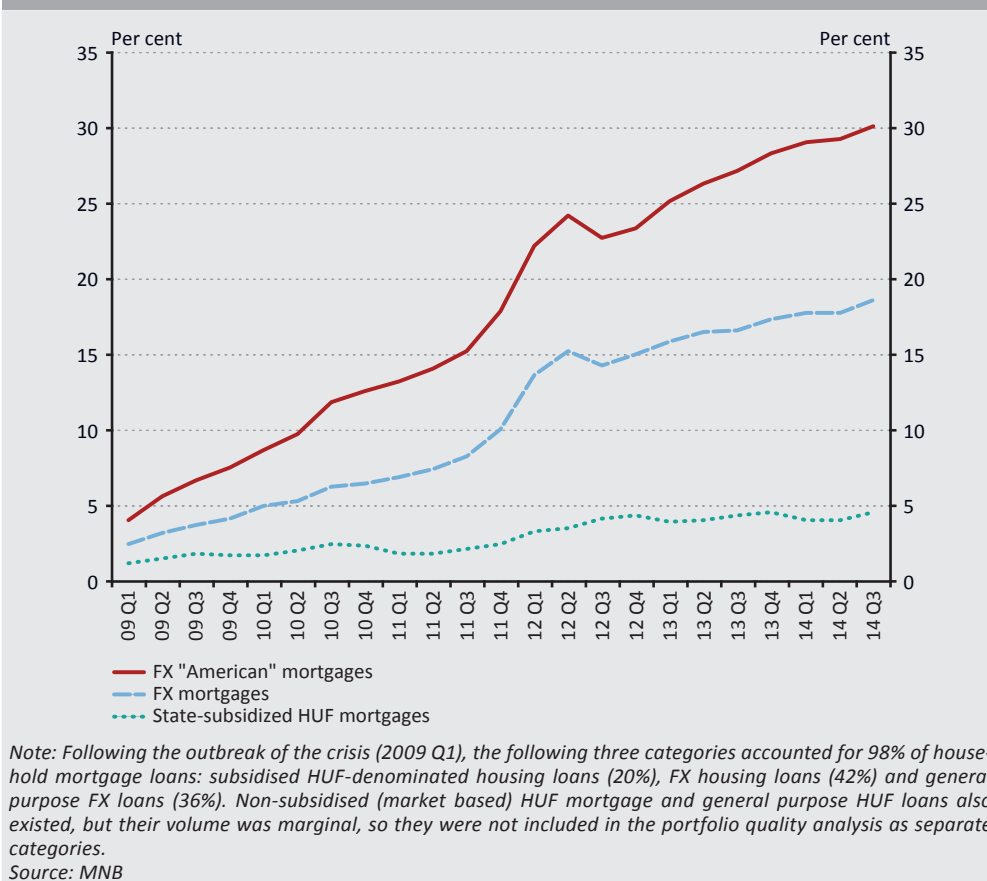
*Broad expansion of loan purposes also aimed to increase the portfolio (Feature 3).*

In addition to the classical mortgage loan purposes (building and purchasing homes), the product developments created new purposes, such as real estate purchase for investment purposes, mortgage combined with savings schemes (see the so-called combined loans below) and consumer credit granted against real estate as collateral. The later were collectively called general purpose mortgage loans (also: “American” mortgages), which, after a while, were the driving force behind the growth in loans outstanding.

*Shifting the additional risks to clients can be successful only over the short run; in the long run it entails a significant increase in credit risks (Feature 4).*

The easing of credit constraints and the broadening of loan purposes all resulted in increasing risks. However, creditors no longer took responsibility for these risks. In product

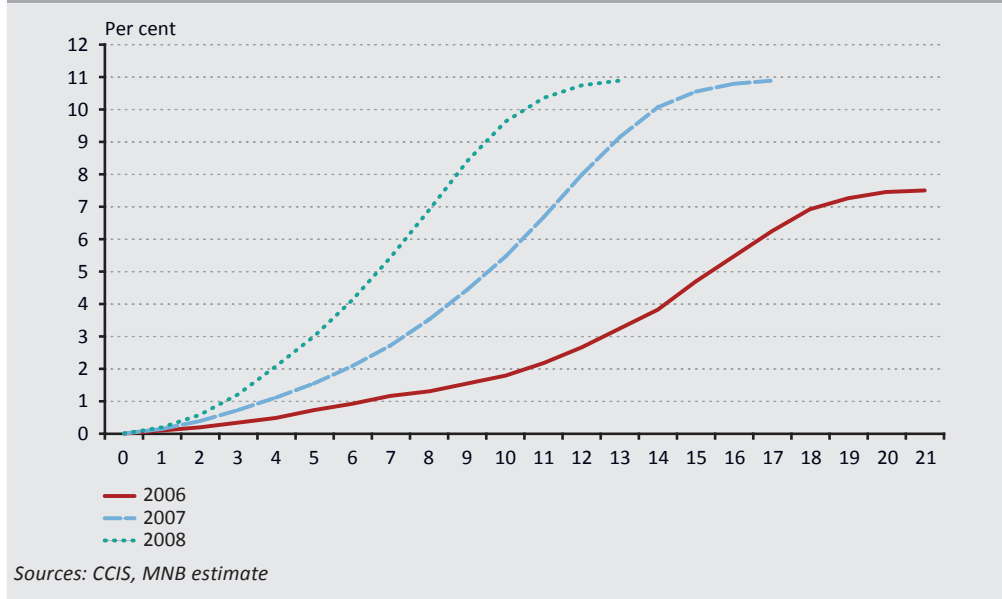
**Figure 3**  
Ratios of non-performing household loans by main product groups



development and selecting the way of refinancing, they strived to shift their risks mainly to their clients. This issue is discussed in more detail in the next section.

FX-denominated mortgage loans were extremely varied. Banks introduced many changes to product characteristics over the years. Consequently, there are significant differences in risks not only between banks, but also between the years of disbursement within the same bank. *As a result of the risk competition, the risk characteristics of individual lending years deteriorated steadily.* At the same time, the significant changes in product characteristics over time made the subsequent solution to the FX lending problem much more difficult and complicated.

**Figure 4**  
**Share of non-performing loans within households' FX mortgage loans disbursed in different years**



### 3 Shifting of product risks to clients

The most typical foreign currency mortgage loan product was Swiss franc-denominated, with variable interest rate, which the bank could change unilaterally based on the broad discretion power of the lender. Most of the loans were annuity type ones, and their maximum maturity exceeded 20 years.

The pricing – interest rate – of a loan product consists of the following elements. The uncertainty about their future value also means a risk type (components of the interest rate risk): (i) the funding (refinancing) cost of raising for the bank; (ii) the credit risk cost: intended to cover the bank’s loan losses; (iii) the operating cost part, which captures the costs of the operation of the bank; (iv) the profit margin, which may also be understood as some kind of residue.

Since in the case of the product under review the exchange rate risk is borne completely by the client, it does not appear in the pricing of the product.



The above four elements determine the interest rate of the transaction.<sup>9</sup> These factors are difficult to estimate in the case of a long-term transaction; the uncertainty surrounding their expected value (the risk) is high. In the case of FX loans this uncertainty was further increased by the refinancing techniques applied by banks and the steadily easing credit standards.

