

# Phasing out household foreign currency loans: schedule and framework\*

*Pál Péter Kolozsi – Ádám Banai – Balázs Vonnák*

Due to a peculiar constellation of demand, supply and institutional factors, Hungary faced the 2008 economic crisis with a massive portfolio of household foreign currency loans. After several measures to mitigate the exposure of households, the permanent solution of phasing out foreign currency and foreign currency based mortgage loans was achieved in 2014. In this article, we argue that at the time of conversion the legal and economic conditions reduced the unavoidable risks to a reasonable level, where the expected social and welfare benefits of the conversion offset such risks. The implementation of the conversion was made possible by the coordinated foreign currency sale programme of the MNB. Under the programme, the MNB provided a total amount of EUR 9.1 billion to the banking system in a coordinated fashion, while promoting banks' cooperation and ensuring central bank FX reserve adequacy. Owing to the central bank's programme, the conversion took place without significant impact on the forint exchange rate.

**Journal of Economic Literature (JEL) Classification:** E58, E65, G21

**Keywords:** mortgage loans, financial stability, monetary policy, debt consolidation, conversion

## 1. Introduction – The circumstances of foreign currency lending to households in Hungary

On 15 January 2015, the Swiss National Bank decided to abandon the exchange rate cap on the Swiss franc against the euro. As a result, the forint exchange rate tumbled nearly 20 per cent against the Swiss currency. A few months earlier, these developments would have had a major impact on the financial position of hundreds of thousands of Hungarian families, the functioning of financial markets and the stability of the banking system, as had been seen on numerous occasions during the years of the crisis when the forint exchange rate experienced sharp

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\* The views expressed in this paper are those of the author(s) and do not necessarily reflect the official view of the Magyar Nemzeti Bank.

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The manuscript was closed in July 2015 so the study does not include the phasing out process – launched in August 2015 – of the other foreign currency and foreign currency based loans.

downward swings. In this case, however, a shock did not materialise; by the time of the announcement a large portion of households' foreign currency mortgage debt had been converted, in economic terms, into forint contracts.

The excessive foreign currency indebtedness of households has been a prominent topic in public policy discussions in recent years. While public discourse was dominated by the predicament of debtors, foreign currency lending posed a risk to the national economy in general and to all stakeholders of the economy in particular, typically not immediately during the accumulation of foreign currency debt, but after the deterioration of the economic environment. These risks and systemic problems led to the intervention of the state against unsecured foreign currency loans to households<sup>1</sup> and the phasing-out of the affected foreign currency mortgage loans in the autumn of 2014.

According to the literature, while households' indebtedness in foreign currency may have rational reasons (see, for example, *Ize 2005*), it may entail substantial risks for households. Households are generally incapable of managing the exchange rate risks arising from foreign currency borrowing or are unwilling to purchase products providing protection against exchange rate risk as they thus lose their "proceeds" from the interest spread. Ultimately, they take on an open exchange rate position. Debtors can still be prepared to handle the ensuing problems, provided that the amount of the borrowing does not exceed the amount that they could repay in the domestic currency. In this case, debtors would be able to make monthly payments even under an adverse exchange rate shock and higher instalment amounts. More often than not, however, debtors opt for foreign currency borrowing precisely because it allows them to borrow a larger amount than they would have access to in the domestic currency. In short, they are unprepared for the negative effects of increased long-term exchange rate volatility. Foreign currency loans, therefore, essentially facilitate the debt overhang of households. It should be noted that initially banks in Hungary offered products providing protection against the exchange rate risk, but they did not become popular among households and subsequently they gradually dropped out of the range of banking products, while mandatory exchange rate insurance has not been implemented.<sup>2</sup>

As opposed to households, the banking sector has access to a far more extensive toolset to mitigate the risks arising from foreign currency loans to households. Nevertheless, foreign currency lending to households with no natural hedge to eliminate exchange rate risk could represent a significant additional risk factor.

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<sup>1</sup> Unsecured foreign currency loans to households mean that, following the disbursement of foreign currency loans, a high percentage of households began to run open foreign exchange positions.

<sup>2</sup> For details on the possibility of a mandatory exchange rate insurance scheme, see *Asztalos (2013)*. We should also consider the axiom that the more protection a customer purchases against exchange rate risk, the more his interest rate will converge to the interest rate on a forint loan. Therefore – in extremis – the mandatory introduction of full exchange rate insurance coverage would be tantamount to putting a ban on foreign currency lending.

Typically, banks do not – and due to regulatory constraints, cannot – take on large open exchange rate positions; therefore, exchange rate movements do not have a direct impact on their loan portfolio. Debtors' exchange rate risks, however, may manifest themselves as increasing credit risks for banks. A shock-related, drastic surge in defaults may give rise to an unmanageable degree of losses. In addition, exchange rate depreciation raises the forint-denominated capital requirement of foreign currency loans, which will also have an adverse effect on capital adequacy. Besides increasing credit risks, banks may also have to face rising liquidity risks as a result of foreign currency lending. Banks often take recourse to foreign exchange swaps to obtain the foreign currency liquidity required for lending in foreign currency, and exposure to the swap market may involve severe risks, partly because of the short maturity of swap contracts, and partly because these contracts generally stipulate a margin requirement.

Due to these problems, the banking sector and households may impose a heavy burden on the state and ultimately, even the state faces increasing risks associated with foreign currency loans. If credit risks materialise, state intervention may become necessary both in the banking sector and the household sector. On the one hand, the government is expected to address the *en masse* default of debtors in light of the social problems involved. On the other hand, state involvement may also become necessary if the solvency of certain banks falters. Supervisory tools may need to be mobilised to resolve the situation of the affected bank, with a possible need for the indemnification of customers through the deposit guarantee scheme. Both cases may deplete state coffers. Depending on the bank's size, ownership structure and systemic position, the state may have to undertake the recapitalisation of the bank. Problems stemming from the increasing liquidity risks may also call for state intervention. Excessive foreign currency lending is also problematic because of the vulnerabilities<sup>3</sup> resulting from the domestic sector's exposure to exchange rate risk and the positions reflecting this exposure in the financial system, which, in turn, may distort monetary policy transmission and impair the efficiency of the central bank's monetary policy.

In the following, we address the issue of the phasing-out of Hungarian households' foreign currency and foreign currency based loans. The study is composed of the following parts: In the first chapter, we provide a brief overview of the accumulation of the portfolio in Hungary and the measures adopted during the crisis to tackle and alleviate the problem. In the second chapter we argue that before 2014 the conditions were not suitable for a comprehensive and efficient conversion. The third chapter presents the framework and parameters of the central bank's foreign currency sale programme supporting the phasing-out of household foreign currency loans. Finally, we sum up the expected positive effects of phasing out household foreign currency loans on the national economy.

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<sup>3</sup> See: Kovács (2013) and Lentner (2015).

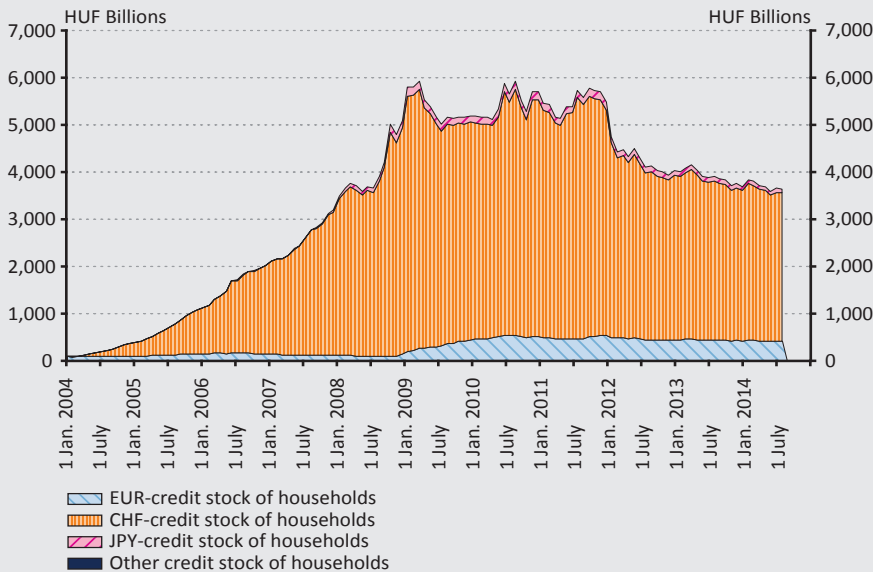
## 2. Evolution and proliferation of foreign currency household lending in Hungary and measures aimed at the mitigation of risks

Numerous empirical studies have focused on the driving forces behind the evolution of foreign currency lending, especially since the crisis.<sup>4</sup> The publications typically distinguish between demand, supply and institutional factors. In the following, we review the reasons behind the surge in foreign currency lending to Hungarian households and argue that most of the potential triggers may have contributed in Hungary. We proceed by describing government and central bank measures conceived before 2014 to address the problem.