### 3.1 Exchange rate risk

The exchange rate risk of FX loans is completely borne by the borrower. Upon designing the products, the aim was to select a currency that entailed the lowest short-term interest rate, and thus resulted in the smallest initial instalment for a given amount of loan. Therefore, it was suitable for lending to a very wide scope of households (including subprime ones). CHF-denominated lending started from Austria and first appeared in Hungary through Austrian banks. In the aforementioned intensifying market competition environment, it was quickly introduced by other market players as well (*Bethlendi, 2011*).

*In spite of the interest rate, which was advantageous in the short run, use of the Swiss franc proved to be much more risky compared to euro-denominated loans (Feature 5).*

(i) The exchange rate policy of the forint is tied to the euro and has no influence on the EUR/CHF cross rate; (ii) The Swiss franc is a well-known safe haven currency, i.e. on the basis of the experience of the previous decades one can expect its appreciation in the case of an international economic crisis; (iii) In the carry trade<sup>10</sup> literature, it is clearly described that high-interest currencies often go through long periods of appreciation, which are interrupted by sudden, massive depreciations. In the case of a long-term loan, it means that the person who becomes indebted in a low-interest 'hard' currency will, in all probability, suffer an exchange loss that will offset all his gain on interest earned before (*Kisgergely, 2010*).

Euro loans also appeared, but Swiss franc products played a prominent role in the choice of credit institutions. Banks offered two partial solutions for managing the exchange rate risk to their clients, but they were related only to a small portion of disbursements. One of the methods was that the effect of the change in the exchange rate did not appear in the monthly instalment, but in an amendment of the remaining maturity of the loan. The other one was that against the exchange rate risk the bank undertook – usually for the first two years only – that if the exchange rate leaves a pre-determined band, the bank would apply the exchange rate at the edge of the band for the calculation of the instalment.

<sup>9</sup> Some of the costs and fees may appear only upon disbursement or as a fixed monthly amount. At the same time, they may be expressed as interest, which is a way of approaching the APR calculation.

<sup>10</sup> Carry trade means a well-defined FX market trading strategy: the investor borrows in low-interest currencies and invests in high-interest currencies.

In 2007, further strengthening of the risk competition and overheatedness of lending were indicated by the appearance of Japanese yen-denominated loans or loans that could be converted to yen. Their exchange rate risk was even higher than that of CHF, but their interest rate was lower (and thus the initial instalment was also lower).<sup>11</sup> Finally, JPY products appeared in the product choice of only three large banks, although they reached as much as 10% of new loans in this period. In contrast to the CHF loans, in this case (as a result of strong pressure from the MNB) the Supervisory Authority already took steps, and significantly raised the capital requirement of yen-denominated loans as of May 2008.<sup>12</sup> As a result of the combined impact of the supervisory measures and the crisis, banks stopped selling JPY-denominated products in 2008.

However, as mentioned in the introduction, no major steps were taken by the regulatory or other authorities against CHF loans, which accounted for most of the lending to households. As a result of the division among various authorities and institutional deficiencies, all that was done was the documenting of the perception of risks, which was also mostly done only by the MNB (*Bethlendi et al., 2014*). Meanwhile the business side – see for example the relevant communication by the Hungarian Banking Association entitled ‘No need to be afraid of FX-denominated schemes’ (*MTI, 2006*) – communicated the moderate nature of the exchange rate risk.<sup>13</sup>

In order to stop FX lending completely, the new Government set up in 2010 applied administrative measure. Based on an amendment to the Civil Code,<sup>14</sup> as of August 2010 it forbade the establishment of a mortgage on private individuals’ real estate as collateral for foreign currency denominated credit agreements. Although this regulation was repealed in July 2011 with the introduction of the exchange rate cap scheme and the forced sale quotas,<sup>15</sup> FX-denominated mortgage lending did not restart. While the exchange rate cap scheme<sup>16</sup> serves the purpose of maintaining the solvency of FX mortgage debtors who

11 The emergence of JPY-denominated lending was unequivocally attributable to the lower nominal interest rate, which allowed lower instalments to be paid by clients, while the interest rate margin that banks earned did not decline. Earlier, CHF-denominated loans succeeded in replacing EUR loans for the same reason. The exchange rate of the JPY against HUF has been much more volatile compared to the Swiss franc or the euro. The reason for this is that the fundamentals of the Japanese and the European economies are not closely related and that JPY has been one of the major currencies used for financing so-called carry trade transactions based on FX interest margins (MNB, 2008).

12 The size of the required additional capital is 50–100% of the capital requirement under Pillar 1 of the portfolio concerned.

13 Their communication of January 2006 said: ‘in the opinion of the Hungarian Banking Association, not only a permanent forint depreciation in real terms can be excluded from the possible future scenarios, but also the significant and permanent nominal weakening of the forint.’

14 Pursuant to Article 81 of Act XC of 2010.

15 Pursuant to Act LXXV of 2011 on the fixing of exchange rates used for repayments of foreign exchange-denominated mortgage loans and the procedure of forced sales of residential properties.

16 The difference between the instalments calculated with the actual and the fixed exchange rates (the latter equalling approximately the exchange rate prevailing at the time of the borrowing) is kept on record by the credit institutions in the period of the exchange rate fixing as a so-called collecting account loan. 50% of the interest content of the monthly instalment above the fixed exchange rate is paid by the state and the bank each. Repayment at the fixed exchange rate may last for 5 years at most.

are still able to perform, the introduction of the forced sale quota<sup>17</sup> and the programme of NET Zrt.,<sup>18</sup> which started operation on 1 January 2012, aim to maintain the habitation rights of non-performing mortgage borrowers.

The existing portfolios represented a significant systemic risk, greatly contributed to the vulnerability of the country and narrowed the leeway of economic policy. In view of the long maturities and the depreciation of the forint, the portfolios would have run out only very slowly, preserving the above risk for a long time.

The idea of converting households' FX loans into forints first arose in 2011 (for example, see the proposal of *Barta et al., 2011*). However, due to the economic situation at that time and investors' assessment of Hungary, it seemed to be a risky step (the country was subjected to excessive deficit procedure by the EU, was downgraded to non-investment grade category, and the crisis of the euro-area periphery was going on). In order to prevent the instalments of the loans converted into HUF (in 2011, the potentially concerned portfolios were also more significant) from rising (at the time the yields and the central bank base rate were some 4 percentage points higher than in 2014), it would have been unavoidable to introduce some interest rate state subsidy from the budget, in addition to extending maturities. However, the fiscal situation at that time was very restricted. The MNB should have provided the funds for the conversion into HUF, to the debit of its reserves. In the aforementioned economic environment, the level of reserves was lower and its assessment by foreign investors was also more pronounced than in 2014.

In view of the above, for the downsizing of the portfolios, a step aiming at a narrower group of foreign currency debtors was made at the turn of 2011/2012: foreign exchange mortgage loan debtors had an opportunity for early repayment at a preferential exchange rate.<sup>19</sup> As a result, nearly one quarter – HUF 1,355 billion (approx. EUR 4.5 bn) – of the FX-denominated mortgage loans was repaid early. The exchange rate difference between the preferential exchange rate and the market loan had to be covered by the lending financial institutions (*HFSÁ, 2012*). Accordingly, some of the exchange loss that occurred as a result of the crisis was driven back by the Government from the debtors to the creditors. The amount of households' outstanding FX loans remained significant even after the early repayment.

In order to prevent the exchange rate risk from jeopardising habitation rights at the system level in the future and for a significant reduction of FX loan portfolios, in November 2014 the Government made a decision on the conversion of FX mortgage loans into HUF at

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17 It means the quarterly maximum number of non-performing housing loan debtors' properties subject to forced sale.

18 The task of the National Asset Management Company (NET) is to help socially needy debtors who have a mortgage loan, but are permanently unable to meet their payment obligations. Upon the existence of certain conditions, the NET purchases these debtors' residential property, ensuring at the same time that the debtors can stay in their home as a tenant.

19 Pursuant to Act CXXI of 2011 on the amendment to certain laws related to home protection.

market exchange rates.<sup>20</sup> Accordingly, at end-2014 the MNB sold foreign exchange worth nearly EUR 9 billion necessary for the conversion to the domestic banking sector. Credit institutions, in turn, converted the FX debtors' loans into HUF. The consumers will receive the relevant notice together with the so-called settlement described later starting from March 2015. In this manner, the MNB ensured that the phasing out of household FX loans would take place rapidly, preserving the stability of the financial system and without any major impact on the exchange rate of the HUF. On 15 January 2015, the Swiss central bank stopped maintaining an exchange rate threshold against the euro, i.e. it let the revaluing power break loose in the market, resulting in a nearly 20% depreciation of the HUF against the CHF. As a result of the conversion, Hungarian mortgage loan debtors were not affected by this negative shift in the exchange rate. Following that event, even the Hungarian Banking Association admitted that phasing out the exchange rate risk from the retail mortgage loan market was the right decision (*MTI, 2015*).

In early 2015, also taking into account the effect of the settlement legislation presented below, households' FX loans outstanding declined by some HUF 3,300 billion (approx. EUR 11 billion). Accordingly, by mid-2015 the amount of FX loans outstanding is expected to decrease below HUF 500 billion, i.e. less than 8% of all household loans, and thus FX loans will practically be phased out.<sup>21</sup> In addition, simultaneously with the conversion, the switch-over to fair pricing, which is described below, will also be implemented.

### 3.2 The funding risk, unfair pricing conditions

*The manner of determining the interest rate could not clearly be characterised by either the terms of 'fixed' or 'variable' rates. This is why we use the expression 'interest rate unilaterally changeable by the bank'.<sup>22</sup> This was an important product characteristic, because it entailed the possibility of unfair unilateral increases in the interest rate (Feature 6).*

FX mortgage loans were sold with two types of interest rates. One of them was a fixed interest rate. However, according to the loan agreement, banks had wide possibilities to change the fixed interest rate. The other product was of an indexed type. Banks applied a margin above a money market benchmark yield (3-, 6- or 12-month EURIBOR/CHF-LIBOR). Depending on the money market situation, the product was repriced immediately. At the same time, banks also had wide possibilities to change the margin as well. We use

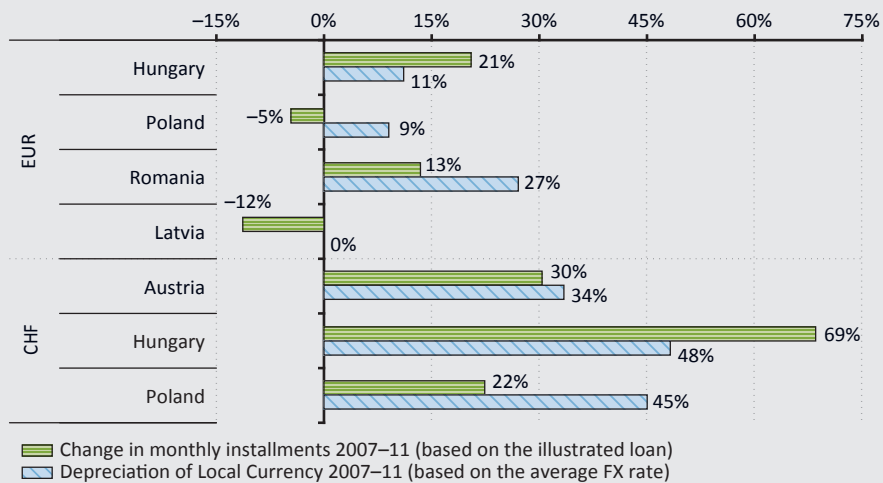
<sup>20</sup> Pursuant to Act LXXVII of 2014 on the modification of the currency of certain consumer loan agreements and issues relating to interest rate rules, the conversion into forints is not mandatory. Consumers may block conversion into forints if certain conditions are met.

<sup>21</sup> The remaining FX loans will mostly be vehicle loans and partly personal loans; their average maturity is low, so this portfolio will also shrink quickly.

<sup>22</sup> The same expression is used in the so-called "Papcsák Report", a parliamentary report dealing with the problem of household FX loans (OGY [2012]).

the expression ‘interest rate unilaterally changeable by the bank’ in view of the above. For the aforementioned reasons, the annual percentage rate (APR) determined upon concluding the contract became incomparable, as the price quotation was valid only for the first year at most, whereas the loan usually had a maturity of 15–20 years. The practice was not transparent, and the consumer was unable to make a distinction whether the repricing initiated by the bank was caused by changes in its real costs or by an intention to increase profits.

**Figure 5**  
Changes in the instalments of average housing loans and in the exchange rates of local currencies between 2007 and 2011



Sources: Szigel, 2012; MNB

FX lending to households was not a unique phenomenon in the region. At the same time, from a consumer’s point of view, there are major differences in terms of product characteristics. In Poland, Romania and the Baltic states a significant portion of loans were really variable-rate FX loans. They were practically granted by the same banking groups that are present in Hungary as well. It needs to be emphasised, however, that presumably as a result of more determined actions by the authorities of these countries, transparency as well as fair pricing were much better implemented in the contracts in these countries. The loans really featured indexed interest rates, i.e. a pre-determined, fixed margin tied to a specific money market yield was applied (e.g. EURIBOR + 5 per cent). Banks could not change the margin to this extent unilaterally. This also meant that the banks there, which belong to the same banking group, took on the so-called margin risk as well. If the assessment of the given bank or the country risk premium deteriorated, it could not be shifted to the client (*Bethlendi 2009b*). Due to the above, only in Hungary did it occur that debtors were exposed to an interest rate shock as well, in addition to

*the exchange rate shock.* Together, these two factors resulted in a significant increase in instalments. The average interest rate increase applied to FX-denominated mortgage loans was 2 percentage points following the crisis. Meanwhile, in the neighbouring countries concerned the change (decline) in the interest rate was able to significantly offset the negative exchange rate effect. Moreover, in certain cases instalments even declined.