### 2.1. Determinants of the surge in foreign currency household lending in Hungary

Foreign currency lending to households embarked on a steady rise in 2004, and the sector remained a net borrower up until 2009. Even after foreign currency lending had come to a halt, the portfolio was boosted further by the depreciation of the forint in 2009 and 2010 (*Figure 1*).

**Figure 1.**  
Foreign currency loan portfolio of the Hungarian credit institution sector, 2004–2014

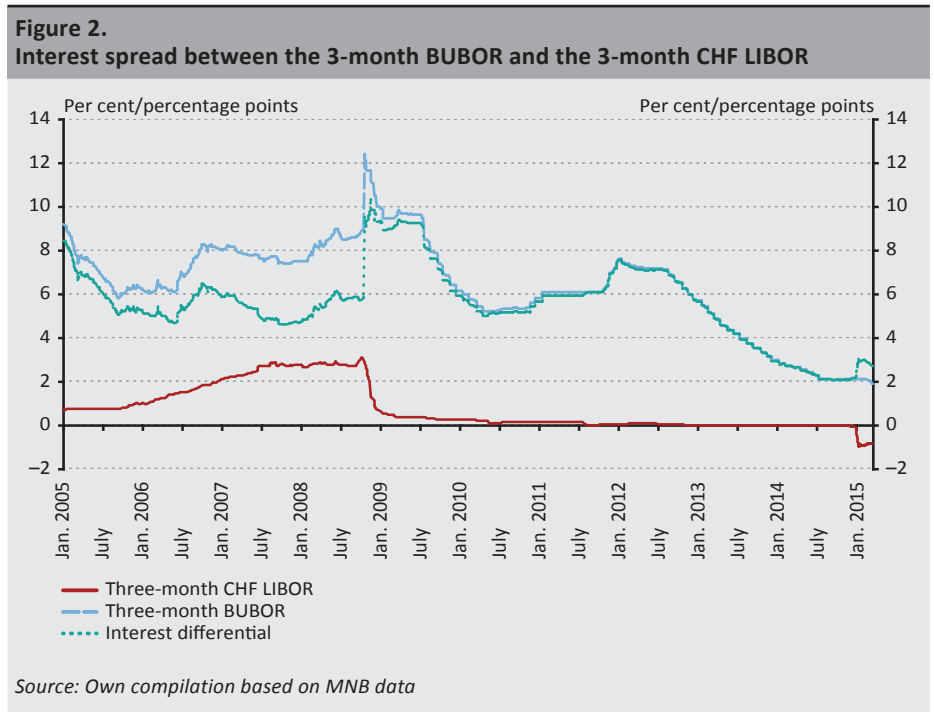


Source: Own compilation based on MNB data

<sup>4</sup> For a more comprehensive overview of the literature and a meta-analysis of the findings, see *Cuaresma et al. (2011)*. In addition, see: *Brown et al. (2014)*, *Beer et al. (2010)* and *Brown et al. (2013)*.

As described in detail below, demand, supply and institutional reasons contributed equally to the spread of foreign currency household loans in Hungary. The description of the demand and the supply sides below relies strongly on the analysis of *Hudecz (2012)*.

The beginning of the 2000s saw the evolution of high nominal forint interest rates due to lax fiscal policy, high government debt and risk premia, and a level of inflation which was considered high by international standards (*Figure 2*). The difference between forint interest rates and the interest rates prevailing in developed countries (especially euro and Swiss franc interest rates) was persistently larger than those observed in other CEE countries unaffected by FX lending.<sup>5</sup>



It is a common phenomenon that economic agents (typically households, but occasionally creditors as well) underestimate the exchange rate risk of foreign currency loans. In Hungary, this effect was reinforced by the relatively stable forint exchange rate, which concealed the threats and risks of exchange rate depreciation.<sup>6</sup>

<sup>5</sup> In economic terms, this interest spread could have been offset by the effect of the covered interest rate parity, i.e. the change in exchange rate; however, this effect does not necessarily take hold in practice, consequently, the interest spread may be effective.

<sup>6</sup> In addition, as the forint exchange rate was bolstered further by a speculative financial transaction in January 2003, chances of a potential weakening of the forint appeared rather slim.

As a consequence of the practically dual target system of the monetary policy regime – namely, inflation targeting and the intervention band of the exchange rate – from 2003 until the abolition of the band at the beginning of 2008, the central bank had to subordinate interest rate policy to the stability of the exchange rate, which led to more volatile interest rates and a more stable exchange rate in international comparison. Popularity of foreign currency loans increased even further as lower interest rates enabled a higher loan amount. In the virtual sense, i.e. without taking into account the exchange rate risk, the creditworthiness of the borrower improved. Having socialised in an environment of state paternalism, households may have been more inclined to undertake the moral hazard associated with the borrowing, i.e. they may have counted on the assistance of the state. This is consistent with the model developed by *Schneider and Tornell (2004)*, where the implicit bailout guarantee of the state encourages domestic actors with no foreign currency income to ease their liquidity constraint by foreign currency borrowing.

Since Hungary's accession to the euro area would have eliminated a part of the exchange rate risk associated with foreign currency loans (i.e. the risk of a shift in the EUR/HUF exchange rate), in anticipation of the imminent adoption of the euro,<sup>7</sup> households may have, to a certain degree, reasonably undertaken the exposure to the exchange rate risk. At the time of the surge in foreign currency household loans in Hungary, relatively fast accession (within 3–5 years) to the European currency union may have seemed a realistic possibility. It should be stressed that the proliferation of Swiss franc-denominated loans implied substantially higher vulnerability relative to potential indebtedness in euro, as the Swiss franc had historically been considered a safe-haven currency, and in the case of a crisis it could be expected to appreciate significantly.

As regards the supply side, importantly, Hungary made the forint fully convertible in 2001, and after capital controls had been dismantled, by the beginning of the 2000s it became legally possible for Hungarian economic agents to obtain some of the surplus liquidity of developed markets.

While global markets were characterised by loose monetary conditions and an abundance of liquidity, in view of the mounting inflation problems and the increased country risk, in 2003 the MNB raised the key policy rate significantly. Because of the level of the interest spread, banks were able to apply high interest margins in the case of FX loan products, given their more favourable interest rates compared to interest rates on forint loans. The emergence of foreign currency household lending generated fierce competition in the Hungarian banking market. Credit institutions, in turn, found themselves in the midst of risk-based competition; indeed, the desire

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<sup>7</sup> The MNB publication entitled "On the road to the euro" (2001) concluded that Hungary may become a member of the Monetary Union as early as 2006–2007.

and need to obtain a market share often led to excessive risk-taking. From 2003, subsidised forint loans were gradually phased out, steering not only customers, but also banks with significant accumulated capacities, automatically toward foreign currency loans. It is also important that, at the time of the FX lending boom, the securities potentially financing forint mortgage loans (mortgage bonds, covered bonds) did not have a sufficiently extensive market in Hungary that would have allowed banks to offer low-premium forint loans, possibly with fixed rate coupon, to their customers; on the other hand, given the high interest rate differential, this deficiency may not necessarily have been an actual constraint (*Csajbók et al. 2010*).

Besides demand and supply factors, we should also consider the formal and informal institutional environment in which the surge in foreign currency household lending took place. Based on the classification system of Williamson, a classical author of institutional economics, first of all we should explore the spiritual, mental and intellectual specificities characterising the community as a whole, and identify the formal regulatory characteristics that were relevant to the increasing popularity of foreign currency loans at the time. Some of these factors are more qualitative in nature and as such, are difficult to quantify: these may have included the “get-rich-quick” attitude emerging in the wake of the euphoria accompanying the political transition (convergence promise), banks’ excessive willingness to take risks, potentially lax and deficient regulations and the low level of Hungarian financial literacy.<sup>8</sup>

According to *Rodrik and Subramarian (2003)*,<sup>9</sup> the basis of sustainable development is an institutional system of adequate quality, comprising in particular institutions responsible for creating, operating, stabilising and legitimising markets. Although at the time of the Hungarian FX lending boom the legal framework ensuring the existence of the market was in place already, as has been clearly demonstrated by the uniformity decision of the Kúria, the ensuing FX debtor litigations and the escalation of the FX debtor problem, the market did not function adequately in the social sense of the word, and the underlying institutional system failed to address the arising problems. It also pointed to market failure that the fragmented group of national financial supervisory authorities was faced with a highly integrated financial sector dominated by massive financial conglomerates (*Bethlendi (2012)*). While information deficiencies were typical in financial supervision, the banking sector was characterised by a far more efficient and comprehensive knowledge and information transfer (“paralysis from the dividedness of supervision”). *Rodrik (2000)* holds that a high quality policy environment (i) sends clear signals to producers and investors with a view to achieving a socially optimal outcome; (ii) precludes rent-seeking; (iii)

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<sup>8</sup> The lack of widespread financial skills and knowledge and the discrepancy between financial knowledge and financial decisions have been confirmed by several surveys. See the MNB’s 2006 survey and the financial literacy research of the *State Audit Office (2013)*.