*Banks basically refinanced their long-term FX mortgage loans from short and synthetic sources. This technique entailed a non-negligible renewal risk, which was primarily realised as a cost for clients (Feature 7).*

The Hungarian banking sector did not raise the CHF funds necessary for the lending in CHF in a traditional manner (from collecting CHF deposits or issuing long-term foreign currency bonds), but financed them within its balance sheet from HUF or EUR deposits. Banks typically cover the resulting on-balance-sheet open FX position with off-balance-sheet (derivative) transactions concluded with non-residents.<sup>23</sup> They primarily use two types: the short-term FX swap and the longer-term cross-currency basis swap (CBS). The essence of both derivatives is that domestic banks take out FX loans within the framework of transactions concluded mainly with non-residents, and simultaneously provide forint loans to their clients. Then, at a later date, they swap these monies back. It needs to be emphasised here that the traditional method – e.g. CHF bond issue – would have entailed higher costs over the short run, but the stable refinancing structure would have been more advantageous over the longer term.

As the domestic banking sector lent significant amounts of foreign exchange, it was strongly reliant on the financing technique presented above. However, as a result of the money market shock that impacted Hungary as well in September 2008, domestic banks were unable to renew their derivative positions or only able to do so at a very high price. Only the coordinated action of the MNB and foreign central banks was able to remedy this situation.

The refinancing cost risk presented above was borne to a significant extent by the debtors; *moreover, this occurred in an asymmetrical manner: declining refinancing, country risk and bank risk premiums did not entail an automatic decrease in client costs.*<sup>24</sup>

Significant amounts of FX loans were still disbursed in 2008. In late 2008 and early 2009 the interest rates on existing portfolios were raised. Reacting to the mass problem of

<sup>23</sup> Typically with two transactions: HUF–EUR and EUR–CHF. If foreign exchange funds were obtained from the parent bank, it was typically euro, and in this case they only had to conclude one CBS.

<sup>24</sup> The cost of CBS transactions increased from the pre-crisis annual 15 basis points (0.15 percentage points) to 250–300 basis points during the crisis. At the same time, the Swiss money market interest rate declined by approximately the same extent. Regarding the Hungarian bank margin, the two effects nearly offset one another on average. Nevertheless, banks raised the interest rates on loans, referring to rising costs of funds. Then, in 2009 Q2, derivative costs started to decline considerably. Overall, based on available market data and quotations, in the summer of 2009 domestic banks' average refinancing cost was already below the pre-crisis level. At the same time, APR levels did not decline. Moreover, in the case of loans prior to the summer of 2008 the APR increased by 1 percentage point on average (Bethlendi [2009]).

rising instalments rather late (compared to the launch of FX mortgage loans in 2004), after the accumulation of large portfolios, the first self-regulatory measure of the market, the so-called code of conduct, was issued in October 2009.<sup>25</sup> The preamble of the code stipulates the principles of transparency (there will be increased emphasis on clarity and transparency as well as on the availability of the necessary information in lending to households) and symmetry. At the same time, the code contains a very long list of reasons that allow the banks that join the code to increase their interest rates. Accordingly, the code, in fact, left ample leeway in an institutionalised form for creditors to raise their interest rates, and the principle of symmetry could not succeed either, because in many cases the creditor found an excuse in the long list of reasons for not reducing the interest rate.

The amendments to the Act on Credit Institutions and Financial Enterprises (ACI) effective as of 1 January 2010 practically put the provisions of the code of conduct into statutory effect. The act determined the rules concerning unilateral amendments of contract for all credit, loan and financial leasing agreements concluded with consumers. Starting from that date, the reasons for unilateral interest rate increases, which were disadvantageous for the consumer, had to be listed in the general contract terms and conditions. In addition, fees and costs were allowed to be increased only by the annual consumer price index of the CSO, and contracts could not be amended by introducing new fees and charges. However, the amendment did not terminate the problems indicated for the code of conduct. Creditors still had ample leeway to raise their interest rates, although they had to document such moves better. The version of the ACI effective as of 27 November 2010 narrowed the list of reasons in the case of housing loans, credit and financial leasing agreements.

In the case of mortgage loans, the amendment to the ACI effective as of 1 April 2012 limited, but did not terminate completely the unfair practice that banks shifted their margin risk to consumers. Loans disbursed after this date or recontracted loans could only be offered with a fixed interest rate or a fixed interest rate spread indexed to a reference interest rate specified in the act. Nevertheless, the fixed interest rate and the repricing rules of the interest rate spread by themselves did not guarantee transparency and proportionality for clients.<sup>26</sup> At the same time, fees and costs to be paid regularly in addition to the interest were allowed to be raised only by the percentage of annual inflation. However, the provisions of 1 January 2010 remained in force for non-mortgage type loans.

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<sup>25</sup> Code of conduct on the fair behaviour of financial institutions providing loans to households vis-à-vis clients.

<sup>26</sup> For loans with a reference interest rate the regulation allowed the changing of the interest rate spread only in two cases (non-performance; non-payment of home insurance), but it has to be emphasised here as well that the law leaves the impact of the changes in conditions on the spread to be regulated in the internal rules of the financial institution, and thus does not guarantee transparency for the client. At the same time, Government Decree 275/2010 remained in force for fixed-interest loans, providing ample opportunity for unilateral hikes with the expiry of the interest rate period (changes in market environment, credit risk and regulatory environment).

With regard to existing portfolios and contracts that expired within the last five years, unilateral interest rate increases may be deemed unfair in the case of any loan (including forint-denominated loans and consumer credit<sup>27</sup> as well), pursuant to the act which entered into force in July 2014<sup>28</sup> on the basis of the harmonised decision of 2014 of the Curia<sup>29</sup> (the Supreme Court of Hungary), if it is not clear and not transparent for the debtor how changes in certain circumstances affect the debtor's payment obligations. This lawful presumption covered all foreign currency denominated loans extended until 26 July 2014. In the case of HUF-denominated loans and loans disbursed and repaid in foreign currency the lawful presumption of unfairness is valid for general contract terms and conditions dated before 27 November 2010.<sup>30</sup> Banks went to court against the presumption. When this article was written, the lawsuits were not closed completely, but most of them had already been lost by the financial institutions in the first instance and second instance as well. Pursuant to Act XXXVIII of 2014, credit institutions are obliged to interpret financial advantages stemming from unfair interest rate increases (and from the application of the spread to be presented later) as principal repayment and pay it back to the debtors or reduce the debt accordingly. This is what we call settlement<sup>31</sup> in brief.

Unfairness is expected to be validly established for a wide range of existing loans, entailing the necessity of a forward-looking resolution of these contracts. Therefore, the National Assembly passed Act LXXVIII of 2014 on the amendment of Act CLXII of 2009 on consumer credit and certain related acts so that the circumstances of fair pricing could materialise for all household loan products. *The changeover to fair pricing will be implemented as of February 2015 both for new lending and the existing portfolios.* Pursuant to the law the possibility of unilateral increases in interest rates, costs and fees will be greatly limited and such increases may take place only due to objectively measurable reasons and in a transparent manner. If the interest rate spread changes in the upcoming interest period to the disadvantage of the consumer, the consumer may terminate the loan agreement without any costs or charges. The range and maximum extent of applicable fees is also limited. In addition, the rules aimed at improving the provision of information to consumers were also expanded to a large extent.

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27 With the exception of credit card loans, overdraft facilities and state-subsidised housing loans.

28 Act XXXVIII of 2014 on the settlement of certain questions related to the Supreme Court's uniformity ruling on financial institutions' consumer loan contracts.