<sup>9</sup> See: *Rodrik and Subramarian (2003)*.

does not waste economic resources; (iv) is consistent with the specificities of the country and the administrative capabilities of the government; and (v) maintains social peace and stability. The spread of foreign currency household lending in Hungary signals that the Hungarian institutional system did not work adequately; incentives facilitated a socially sub-optimal outcome that allowed for the accumulation of excessive debt and ultimately posed severe stability risks to Hungary.

## **2.2. Pre-2014 measures taken to manage the problem of the accumulation of households' foreign currency mortgage debt**

The issue of foreign currency household lending also affected other countries in the Central and Eastern European region; however, experience shows that most of these countries took steps to curb and restrict the indebtedness of households in foreign currency. *Bethlendi (2011)*, *Bethlendi et al. (2015)* and international experience demonstrate that it would have been possible to curtail unsecured foreign currency loans to households both through macroeconomic measures (increasing national economy savings, reducing the interest rate differential,<sup>10</sup> higher exchange rate volatility) and through restraint on demand and supply (enhancement of widespread financial literacy, administrative and supervisory restrictions, moral suasion, market development). At the same time, it should be emphasised that there is no guarantee that these measures would have been efficient; in Romania, for example, the intervention failed to prevent the accumulation of a substantial foreign currency loan portfolio.

The situation of foreign currency debtors worsened in parallel with the deterioration in macroeconomic prospects. It should not be surprising, then, that the risks arising from foreign currency loans, in particular, households' mortgage debt, became the pivotal issue of the Hungarian history of the financial crisis. Since most households draw their income in forints and have limited ability to manage the exchange rate risk stemming from FX-denominated instalment amounts, developments in the forint exchange rate were particularly crucial. In March 2009 – as a result of a one-off shock sustained by the Central and Eastern European region – and in the second half of 2011, the forint depreciated significantly against the euro. In addition, the previously fairly stable EUR/CHF exchange rate experienced sharp swings from the summer of 2010. Between 2008 and 2011 the forint depreciated against the Swiss franc by 60–70 per cent overall. This hit Hungarian borrowers especially hard, as most FX debtors were indebted in CHF (*Figure 3*).

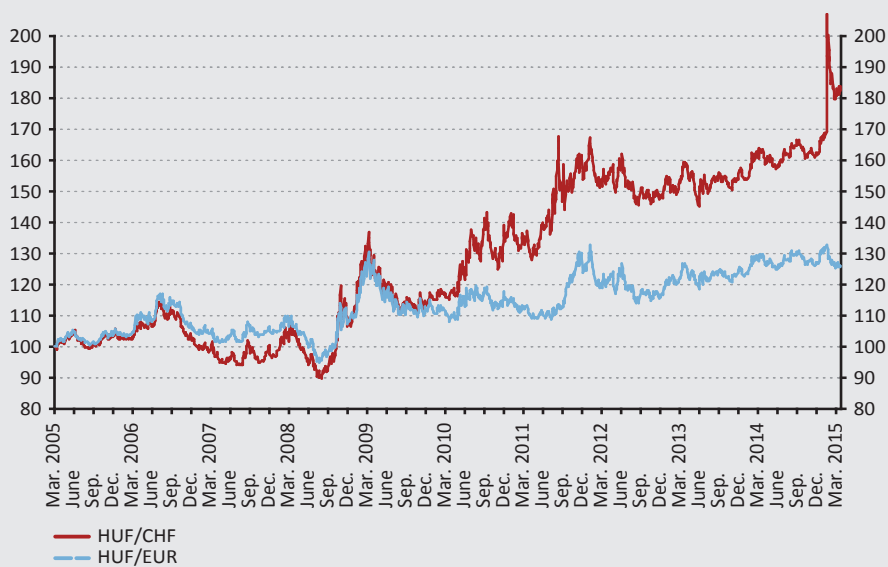
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<sup>10</sup> The reduction of the interest rate differential is often associated with the easing of monetary conditions, e.g. *Bethlendi (2011)*. We must bear in mind, however, that persistently low interest levels may only be achieved by restraining inflation, which requires – on a temporary basis – tight monetary policy. In the first years of the FX lending boom, a significantly lower level of interest rates would have led to higher inflation in Hungary, which would have resulted in higher nominal interest rates than those prevailing at the time. At the same time, the Hungarian situation calls attention to the special feature of the monetary regime, namely, that the intention to contain inflation gave rise to an exchange rate that stabilised at the strong edge of the intervention band, mitigating the level of the perceived exchange rate risk.



**Figure 3.**  
**EUR/HUF and CHF/HUF exchange rates from 2005**

(01/03/2005 = 100)



Source: Own compilation based on MNB data

Several government measures were adopted in response to the shocks to the exchange rate, with a view to alleviating the problems of distressed household and mitigating their exposure. As these measures have been discussed in detail in several publications and papers (e.g. *Banai et al. 2011*), we provide only a brief summary.

Although public discourse focused mainly on rising monthly payments due to exchange rate depreciation, banks' practice of raising interest rates also weighed on the debt burden of borrowers. Owing to the possibility of unilateral interest rate increases, during the years of the crisis interest rates rose sharply, occasionally even by 2 or 3 per cent compared to the initial levels, despite a significant decline in the EUR and CHF central bank base rate (*MNB 2014b*). For this reason, first in 2009 and subsequently in 2010, measures were taken to curtail banks' ability to raise interest rates. As a result, banks were only permitted to adjust their interest rates based on certain rules (pegged to a reference rate) or on a regulated basis (according to itemised provisions). This regulation, however, was often circumvented by credit institutions; banks prepared "cause and effect lists" with rather general explanations in order to justify increases in interest rates or other charges (*MNB 2010*). The pricing problem was eventually resolved by the adoption of the Home Protection Act which, however, only affected new loans. These steps succeeded to ease the problems surrounding the existing portfolio only to a limited degree.

The exchange rate cap system was launched at the end of 2011 as part of the Home Protection Package. Debtors entering the programme were entitled to repay their loans at an exchange rate far more favourable than the market rate (at CHF/HUF 180, EUR/HUF 250 and JPY/HUF 2.5 for CHF, EUR and JPY loans, respectively) until the end of the programme. The difference between the real and the preferential payment was shared between the state, the debtor and the banking sector. The principal part of the differential was transferred to a pool account, to be repaid by the debtor with the proviso that payments would start only after 2017. Thus, the programme implicitly assumed that the economic environment would improve significantly by 2017. The interest part of the loan was shared between the state and the banking sector. Participation in the programme rose sharply from 2012; by the summer of 2013, however, the increase virtually came to a halt. That notwithstanding, more than 40 per cent of debtors opted to enter the programme, which involved a portfolio of nearly HUF 1,500 billion.

Of the government measures taken before 2014, only the early repayment scheme succeeded in generating a considerable decline in debt. At the end of 2011, debtors with foreign currency based mortgage loans were given an opportunity for the early repayment of their loans (full prepayment) at the exchange rates of CHF/HUF 180, EUR/HUF 250 and JPY/HUF 2 for CHF, EUR and JPY loans, respectively). As the regulation did not require banks to provide, on a mandatory basis, forint loans to participants, three fourths of the debtors relied on savings to repay their debt at the preferential exchange rates. The total portfolio repaid by the participating 170,000 debtors amounted to around HUF 1,300 billion, of which HUF 310 billion was repaid from forint loans (*MNB 2012*). The opportunity was only available for a limited period of time: debtors were required to indicate their intention to take recourse to the early repayment scheme by the end of 2011, and within 60 days of the notice they were expected to close the transaction. Therefore, the programme was a realistic opportunity primarily for creditworthy customers or debtors with substantial savings (wealth). For debtors, the programme implied a debt relief of 20–30 per cent, while the banking sector sustained a loss of more than HUF 300 billion.

The National Asset Management Agency (NET) is tasked with assisting defaulting mortgage debtors. In cooperation with the banks, the institution is intended to offer a solution to some of the non-performing debtors in order to help them avoid eviction. With that in mind, the NET purchases the real property collateral behind non-performing loans and allows the former debtor to remain in the property as a tenant. Thus, although they lose their ownership, debtors can dispense with their debt and retain their home. During the purchases the NET is expected to consider the social circumstances of debtors, and institution is only permitted to purchase the property of socially disadvantaged debtors.<sup>11</sup>

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<sup>11</sup> According to the first schedule, the objective was for the NET to purchase 25,000 properties by the end of 2014 and, according to information as at September 2014, this goal is likely to have been achieved (NET already owned more than 22,000 properties at the time).

### 3. Factors permitting the phasing-out of Hungarian foreign currency household loans

The measures described above were unable to permanently and irrevocably resolve the problem of foreign currency debtors; household FX loans remained in the balance sheets of both banks and households. *Per definitionem*, the solution may have been the phasing-out of foreign currency and foreign currency denominated household loans in the autumn of 2014.

In the following, we present a list of the factors relevant to the timing of the measure, which demonstrates that the conversion took place at the first possible time when both the legal background and economic conditions were in place.

#### 3.1. Legislative environment

The first pre-requisite was the announcement of the Kúria's uniformity decision in June 2014, with binding effect in respect of all previous legal disputes and conflicting interpretations; indeed, this decision laid the foundation, in the legal sense, for the conversion. The uniformity decision of the Kúria provided clear guidelines on three issues:

- (i) Passing the exchange rate risk on to customers is not considered to be unfair in itself. However, if the relevant text of the contract is not clear and intelligible for the average customer, the contract concerned may be deemed null and void (requirement of transparency). Consequently, from an economic perspective, the exchange rate risk is essentially borne by the debtor.
- (ii) Unilateral interest increases are unfair if the contract fails to clearly and intelligibly define how and to what extent changes in the circumstances affect the customer's payment obligations. Pursuant to the Kúria's decision, the principles of proportionality, factuality and symmetry are applicable to interest rate increases.
- (iii) The charging of foreign exchange margins as a fee is unfair and null and void in all cases under any circumstances.

The Kúria's decision was particularly significant in view of the fact that, in parallel to the post-crisis deterioration of the macroeconomic environment and households' income position, the resolution of foreign currency household loans shifted increasingly toward litigation.<sup>12</sup> Consequently, before a comprehensive government measure could be taken in relation to foreign currency household loans, any open legal issues resulting from the lawsuits had to be closed.

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<sup>12</sup> The Advocacy Organisation of Bank Debtors was established in 2009.

- i.* The Kúria's decision obliged banks to settle with customers the overpayments deriving from unilateral interest rate and fee increases and the application of foreign exchange margins.
- ii.* As the Kúria's decision closed all legal disputes permanently and irrevocably, the legal grounds and legitimacy required for the settlement and the conversion were in place. Without these building blocks the entire process would have been jeopardised; indeed, the possibility of a conflicting legal decision would have raised the risks significantly, increasing the unpredictability of the programme.
- iii.* The Kúria's decision was also required in order to be able to establish the exchange rate to be applied for the purposes of the conversion; without this it would have been impossible to phase out foreign currency household loans. This was one of the most crucial legal issues in respect of household FX loans – the entire conversion exercises hinged upon the exchange rate at which the loans would be converted to forint contracts. The Kúria's decision in respect of the exchange rate risk stipulated that debtors were required to bear the exchange rate risk, which points to application of the market rate.

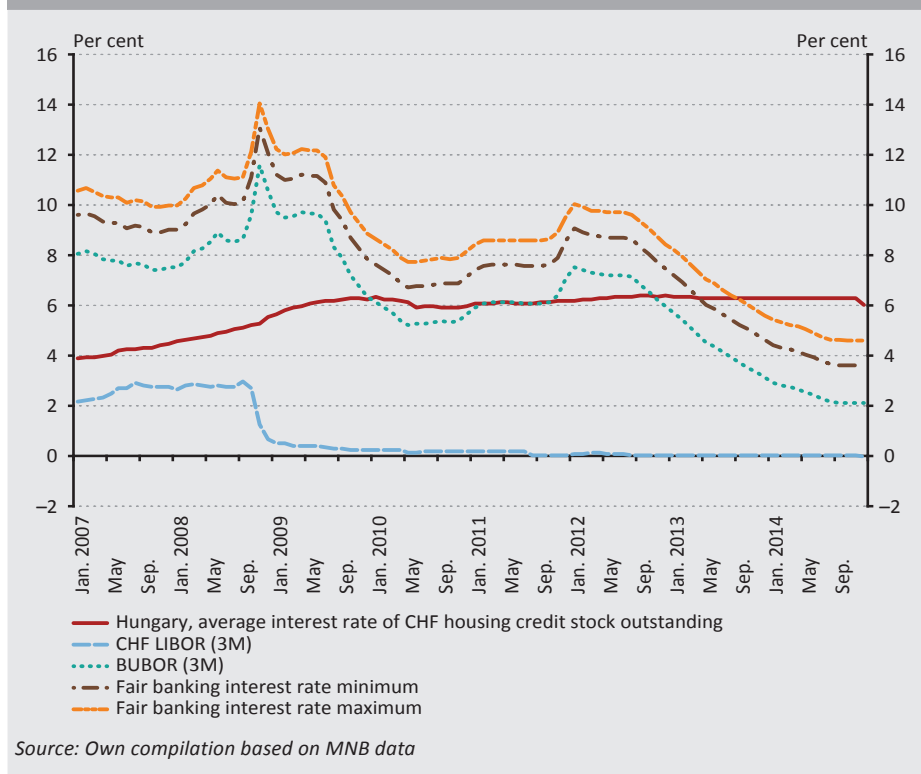
Taken together, the Kúria's uniformity decision laid the foundations for the comprehensive resolution of the problems with the foreign currency and foreign currency based loans of households, which the government implemented by law. In this context, the government formulated a regulation on the settlement of the contractual terms of foreign currency loans. Pursuant to the regulation, after the review of the exchange rate margins and unilaterally raised interest rates, damages arising from the contract amendments which were declared invalid were refunded to borrowers. In September 2014, Parliament adopted Act XXXVIII of 2014, pursuant to which – except for overdrafts, credit card debts and subsidised loans – the overpayments of debtors were to be considered, on a retrospective basis, as principal pre-payments for all loans granted after 1 May 2004 and those that were not terminated before 26 July 2009. Consumer claims were calculated as the difference between the original principal debt and the outstanding principal debt thus recalculated, and the difference between the original debt and the recalculated, matured debt. In the case of live contracts, the amount calculated accordingly will be deducted first from matured debts, then from the main debt (*MNB 2014b*). In addition to the settlement, the interest rates on loans are likely to have returned to levels prevailing at the disbursement of the loan, which is a significant result, considering that the rate increases were extremely high on occasion (debtors could expect a reduction by around 2 percentage points). Another important measure affecting household lending was the amendment of the legislation on consumer loans, which ushered in the so-called "fair banking system". The regulation prescribes the application of fixed or reference interest rates for all

newly concluded or existing consumer loan contracts, essentially extending the rules of “transparent pricing” effective from April 2012 to all new mortgage loans.<sup>13</sup>

### 3.2. Forint interest rates

The reduction of forint interest rates was a crucial factor in the conversion. The MNB launched its easing cycle in 2012, bringing down the central bank base rate from 7 per cent to 2.1 per cent by the summer of 2014. In parallel with the cuts, a corresponding interest rate reduction took place in the entire economy. This was particularly important in ensuring that the conversion did not entail an increase in interest and monthly payments, which strengthened the legitimacy of the conversion. For households, the legislation on fair banking eased the transition

**Figure 4.**  
Retrospective comparison of Hungarian FX household loans and forint interest rates calculated in accordance with the fair banking regulation



<sup>13</sup> In the case of loans with a maturity of less than three years, the interest rate and the spread is fixed for the entire term of the loan, without the possibility of modification. In the case of loans with a maturity of more than three years, the interest rate or the spread may be modified no more than five times during the term of the loan, once every three years at most. Modification of the interest rate and the interest rate spread is conditional upon changes in measurable indicators designed to capture, primarily, changes in circumstances beyond the financial institution’s direct control (e.g. cost of funds, changes in liquidity premia). These indicators are reviewed by the MNB and published on its website.

to forint loans and provided a transparent framework for potential future price adjustments. Overall, by 2014 the interest rates were reduced to a level that ensured – subject to compliance with the regulations on fair banking – that foreign currency debtors did not have to face an interest rate increase on account of the conversion (*Figure 4*).

### 3.3. Risk perception

The timing of the phasing-out of foreign currency household loans is affected by macroeconomic conditions and the macroeconomic environment. The conversion of foreign currency loans into forints without substantial exchange rate depreciation is possible only if a domestic sector takes the exchange rate position in a manner that reduces the country's exchange rate risk. Owing to the economic policy consolidation in general and to the consolidation of the general government in particular (steadily declining government deficit, reduction of public debt<sup>14</sup>), and thanks to the improving risk perception of Hungary, by 2014 an economic environment emerged that permitted the implementation of the phasing-out of foreign currency household loans. This also required a substantial decline in sovereign risk premia: at 150–170 basis points in the autumn of 2014, the value of the 5-year sovereign CDS is considered low by international standards.