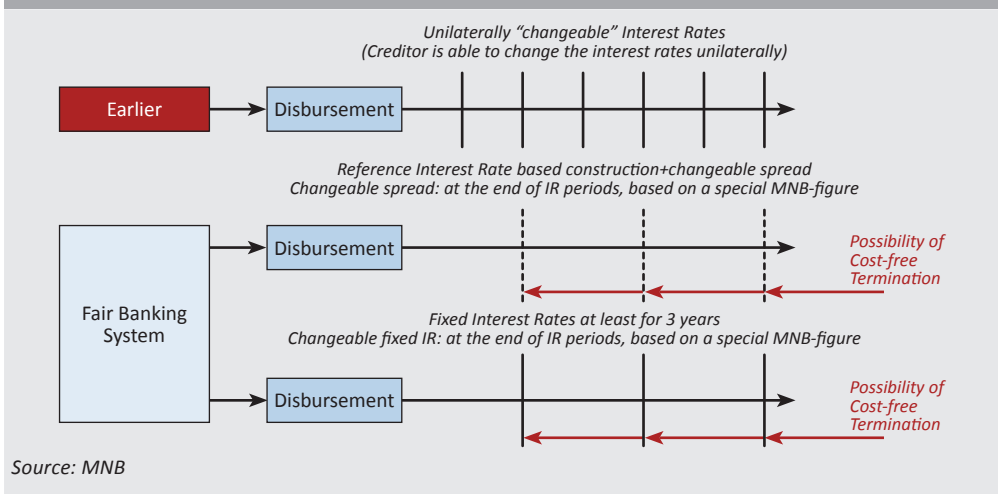
29 Decision No. 2/2014 PJE. Contractual clauses that enable unilateral amendment of a contract are unfair if they do not comply with the following seven principles: the principle of clear and intelligible drafting; the principle of taxonomic definition; the principle of objectivity; the principle of factuality and proportionality; the principle of transparency; the principle of terminability and the principle of symmetry.

30 Relating to the period following that date the MNB may initiate proceedings of public interest for the pronouncement of unfairness. As of 2010, creditors presumably met the conditions of fair pricing in certain cases.

31 The detailed rules of settlement are determined in MNB Decrees.



**Figure 6**  
**Changeover to the fair pricing practice**



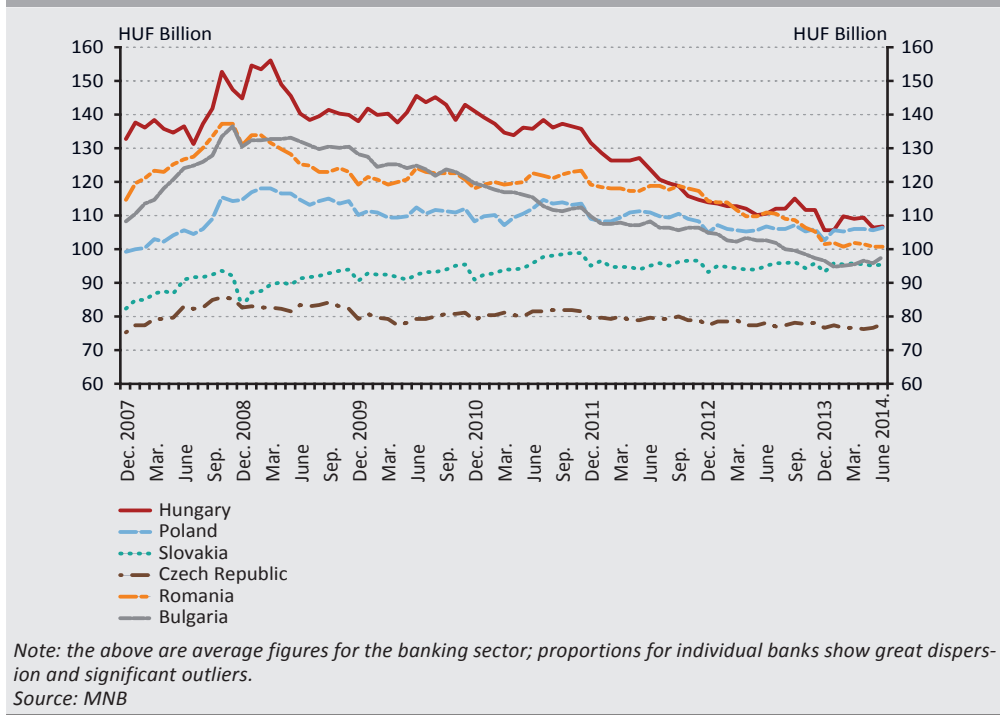
*The excessive pursuit of growth resulted in an increase in credit institutions' liquidity risk, the loan-to-deposit ratio was disturbed, and its effect also appeared in the costs of funds and thus in client costs (Feature 8).*

In view of the excessive pursuit of growth, the domestic banking sector raised considerable amounts of foreign funds – mainly through parent banks. As a result, the domestic banking sector became highly dependent on short-term FX liabilities in international comparison as well, and the loan-to-deposit ratio increased considerably compared to other countries of the region as well, moving far away from the value of around 100%, which can be considered healthy. Accordingly, cheap foreign funds added to risk appetite and fed procyclical lending.

Due in large part to FX lending, excessive maturity mismatch evolved in the foreign exchange positions in the domestic banking sector. In order to handle this, the so-called foreign exchange funding adequacy ratio (FFAR) was introduced in July 2012. The primary objective of this indicator was to moderate the banking sector's on-balance-sheet and off-balance-sheet FX position maturity mismatch, thus reducing the external vulnerability of the banking sector and the country by this as well (Fáykiss, 2014).

Also on the basis of the above experiences – in addition to the aforementioned liquidity objective – an important target designated by the MNB in its programme announced in the spring of 2014 relating to the banking sector was that the loan-to-deposit ratio of the domestic banking sector should not permanently and considerably deviate from 100% (Nagy–Vonák, 2014).

**Figure 7**  
**Loan-to-deposit ratio in international comparison**



### 3.3 Credit risk

In designing the scheme, it was already well known that the credit risk of these products is higher than that of HUF loans. The MNB called attention to this when FX mortgage lending was introduced (in 2004). Compared to HUF loans, the instalments of FX loans may change to a greater extent and more often due to the short repricing period and the immediate shifting of the exchange rate risk to the consumer. Domestic households are unprotected against changes of this nature, as they do not have any natural hedge (income or savings in CHF). The extent of the transformation of the risks shifted to households into credit risk depends on the extent and permanence of the given interest rate or exchange rate change. The chance of insolvency is higher in the case of loans where, upon borrowing, the debtor maximises the amount to be borrowed on the basis of the current interest rate and exchange rate levels (MNB, 2004). The higher credit risk of FX loans may be offset by a higher credit risk margin, lower LTV ratio and stricter examination of income. As mentioned before, the initial conditions of FX lending were quickly eased, and the factors that mitigate the above risks moved in the opposite direction. In addition, due to the relative homogeneity of the significant volumes and the collateral, the risk of becoming more difficult to sell the collateral also increased significantly.