### 3.4. Central bank room for manoeuvre

On the one hand, phasing out FX loans, i.e. the settlement and the conversion, affects bank's results, while on the other hand, it significantly rearranges banks' balance sheets. As regards balance sheet effects, both the settlement and the conversion point to a decline in banks' foreign currency receivables with a parallel opening in their exchange rate position. For operational and regulatory reasons, banks are expected to close their positions,<sup>15</sup> and purchase foreign currency for this purpose. The need to cover the foreign currency requirement of the settlement and conversion of foreign currency loans would have weighed on the forint exchange rate if the foreign currency had to be purchased from the market. For a smooth implementation of the conversion, therefore, the MNB needed to provide banks with a sufficient amount of foreign currency while ensuring that the level of its foreign exchange reserves did not drop below the level expected by the market and by the international organisations either at present, or looking ahead.<sup>16</sup> By reducing external debt – the determinant of reserve adequacy – in particular, short-term external debt, by 2014 the reserve adequacy of the MNB reached a level that guaranteed the safe implementation of the conversion (*Figure 5*).

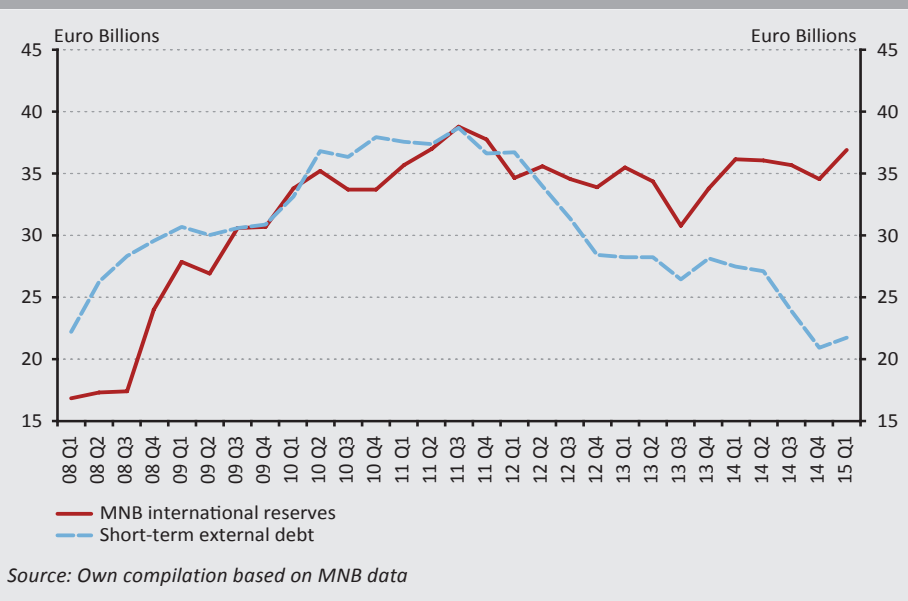
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<sup>14</sup> For further details see: *Baksay, Palotai and Szalai (2015)*.

<sup>15</sup> Although not all of the banks close their open positions completely, an open exchange rate position entails an additional need for capital, which may be costly. On the other hand, banks are also reluctant to undertake excessive risks in respect of the exchange rate and accordingly, most of them strive to achieve nearly closed positions.

<sup>16</sup> For more details about modern central banks' objectives of holding foreign exchange reserves, see *Nagy and Palotai (2014)*.

**Figure 5.**  
The MNB's foreign exchange reserve and short-term external debt



### 3.5. Outstanding foreign currency loans

The size of the portfolio to be converted is also relevant for the feasibility of the programme. As a result of the abolition of foreign currency lending, the early repayment scheme and the decline in loans outstanding due to normal operations, the portfolio of FX mortgage loans to be converted fell from its peak of EUR 19 billion to EUR 9 billion by 2014. Combined with the expansion in foreign exchange reserves, this meant that the proportion of FX reserves to be used for the conversion dropped to a mere 25 per cent, compared to significantly higher values that would have been required in previous years.

While the legal and economic conditions listed above did not completely eliminate the risks associated with the conversion by 2014, they reduced the risks to a level at which, on the whole, the expected net social and welfare benefits of the conversion justified the commencement of the conversion.<sup>17</sup>

<sup>17</sup> A number of other proposals have been made for the resolution of the FX debtor problem, of which the concept proposed by György Surányi, Tomas Spurny and György Barta in 2011 received the most publicity. Although the package developed by the authors offered a solution to a number of relevant problems, in the absence of the conditions detailed above it would have entailed a prohibitive level of risk. Even the authors pointed out the risk associated with the insufficient level of the central bank's foreign exchange reserve; however, they did not discuss several other risks, perhaps the most important of which is the lack of a uniform legal assessment of household foreign currency loan contracts. In the absence of social consensus on the legality of the contracts, any conversion programme would have run the risk of its "fairness" being called into question later on the grounds of potential court rulings, which, ultimately, would undermine the irrevocability of the solution.

## 4. The central bank's foreign currency sale programme supporting the phasing-out of foreign currency household loans

In the case of FX loans, conversion in the legal sense and conversion in the economic sense are different. In the legal sense, the foreign currency conversion takes place when the loans previously recognised in foreign currency are recognised in forint in banks' books. In the economic sense, an FX loan pegged to a fixed exchange rate should be considered a forint loan as henceforth, the portfolio "behaves" as a forint loan (especially since the size of the portfolio will no longer be subject to changes in the exchange rate). In the economic sense, the conversion was complete upon signature of the agreement between the government and the banks on 9 November 2014, the pegging of the exchange rates of the conversion in the agreement and the subsequent hedging. In the legal sense, banks were required to update their books with the conversion by 31 March 2015.

### 4.1. Hedging requirement stemming from the phasing-out of foreign currency loans

Due to differences in banks' characteristics and the business policy pursued by banks, several financing and FX position hedging models have evolved in the Hungarian banking sector. According to a stylised and schematic approach, the following two basic models can be identified.

- FX lending from FX financing (on-balance sheet hedging of the FX position);
- FX lending from forint financing (hedging of the FX position by FX contracts).

Neither of these two prototypes exists in a pure form; banks typically use a combination of the financing and hedging models. Nevertheless, some banks are more committed to one model than to the other. Regardless of the preferred financing model, banks will respond to the settlement and the conversion by closing their open exchange rate position. Depending on the FX lending model and the costs incurred, this either implies the repayment of FX liabilities or the closure of foreign exchange swaps. Both solutions require foreign currency, i.e. increase the foreign currency demand. Therefore, in case of a market purchase, the sheer magnitude of the programme would trigger an exchange rate effect, leading to a marked change in monetary conditions.

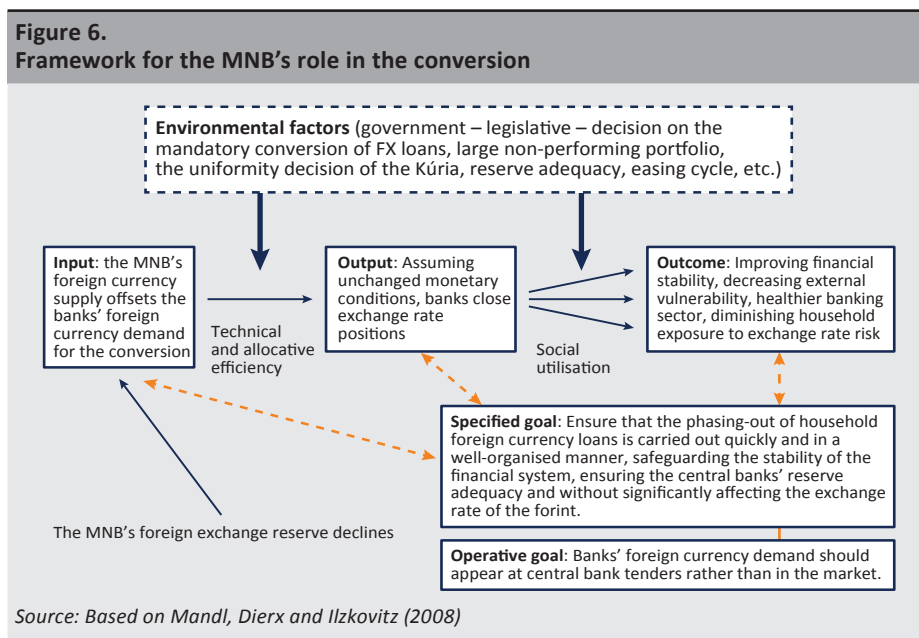
The magnitude of the foreign currency demand stemming from the conversion of FX based household mortgage loans is in the range of EUR 10 billion (HUF 3,000 billion). If this demand had emerged on the market, it would have generated a steep depreciation of the forint exchange rate. This magnitude of forint sales has been unprecedented so far, but according to *Kiss and Molnár (2012)*, in 2008 the



forint position of non-resident participants fell by HUF 2,000 billion in the span of two months, which translated into a 30 per cent depreciation of the forint. The appearance of the conversion-related foreign currency demand in the market may have induced even more severe weakening of the exchange rate, given the larger volume and the concentrated nature of the demand. In addition, domestic forint sales may have prompted non-resident participants to follow suit, further exacerbating the exchange rate weakening. All things considered, potential exchange rate depreciation of 30 per cent is probably an optimistic lower estimate. All of these considerations called for a public policy intervention embodied in a central bank foreign currency sale programme. The fact that, pursuant to the Act on the Magyar Nemzeti Bank, the MNB's mandate is to maintain financial stability, also underpinned the need for the creation of an MNB programme; namely, provided that the programme does not jeopardise the primary objective (price stability), the central bank will need to "assume an important role in the well-organised phasing-out, settlement and conversion of foreign currency loans".<sup>18</sup>

#### 4.2. Framework and the form of the MNB's role

With respect to the efficiency of public policy measures, in accordance with the conceptual model of *Mandl-Dierx-Ilzkovitz (2008)*, we should distinguish between short-term technical goals (input), longer-term, more socially grounded objectives



<sup>18</sup> Magyar Nemzeti Bank: The Magyar Nemzeti Bank provides the necessary amount of foreign currency to Hungarian banks to phase out households' FX loans. Communication, 24 September 2014.

(output) and the efficiency and social impact embodying the relationship between these categories (outcome). Exogenous factors, i.e. those unaffected by the given programmes, may have key significance in respect of both outputs and outcomes (“environmental factors”). The conversion programme of the MNB can be aligned to the above model as follows.

The FX supply of the MNB can be considered the input factor of the programme, which is contingent upon the MNB’s reserve adequacy. Under the programme, banks have access to foreign currency, and thus they are able to close the positions opening up as a result of the phasing-out of household FX loans, which, as an outcome at the social level, strengthens financial stability, reduces external vulnerability, ensures healthier balance sheets for banks and eliminates households’ exposure to exchange rate risk. The above process is also affected by environmental factors, mainly, the economic, legal and social environment in which it takes place, and the relevant reaction of individual stakeholders, in particular, banks.

At the same time, however, it is not self-evident and intuitive which instruments should be used to achieve the central bank’s objectives. The MNB declared that the aim of the programme is to ensure the rapid, well-organised phasing-out of household foreign currency loans, while safeguarding the stability of the financial system and without significantly affecting the exchange rate of the Hungarian forint,<sup>19</sup> which means that the central bank instruments to be used should be selected or designed along these lines. In addition, the MNB stipulated that the reserve adequacy of the central bank must be maintained throughout the programme. The MNB is also entitled to opt for a direct foreign exchange market intervention to prevent undesired and justified exchange rate movements; however, in this case the well-organised manner of the process would not have been ensured. Moreover, in the case of an intervention it is not guaranteed that the foreign currency provided by the central bank is used in accordance with the central bank’s objectives. In the case of uncoordinated central bank FX sale tenders – those subject to banks’ immediate, discretionary decisions – utilisation other than for central bank purposes can be practically ruled out; however, from the aspect of stability it must be considered that, due to banks’ unique strategies, substantial FX demand may appear in the FX market, which may undermine the efficiency of the central bank programme and have other, undesired implications. Coordinated central bank tenders ensure, even at a theoretical level, that the foreign currency is used strictly in accordance with central bank objectives; in addition, we can rule out the possibility of banks’ purchasing the required foreign currency in the open market. Consequently, this form of central bank involvement provides optimal conditions for the achievement of the MNB’s declared objectives.

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<sup>19</sup> Magyar Nemzeti Bank: The Magyar Nemzeti Bank provides the necessary amount of foreign currency to Hungarian banks to phase out households’ FX loans. Communication, 24 September 2014.

### 4.3. Parameters of the central bank's coordinated foreign currency sale programme

The next chapter presents the parameters of the central bank's coordinated foreign currency sale programme. Each parameter is described in the context of its relation to central bank (specified and operative) goals.

We assume that the conversion of foreign currency loans and the appearance of banks' hedging requirement are separate events, given that the latter manifests itself immediately after the announcement of the conversion exchange rate, while the actual conversion may take place at a different time. The appearance of banks' hedging requirement and the related use of central bank FX reserves are also separate events, as the change in the exchange rate position and the use of the foreign currency – i.e. the repayment of FX liabilities and the closure of swap transactions – do not necessarily coincide in time. Consequently, the FX requirement related to the settlement and the conversion may materialise gradually, stretched over a period of years; in other words, the use of reserves is not necessarily concentrated either.

The MNB announced a fixed price<sup>20</sup> tender for both euro sale facilities, in consideration of bank limits. The MNB provided euro liquidity to the banks, and banks are required to cover the exchange rate risk between the EUR and the CHF.<sup>21</sup> The table below presents the parameters of the central bank programme aligned to the declared central bank objectives (*Table 1*).

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<sup>20</sup> A number of approaches may provide guidelines for pricing. Consideration should be given to the no-arbitrage band of FX swaps and to the fact that, due to the term premium, long-term funds are typically available with higher interest rates; therefore, their continued holding and the repayment of short-term funds implies a more expensive financing structure for the bank compared to the early repayment of long-term funding.

<sup>21</sup> The central bank announced the settlement phase on 23 September 2014, and the conversion phase was handled by the extension of the settlement programme. The Monetary Council decided on the latter at its meeting on 4 November 2014.

<sup>22</sup> Banks' ability to reduce short-term external debt may be limited by exogenous factors (certain client deposits, margin accounts linked to derivative transactions) and by the difficulties surrounding the early repayment of short-term external debt.

<sup>23</sup> *Magyar Nemzeti Bank (2015)*

<sup>24</sup> The conversion tenders represented a novelty compared to the settlement from two perspectives: (1) by nature, the conversion imposed far more substantial foreign currency demand, and (2) the hedging requirement arose in a far more concentrated fashion. The latter can be attributed to the fact that, due to legal differences and the different accounting methods applied, banks' FX requirement did not arise simultaneously in the case of settlements, while banks' FX positions immediately opened upon the announcement of the conversion exchange rate, accompanied by an immediate hedging requirement.

<sup>25</sup> The agreement was signed by all banks with a significant portfolio of FX and FX based mortgage loans. Consequently, no bank had an opportunity for conversion in the open market and the potential acquisition of unfair advantages.

<sup>26</sup> In the conversion phase the MNB defined a simultaneously valid, combined limit amount for both FX sale instruments, while in the settlement phase separate limits were stipulated. For the unconditional instrument, in addition to the existing 2016–2017 maturities the MNB announced, albeit to a limited degree, the instrument for 2015 maturities as well, which may have benefited banks that finance their foreign currency loans through short-term foreign exchange swaps.

<sup>27</sup> Selected Decisions and Resolutions of the International Monetary Fund.

<sup>28</sup> Pursuant to Decision No. 6790-(81/43) (20 March 1981) of the IMF, MCP is defined as: "action by a member or its fiscal agencies that of itself gives rise to a spread of more than 2 percent between buying and selling rates for spot exchange transactions between the member's currency and any other member's currency would be considered multiple currency practice and would require the prior approval of the Fund".