The regulatory maximum for LTV ratios was only determined as of 1 January 2010 on the basis of Government Decree 361/2009. At the same time, the decree banned purely collateral-based lending. Nevertheless, only general principles were defined for the examination of income, practically leaving ample leeway for creditors in this field. Based on international experience, the real solution is the maximisation of the payment-to-income (PTI) ratio. This was introduced by an MNB Decree<sup>32</sup> as of 1 January 2015, which also involved a tightening of the 2010 maximum LTV rules. Had only this regulation in itself been introduced (with similar parameters) in 2004, excessive lending, and particularly its subprime nature, could have been prevented.

In addition to the above, so-called deferred principal repayment products, which carried further risks, also appeared. Loans starting with a certain principal repayment grace period constituted one of the types; only the interest had to be paid on the loan during the grace period. The optional grace period was typically between one and five years. Loans combined with investment (combined loans) can be considered as another grace period scheme; in this case the client invested the amount corresponding to the principal repayment in an investment product. The investment (traditional mixed or unit-linked type life insurance, home savings and loan association) was linked to the loan, and upon maturity it had to be spent on principal repayment.

These schemes that provide temporary easing of payment or deferred principal repayment can be considered expressly high-risk ones; they amplified the risk factors of normal mortgage lending and created new ones as well.<sup>33</sup>

As of March 2013, the Supervisory Authority considerably raised the capital requirement of combined loans, similarly to the JPY-denominated loans, although in this period the disbursement of these types of loans was already very subdued. Subsequently, sales of loans like this practically stopped.<sup>34</sup>

*The applied risk management methodologies and results only suggested false safety; they were unsuitable for the real measurement of risks (Feature 9).*

Quantitative methodologies appeared in household risk management as well in the early 2000s; they attempted to differentiate between clients and to estimate banks' expected losses.<sup>35</sup> And the equity was intended to cover unexpected losses. Banks did not have experiences (figures) of their own for the estimation of the parameters of the models. Moreover, as described above, there were major differences between the credit risks of

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32 MNB Decree 32/2014 (IX. 10.).

33 Income-based lending is becoming more difficult; asset price risk is increasing and is expanding to include new risk elements (in the case of combined loans, the scope of collateral is complemented with financial instruments).

34 The additional capital requirement does not apply to the products of home savings and loan associations combined with HUF-denominated loans.

35 Expected loss is the product of multiplication of probability of default (PD), loss given default (LGD) and exposure at default (EAD).

each year of disbursement. On the other hand, the experiences of developed countries had only limited relevance in the domestic market due to its characteristics (e.g. FX lending). Moreover, there were no major attempts to measure the correlations between parameters or non-linear relations.<sup>36</sup> The applied shock scenarios showed very moderate loss subsequently.

Banks' risk management failed, not only because of the aforementioned bad incentive system, but also because of the methodologies and product characteristics applied as well as due to the evolution of systemic risk. At the same time, it was realised by those concerned very late. This is confirmed by the fact that for example at the conference 'Portfolio.hu Mortgage Lending and Home Financing' held in May 2008, speakers only talked about an increase in the risk of mortgage lending, but practically nobody indicated a real emergency. Moreover, compared to the US subprime crisis, they considered the situation in Hungary more positive.<sup>37</sup>

Unfortunately, all the above described risks have materialised since then. One of the principles of prudent risk management proved true again: it is not the high risk, but the unmeasurable risk that is the most dangerous.

*In view of the endogenous nature of risks and the identical behaviour of many actors in large volume, FX lending became an important macroprudential – systemic – risk.*<sup>38</sup>

The measures described above, with special regard to the rules of settlement, conversion into forints and fair banking, are expected to have an overall positive effect for clients and thus on the portfolio quality as well. As a result of declining and less volatile instalments, lower probability of default is expected for the future. The exchange rate risk will cease as a result of the conversion into forints, and this will continue to mitigate credit risks considerably. At the same time, no material improvement is expected in the case of the already non-performing debtors, as for them the overpayment reduces the arrears of interest and fees, and thus in their case, under the same conditions, outstanding loans decline to a lesser extent than in the case of those who perform. Overall, the amount of non-performing loans may remain significant. The handling of this situation requires further measures in 2015. An important means could be the introduction in Hungary of the institution of personal bankruptcy, which is suitable for the comprehensive management of the problem of non-performing debtors, and the expansion of the programme of the NET.

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36 For example, the examination of the relationship between exchange rate–PD–LGD.

37 The remarks included: 'overall, a still conservative Hungarian level in spite of the increasing LTV ratio, (...) significant difference in the loan-to-GDP level, (...) significantly better Hungarian portfolio quality' etc.

38 Most of the risks of FX lending can be deemed endogenous, i.e. they were created by the financial system and its players – creditors, supervisory authority, intermediaries, regulatory authorities, etc. – themselves, and they are not attributable to an external circumstance. However, the endogenous risks arising simultaneously at micro level do not simply become added up, especially not when actors behave alike, but amplify one another, thus becoming a systemic risk.

### 3.4 Cost risk

It was mentioned before that many of the domestic credit institutions struggle with economies of scale problems in the domestic household credit market. Accordingly, the players are sensitive to the changes in general banking costs and portfolios. The general contract terms and conditions of products allowed creditors to refer to their costs and raise their lending-related fees and charges in a way that was not transparent for clients. After 2008, with a decline in new loans, they strived to cover their relatively increasing costs to the debit of the loans outstanding.

## 4 Smaller cases of unfairness: FX spread and costs incurred in HUF

*In addition to the possibility of unilateral interest rate increases, in order to achieve the profit targets, the products had other unfair characteristics as well, which were subsequently identified by the court or law (Feature 10).*

For the majority of FX loans, banks used a buying and a selling rate upon loan disbursement and repayment. The extent of the spread applied (deviation from the central rate) was left to the discretion of banks; (weighted with the FX loan portfolio of seven large banks) it amounted to 1.25% prior to the crisis and increased to an average 1.7% after 2008. As a result, banks' profitability from the payments related to disbursement and repayment was similar to that of changing foreign exchange and currency. In the case of mortgage loans,<sup>39</sup> as of 27 November 2010 the ACI banned the application of the spread, and financial institutions have to use either their own mean rate of exchange determined and announced by themselves or the official exchange rate determined and announced by the MNB.

In 2014, on the basis of its harmonised decision mentioned above, the Curia declared the practice of applying an FX spread unfair and void. The – already presented – Settlement Act (XXXVIII of 2014), which was adopted on the basis of this decision, bans the further application of the spread, which has to be calculated the same way as, and refunded to the debtors together with, the unilateral interest rate increases. The press criticised the law as retroactive legislation. However, without this it would have been impossible to handle the numerous court proceedings going on in this subject and the social problem behind all of this. Another counter-argument was that the spread was a part of the APR calculation at that time. However, this does not provide a justification for the phenomenon

<sup>39</sup> Initially it applied only to housing loans and financial leasing and was extended to all mortgage loan products later.

in a legal sense, and does not make the institution fair; it only wanted to handle it in terms of product comparison. Something that is not expressly forbidden by legislation is not necessarily fair. This should be decided subsequently by the court, and this occurred with the Curia's decision in 2014.