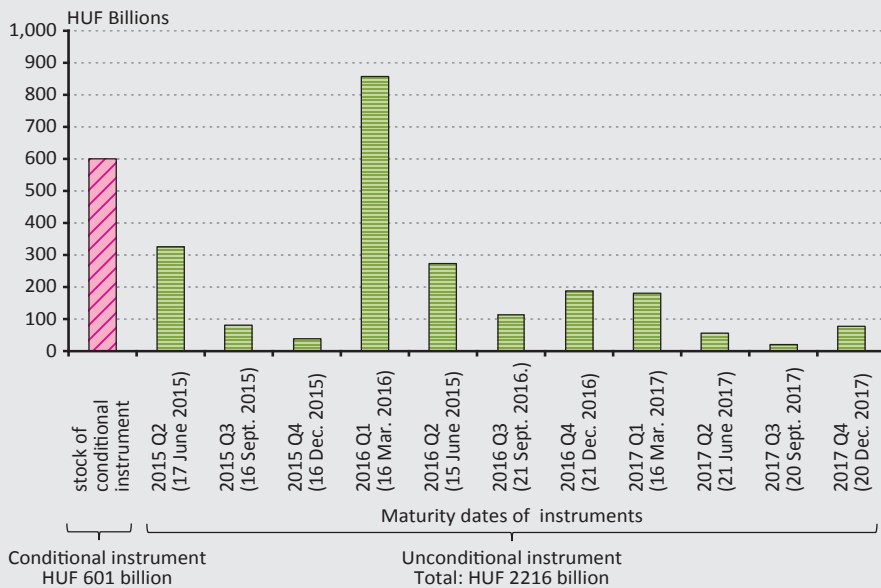
<b>Table 1.</b>	
<b>Parameters of the central bank's foreign currency sale programme and the declared objectives of the MNB</b>	
<b>Specified central bank objectives</b>	<b>Parameters of the MNB's settlement and conversion related foreign currency sale tenders</b>
<b>Speed</b>	<p>The timing of the phasing-out of foreign currency household loans largely depends on the speed at which the central bank can provide banks with the required foreign currency. This, in turn, depends on the reserve adequacy. Therefore, it was a key criteria for the programme to ensure ample room for manoeuvre for the MNB in respect of its reserves by autumn 2014. Banks' adjustment plays an important role in the central bank's ability to ensure the adequacy of reserves; indeed, a cooperative attitude on the banks' part may help reduce the reserve requirement. The individual elements of monetary policy instruments ensure that banks have a vested interest in reducing the short-term external debt which is fundamentally important from the perspective of reserve adequacy. If banks fail to reduce short-term debt,<sup>22</sup> their access to foreign currency will be stretched out over a longer period of time. With that in mind, the MNB introduced two central bank instruments:<sup>23</sup> a facility conditional upon the reduction of short-term external debt, and a longer-term, unconditional instrument.</p> <p>In the case of the conditional instrument, banks must reduce their short-term external debt by at least 50 per cent of the foreign currency received. The foreign currency liquidity is rolled over by banks in swap transactions with the MNB until the repayment of the short-term debt; thus the amount received will remain with the MNB until its actual use.</p> <p>The longer-term, unconditional instrument is typically a foreign exchange swap transaction (usually a cross currency interest rate swap – CIRS –) combined with a spot euro sale transaction. It is designed to provide a hedging opportunity for banks that cannot reduce their short-term external debts due to their financing structure built on long swap-transactions or long-term liabilities. In the settlement phase, in the context of the unconditional transaction, banks had access to FX liquidity on long-term maturities only. Subsequently, as the level of reserves ensured more room for manoeuvre, the MNB announced as many as three maturities for 2015 for the conversion tenders (owing to the short term of the tenders, in these cases the MNB entered into FX swap contracts, and banks' recourse was limited).</p> <p>Both facilities support the adequacy of reserves. In the case of the conditional instrument, the foreign exchange reserves decrease in the short run, whereas the MNB's need for foreign exchange reserves also declines through the repayment of short-term external debt and, in turn, the MNB's existing room for manoeuvre expands. The unconditional instrument does not reduce the level of foreign exchange reserves in the short run: the utilisation of the reserves – adjusted to banks' needs – will be spread out over time.</p>
<b>Well-organised manner</b>	<p><b>Timing of the programme</b></p> <p>On 23 September 2014 – two months before the adoption of the act on the conversion on 25 November 2014 – the MNB decided to provide to the Hungarian banking system with the foreign currency needed to phase out household foreign currency loans, including their settlement and conversion into Hungarian forint. As a result of the decision, banks were aware that they would not have to obtain the FX liquidity needed for the settlement and the conversion in the market, as they were given an opportunity to do so at the MNB, in a well-organised manner.</p> <p><b>Formal agreements</b></p> <p>The MNB had announced the upper limit of banks' recourse at consultations with the banks during the settlement phase; however, on 7 November 2014 it entered into formal agreements with each affected counterparty regarding their participation at the conversion tenders.<sup>24</sup> The MNB undertook to provide the credit institutions concerned with the entire FX requirement for the hedging transactions related to the conversion. The credit institutions, in turn, undertook to obtain the full amount of foreign currency required for their hedging transactions from the central bank instead of from the FX market.<sup>25</sup> On 7 November 2014, the MNB signed an agreement with the Hungarian Banking Association as well, with the intention to regulate the key business terms and conditions of the transactions related to the conversion.</p> <p><b>Parameters of the instruments</b></p> <p>The parameters of the instruments providing FX liquidity (especially their maturity) were aligned to the maturity structures of banks, the applied financing models and the specificities of the hedging instruments, which ensured flexibility and provided an incentive for banks. In the conversion phase, the MNB adjusted the conditions on the FX sale instruments in line with the improving reserve latitude, increasing the flexibility of the instruments even further.<sup>26</sup></p>
<b>Financial stability, exchange rate neutrality</b>	<p>In the spirit of exchange rate neutrality, the spot FX sale transaction was executed at the official EUR/HUF exchange rate of the MNB effective on the day of the bids. This is consistent with the relevant provision of the International Monetary Fund,<sup>27</sup> under which IMF members are prohibited to pursue multiple currency practices (MCP) without the permission of the IMF.<sup>28</sup> The MNB's programme provided the full amount of the foreign currency required for the phase-out of foreign currency based household mortgage loans. There was no need for banks to obtain FX liquidity in the market, which strengthened financial stability.</p>

#### 4.4. Central bank foreign currency sale programme and the liquidity of the banking system

Under the programmes related to the phasing-out of foreign currency household loans, the banking sector can purchase foreign currency in exchange for forint liquidity held with the MNB. For a successful resolution of the FX debtor problem, banks need to have the required forint liquidity available on the one hand, and, on the other hand, the liquidity of the banking sector should not drop below the critical level even after the expiry of the settlement and conversion swaps, as liquidity is equally indispensable for normal banking operations and lending.

In the autumn of 2014, the liquidity conditions for the phasing-out of foreign currency household loans were clearly given: although there were some differences on an individual bank basis, the forint liquidity surplus of the banking sector as a whole significantly exceeded the liquidity required for the settlement and the conversion.<sup>29</sup> In the autumn of 2014, banks typically held HUF 4,800–5,100 billion in the key policy instrument of the MNB, while the forint requirement of the phasing-out of FX loans amounted to around HUF 2,800 billion. For the temporal smoothing

**Figure 7.**  
**Forint value of the foreign currency funds allocated through the MNB’s FX tenders by instrument and maturity**



Source: Own compilation based on MNB data

<sup>29</sup> The significance of the liquidity level of the banking system lies in the fact that, assuming smoothly functioning interbank markets, an adequate level of liquidity would also be sufficient to address potential one-off bank liquidity problems.

out of FX use, it needs to be considered that, on a structural basis, the liquidity of the banking sector increases year after year (particularly owing to the inflow of EU funds and the Funding for Growth Scheme).

Based on the conditions on central bank FX sale instruments, the decline in forint liquidity will be gradual, with limited market effects. That notwithstanding, it is advisable to take into account the potential channels of bank adjustment because the expiry<sup>30</sup> (Figure 7) of the related FX swaps will alter the liquidity structure of the banking sector significantly, and the adjustment may affect additional markets as well, such as government securities markets.<sup>31</sup>

#### 4.5. Results of the central bank tenders

The first tender of the settlement phase was held on 13 October 2014. Tenders of the conversion phase commenced on 10 November 2014. The MNB held a total of 12 tenders, selling EUR 9.1 billion to banks with high concentration (Table 2).

<b>Table 2.</b>					
<b>Results of the settlement and conversion tenders</b>					
<b>Allocation of central bank instruments related to settlement and forint conversion (EUR billion)</b>					
<b>Tender dátuma</b>	<b>Instruments related to settlement</b>		<b>Instruments related to forint conversion</b>		<b>Total</b>
	<b>Conditional instrument</b>	<b>Unconditional instrument</b>	<b>Conditional instrument</b>	<b>Unconditional instrument</b>	
13.10.2014	230	750	–	–	980
20.10.2014	0	0	–	–	0
27.10.2014	0	0	–	–	0
03.11.2014	13	0	–	–	13
10.11.2014	0	0	1627	6207	7834
11.11.2014	–	–	28	32	60
17.11.2014	0	0	–	–	0
24.11.2014	0	0	–	–	0
01.12.2014	0	0	–	–	0
08.12.2014	50	38	–	–	88
22.12.2014	–	–	–	50	50
23.01.2015	–	–	–	102	102
<b>Total:</b>	<b>293</b>	<b>788</b>	<b>1655</b>	<b>6391</b>	<b>9127</b>
"–": tender for the instrument was not announced on the given date					
Source: Own compilation based on MNB data					