Various costs and fees were also linked to the FX loans. Although a considerable portion of these<sup>40</sup> were incurred in forints for the credit institutions, they still required clients to pay these costs on a foreign currency basis. Firstly, this way they could apply the spread to it, and secondly, as of 2008 the forint depreciated significantly against the CHF, and thus the costs collected from clients increased in forints, while credit institutions' real cost payments in forints remained unchanged. This practice was terminated by the amendment to the ACI effective as of 29 September 2011. Since then, creditors have shifted to consumers only those costs in foreign currency that actually incur in foreign currency for the creditors as well.

## 5 Summary

In relation to the upswing in FX mortgage loans to Hungarian households between 2004 and 2008, we found ten features typical of product development and management that together resulted in systemic risk. The risks have materialised since then, greatly undermining the confidence in the financial intermediary system and making FX lending a major social problem.

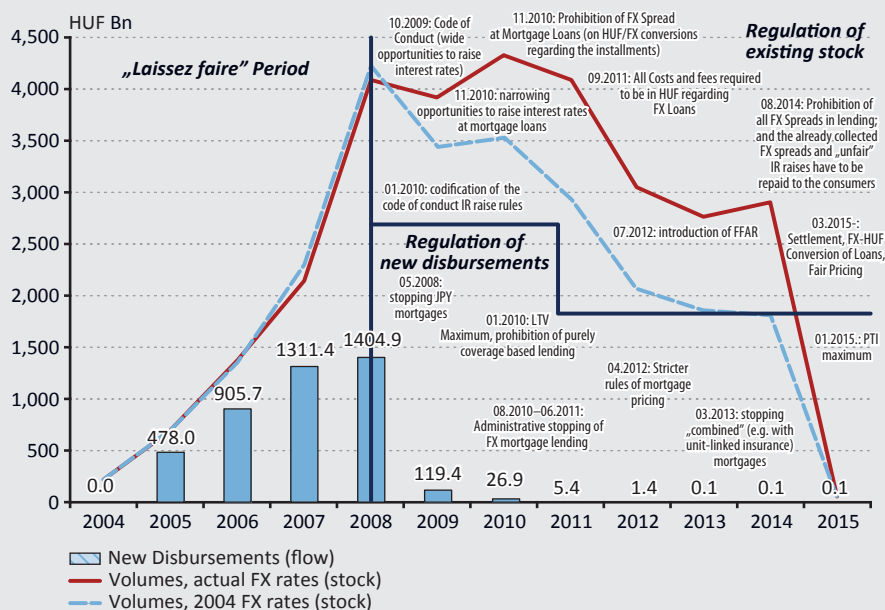
1. Bank managers' bonus schemes included only short-term volume growth targets, while the risk aspects (risk costs) of products were neglected.
2. As a consequence of the compulsion to increase volumes, which eclipsed the risk consideration, in the case of FX loans creditors strived to ease households' liquidity constraints by all means, which at the same time led to the evolution of widespread lending of a subprime nature.
3. The scope of loan purposes expanded considerably, also leading to an expansion in risks.
4. Creditors shifted the additional risks stemming from the schemes to their clients, but over the longer term this resulted in a significant increase in credit risks.
5. Over the short run, the use of Swiss franc financing was able to better ease households' liquidity constraints, but at the same time it proved to be much riskier over the longer term compared to euro-denominated lending.

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<sup>40</sup> For example, the fees and costs in connection with the conclusion of contracts, correspondence, production of statements and certificates, client visits, credit monitoring, termination, appraisal and replacement of collateral, amendments of contract, insurance services related to coverage on credits, as well as the administration of credit agreements and the closing of the related credit account.

6. The proper expression for the method of determining the interest rate is 'interest rate unilaterally changeable by the bank'. This product characteristic entailed the possibility of unfair unilateral increases in the interest rate.
7. For the profit target, products had other characteristics as well, which were subsequently found unfair by the court and by law as well.
8. Banks basically refinanced their long-term FX mortgage loans from short and synthetic sources. This technique entailed a non-negligible renewal risk, which was primarily realised as a cost for clients.
9. The excessive pursuit of growth resulted in an increase in credit institutions' liquidity risk, and its effect appeared in the costs of funds and thus in client costs as well.
10. The applied risk management methodologies and results only suggested false safety; they were unsuitable for the real measurement of risks.

**Figure 8**  
**Credit institutions' CHF-denominated household mortgage loans at current prices and with exchange rate adjustment, new lending at current prices and the regulatory steps affecting them 2004–2015**



Source: MNB

At the same time, the study also presented what systemic failure resulted from the regulatory and supervisory authorities' completely *laissez faire, laissez passer* approach to household lending from both prudential and consumer protection aspects, since market self-regulation does not work in this field. The other lesson is that if the regulation of a given activity is determined for a long time by the above *laissez faire* principles, its more prudent regulation that corrects the market failure and prevents its recurrence is a time-consuming process. It is difficult and time-consuming to remedy a systemic risk problem subsequently. The example of Hungarian household FX lending shows that the management of a complicated systemic problem may last as long as the emergence of the problem itself. Remedying the past problems and establishing the overall conditions for fair lending is expected to be completed in 2015.

## References

BALÁS, T. – BANAI, Á. – HOSSZÚ, Zs. (2015): A nemteljesítési valószínűség és az optimális PTI-szint modellezése egy háztartási kérdőíves felmérés felhasználásával (Modelling the probability of default and the optimum PTI level using a questionnaire-based survey of households). *MNB Occasional Papers* 117.

BARTA, GY. – SPURNY, T. – SURÁNYI, GY. (2011): Radikális terv a lakossági devizahitelek kezelésére (Radical plan to handle household FX loans). *Figyelő*, [http://fn.hir24.hu/gazdasag/2011/04/06/egy\\_radikalis\\_terv\\_lakossagi](http://fn.hir24.hu/gazdasag/2011/04/06/egy_radikalis_terv_lakossagi) (date of downloading: 20.01.2015).

BETHLENDI, A. – FÁYKISS, P. – GYURA, G. – SZOMBATI, A. (2014): A Magyar Állam mikroprudenciális és makroprudenciális szabályozásának és ellenőrzésének jellemzői a devizahitelezés területén. A folyamat hiányosságainak bemutatása. Fogyasztóvédelmi anomáliák (Characteristics of the microprudential and macroprudential regulation and supervision by the Hungarian State in the field of FX lending. Presentation of the deficiencies of the procedure. Consumer protection anomalies). Book chapter, *A devizahitelezés nagy kézikönyve* (Large manual of FX lending). Budapest: Nemzeti Közszolgálati és Tankönyv Kiadó.

BETHLENDI, A. (2011): Policy measures and failures on foreign currency household lending in Central- and Eastern Europe. *Acta Oeconomica* 61 (2), June.

BETHLENDI, A. (2009b): Olcsóbb pénzből nagyobb profit (Higher profit from cheaper money). *Figyelő*, 38.

BETHLENDI, A. (2009a): A hazai hitelpiac empirikus vizsgálata. Fejlődési irányok, makrogazdasági és pénzügyi stabilitási következmények (Empirical study of the domestic credit market. Directions of development, macroeconomic and financial stability consequences). Ph.D. thesis.



BETHLENDI, A. (2006): Maximálttól az indexáltig, innovációk a lakossági jelzálog-hitelezésben (From maximised to indexed, innovations in household mortgage lending). *Bank&Tőzsde*, 11–12.