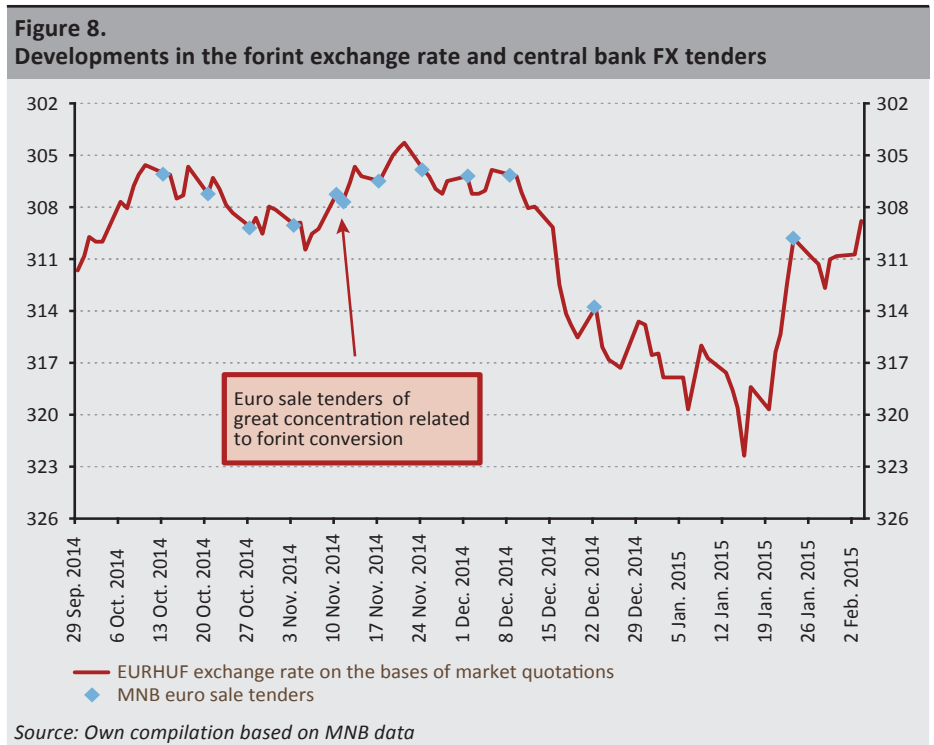
<sup>30</sup> In March 2015, in consideration of its increased latitude in respect of the FX reserves, the MNB announced that it would allow the partial early termination of bank FX swap contracts concluded in relation to the phasing out of household FX loans. Source: Magyar Nemzeti Bank: Banks are given early access to a portion of the foreign currency purchased for the conversion. Communication, 30 March 2015.

<sup>31</sup> For further details see: Hoffmann, Kolozsi and Nagy (2014).

The banking system’s portfolio of foreign currency and foreign currency based consumer mortgage loans amounted to EUR 10.8 billion before the settlement. As a result of the settlement, this amount was reduced to EUR 9 billion. The conversion requirement was smaller than this: on the one hand, stock numbers had to be adjusted for a depreciation of EUR 1.5 billion on the affected loan portfolio and, on the other hand, for the value released from this amount as a result of the settlements (EUR 0.4–0.6 billion). Accordingly, banks’ hedging requirement in relation to the conversion can be estimated at EUR 8 billion.<sup>32</sup> In summary:

- taking recourse to the EUR 8 billion allocated at the conversion tenders of the MNB, banks covered the related hedging need nearly in full at the MNB;
- the MNB allocated nearly EUR 1 billion to the banking sector to hedge the bank settlements related to the application of the foreign exchange margins and unilateral interest rate or interest rate premium increases, which was probably a somewhat smaller amount than the total hedging requirement of the settlement.

Overall, the central bank’s FX sale programme covered the banking sector’s entire foreign currency demand for the phase-out of household FX loans which,



<sup>32</sup> Magyar Nemzeti Bank: The MNB’s foreign currency tender has brought success; banks have almost entirely covered the forint conversion. Communication, 10 November 2014.

in addition to correspondence between FX stock data and the volume of foreign currency sold by the central bank, is confirmed by the lack of a material exchange rate effect. If the foreign currency required for the settlement and the conversion had been purchased in the market, it would have generated substantial exchange rate depreciation; exchange rate data confirm that such depreciation failed to materialise. On the days of the FX tenders the exchange rate did not deviate from “normal” values, neither in terms of volatility nor the direction of the movement, which demonstrates that banks relied on the central bank to obtain their foreign currency requirement (*Figure 8*).

## **5. Summary**

In 2014, foreign currency household mortgage loans were phased out. The implementation of the phasing-out was made possible by changes in legislation, the central bank’s increased room for manoeuvre, the decline in CDS spreads, the reduction of the foreign currency loan portfolio and the reduction of interest rates. The settlement and especially the conversion, generated substantial foreign currency demand, which was satisfied through the MNB’s foreign currency sale programme.

Since household FX lending posed a risk not only to the finances of households but also to the financial system and the economy as a whole, the phasing-out of FX denominated mortgage loans affected more than just the financial position or exchange rate exposure of households.<sup>33</sup> As a result of the conversion, the net worth and monthly disposable income of households will no longer depend on fluctuations in the exchange rate; the exchange rate risk previously faced by households has disappeared. The settlement and the “fair banking system” regulation also points to a lower and more predictable household debt burden, which may improve their consumption and investment intentions.

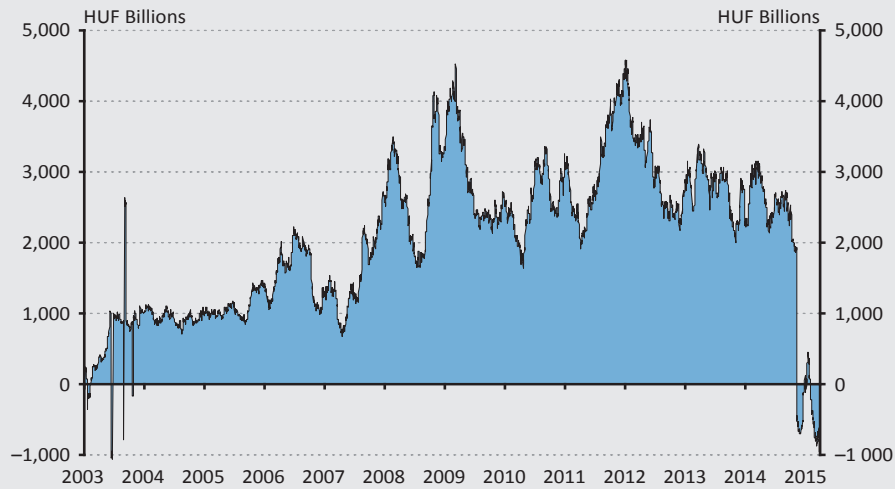
On the whole, the conversion has a positive effect on the stability of the banking system. As a result of the euro sale transactions between the MNB and the affected banks, and the net FX swap exposure of the banking sector practically disappeared: compared to a typical stock of HUF 2,000–3,000 billion, by the end of the year the portfolio practically shrank to zero (*Figure 9*); the position vis-à-vis the rest of the world is nearly entirely hedged by the offsetting stock vis-à-vis the MNB. The conversion may reduce short-term external liabilities as well, generating a downward shift in rollover risk. From 1 January, with the announcement of the fixed conversion exchange rate, the credit risk associated with the affected FX loans

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<sup>33</sup> For more details on the elimination of foreign currency household lending, see: *Erhart, Kékesi, Koroknai, Kóczyán, Matolcsy, Palotai and Sisak (2015)*.



**Figure 9.**  
**Net swap stock of the banking sector, 2003–2015**



Source: Own compilation based on MNB data

declined, which improves the quality of banks' loan portfolios and mitigates the sensitivity of the capital adequacy ratio to exchange rate movements.

The two additional substantive elements of the phasing-out of the FX loans, namely the establishment of the regulatory framework for the settlements and for "fair banking", are likely to have exerted a direct, negative impact on the profitability and capital accumulation capacity of the banking sector over the short term; these effects, however, should be assessed in light of the net balance of the entire "package". It is important to see, however, that the settlement is a *legal* measure in substance; in other words, it should not be considered a policy move; indeed, regardless of the form of the settlement, banks would not have been able to save the related expenses in any case. Reducing the interest rates to "fair" levels and guaranteeing the transparency of interest rate changes (also in relation to existing contracts) – *ceteris paribus* – may serve the interests of credit institutions over the medium term through the regained confidence of customers; thus, overall, the package resolving the problem of households' foreign currency loans may have a positive impact on financial intermediation both directly and indirectly.

The strengthening of the banking sector and thus, the entire financial system, reduces Hungary's risk premia, with a beneficial effect on banks' expenses and the central budget's cost of funds. Declining yields in the government securities market reduces the interest expenses of the state, allowing the fiscal policy to achieve a faster reduction of government debt and/or a more pronounced economic upswing.

Conversion improves the efficiency of the monetary policy transmission and expands the central bank's room for manoeuvre. With the mitigation of financial stability risks, market shifts in the exchange rate affect the real economy and inflation through the traditional channels once again; the effects of temporary rebounds and downward shifts are dampened, and thus the interest rate policy of the central bank is allowed to focus increasingly on long-term trends. On balance, both directly and through indirect channels, the resolution of the problem of foreign currency loans reinforces the financial system and supports economic growth in a sustainable manner.

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