BETHLENDI, A. – CZETI, T. – KREKÓ, J. – NAGY, M. – PALOTAI, D. (2005): Driving forces behind private sector foreign currency lending in *Hungary MNB Background Studies 2*.

CSAJBÓK, A. – HUDECZ, A. – TAMÁSI, B. (2010): Foreign currency borrowing of households in new EU member states. *MNB OP 87*.

FÁYKISS, P. (2014): A bank „veszélyes üzem” – Miért van szükség a banki likviditás szabályozására? (A bank is a ‘dangerous business’ – Why is it necessary to regulate bank liquidity?), [http://www.mnb.hu/Root/Dokumentumtar/MNB/Kiadvanyok/szakmai\\_cikkek/a-bankrendszer-jovoje/Faykiss\\_Peter\\_Likviditasi\\_eloirasok\\_szakmai\\_cikk.pdf](http://www.mnb.hu/Root/Dokumentumtar/MNB/Kiadvanyok/szakmai_cikkek/a-bankrendszer-jovoje/Faykiss_Peter_Likviditasi_eloirasok_szakmai_cikk.pdf) (date of downloading: 20.01.2015).

HOFFMANN, M. – KOLOZSI, P.P. – NAGY, M. (2014): A forintosítás időben elnyújtva csökkenti a jegybank mérlegét és így a forintlikviditást (The conversion to forint decreases the balance sheet of the central bank and thus forint liquidity extended in time). [http://www.mnb.hu/Root/Dokumentumtar/MNB/Kiadvanyok/szakmai\\_cikkek/Devizahitel/A\\_forintositas\\_idoben\\_elnyujtva\\_a\\_jegybank\\_merleget\\_es\\_igy\\_a\\_forintlikviditast.pdf](http://www.mnb.hu/Root/Dokumentumtar/MNB/Kiadvanyok/szakmai_cikkek/Devizahitel/A_forintositas_idoben_elnyujtva_a_jegybank_merleget_es_igy_a_forintlikviditast.pdf) (date of downloading: 20.01.2015)

KIRÁLY, J. – NAGY, M. (2008): Jelzálogpiacok válságban: kockázatalapú verseny és tanulságok (Mortgage markets in crisis: risk-based competition and lessons). *Hitelintézeti Szemle 7 (5)*.

KISGERGELY, K. (2010): Carry trade. *MNB Bulletin*, June.

MNB (2004): Additional risks of foreign currency-based house purchase lending. Report on Financial Stability. June. [http://www.mnb.hu/Root/Dokumentumtar/MNB/Kiadvanyok/mnbhu\\_stabil/mnbhu\\_stab\\_jel\\_0406/stab\\_jel\\_0406\\_hu.pdf](http://www.mnb.hu/Root/Dokumentumtar/MNB/Kiadvanyok/mnbhu_stabil/mnbhu_stab_jel_0406/stab_jel_0406_hu.pdf) (date of downloading: 20.01.2015).

MNB (2009): Report on Financial Stability. April 2009 [http://www.mnb.hu/Root/Dokumentumtar/MNB/Kiadvanyok/mnbhu\\_stabil/mnbhu\\_stab\\_jel\\_20090406/stabjel\\_2009\\_aprilis\\_hu.pdf](http://www.mnb.hu/Root/Dokumentumtar/MNB/Kiadvanyok/mnbhu_stabil/mnbhu_stab_jel_20090406/stabjel_2009_aprilis_hu.pdf) (date of downloading: 20.01.2015).

MNB (2014a): Financial Stability Report. November. [http://www.mnb.hu/Root/Dokumentumtar/MNB/Kiadvanyok/mnbhu\\_stabil/mnbhu\\_stab\\_jel\\_201411/Penzugyi\\_stabilitasi\\_jelentes\\_2014\\_november.pdf](http://www.mnb.hu/Root/Dokumentumtar/MNB/Kiadvanyok/mnbhu_stabil/mnbhu_stab_jel_201411/Penzugyi_stabilitasi_jelentes_2014_november.pdf) (date of downloading: 20.01.2015).

MNB (2014b): Pénzügyi fogyasztóvédelmi és piacfelügyeleti jelentés 2014 (Financial consumer protection and market supervision report), [http://www.mnb.hu/Root/Dokumentumtar/MNB/Kiadvanyok/penzgyi-fogyasztovedelmi-es-piacfelgyeleti-jelentes/Penzugyi\\_fogyasztovedelmi\\_es\\_piacfelgyeleti\\_jelentes\\_2014\\_publikalásra\\_20141204\\_digitalis.pdf](http://www.mnb.hu/Root/Dokumentumtar/MNB/Kiadvanyok/penzgyi-fogyasztovedelmi-es-piacfelgyeleti-jelentes/Penzugyi_fogyasztovedelmi_es_piacfelgyeleti_jelentes_2014_publikalásra_20141204_digitalis.pdf) (date of downloading: 20.01.2015)

MTI (2006): Bankszövetség: nem kell félni a devizaalapú konstrukcióktól (Hungarian Banking Association: No need to be afraid of FX-denominated schemes), MTI press release, 31 January. MTI News archives 1988–2014 (date of downloading: 20.01.2015).

MTI (2015): Bankszövetség: az autóhitelek terheit is csökkenti az elszámolás (Hungarian Banking Association: The settlement reduces car purchase loan debtors' burdens as well), MTI press release, 19 January. MTI News archives 1988–2014 (date of downloading: 20.01.2015).

NAGY, M. – VONÁK, B. (2014): Egy jól működő magyar bankrendszer 10 ismérve (10 features of a well-functioning Hungarian banking sector). [http://www.mnb.hu/Root/Dokumentumtar/MNB/Kiadvanyok/szakmai\\_cikkek/a-bankrendszer-jovoje/Egy\\_jol\\_mukodo\\_magyar\\_bankrendszer\\_10\\_ismerve.pdf](http://www.mnb.hu/Root/Dokumentumtar/MNB/Kiadvanyok/szakmai_cikkek/a-bankrendszer-jovoje/Egy_jol_mukodo_magyar_bankrendszer_10_ismerve.pdf) (date of downloading: 20.01.2015).

OGY (2012): Az Országgyűlés Alkotmányügyi, igazságügyi és ügyrendi bizottságának jelentése a 2002-2010. közötti lakossági deviza-eladósodás okainak feltárásáról, valamint az esetleges kormányzati felelősség vizsgálatáról (Report of the Constitutional, Justice and Rules of Procedure Committee of the National Assembly on exploring the reasons of households' foreign currency indebtedness between 2002 and 2010 and on the examination of the possible responsibility of the Government). J/5881.

HFSA (2012): Gyorselemzés a végtörlesztésről (Rapid analysis of early repayment). [http://felugyelet.mnb.hu/data/cms2334451/gyorselemzes\\_vegtorlesztes\\_120312j.pdf](http://felugyelet.mnb.hu/data/cms2334451/gyorselemzes_vegtorlesztes_120312j.pdf) (date of downloading: 20.01.2015).

SZIGEL, G. (2012): Kevésbé közismert (?) tények a magyarországi lakossági devizahitelezésről. Lakossági devizahitelezés Közép- és Kelet-Európában (Less known (?) facts about foreign currency lending to households in Hungary. Foreign Currency Lending to Households in Central and Eastern Europe), Conference organised by the Freedom and Reform Institute.