Fixing an impaired monetary transmission mechanism: the Hungarian experience

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Abstract

In the 2000s, after the introduction of inflation targeting, most monetary transmission channels were weak in Hungary, making monetary policy less effective. Inflation expectations were unanchored and fiscal policy was unsustainable. Households and the government built up high debt levels mainly denominated in foreign currency. The financial crisis exacerbated earlier problems related to the transmission mechanism. In addition to regular monetary policy tools, the central bank also reacted to the crisis with targeted measures to reduce vulnerability and improve the effectiveness of the transmission mechanism. Recently, transmission channels have strengthened, giving monetary policy more room for manoeuvre. This paper presents the rationale for the policy measures taken after the outbreak of the crisis and their results.

Keywords: Transmission mechanism, central banking, monetary policy, Hungary

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1. Introduction

In an inflation targeting regime, the monetary transmission mechanism needs to function properly if the primary objective of price stability is to be achieved. An effective transmission mechanism can provide sufficient room for manoeuvre in the implementation of monetary policy.

In the 2000s, after the introduction of inflation targeting, most monetary transmission channels were weak in Hungary, making monetary policy less effective. Inflation expectations were unanchored and fiscal policy was unsustainable. Households and the government built up high debt levels denominated mainly in foreign currency. Due to the economy's increasing vulnerability, monetary policy had to attenuate the impact of renewed increases in risk premia again and again, instead of focusing on its primary objective. The financial crisis exacerbated earlier problems related to the transmission mechanism. As transmission channels were impaired, monetary policy was unable to mitigate the impact of the crisis, further increasing an already enormous output loss.

The gradual improvement in international risk perceptions, the adjustment of foreign currency debt and the change in fiscal policy widened the room for manoeuvre in monetary policy and facilitated the easing cycle starting from 2012. In parallel with regular monetary policy tools, the central bank explored targeted measures to reduce vulnerability and improve the effectiveness of the transmission mechanism. Several measures were implemented to reduce indebtedness and bring down foreign currency debt. For example, the Self-financing Programme and the conversion of FX loans helped reduce outstanding foreign debt and the balance sheet exposure of economic agents, reducing the economy's vulnerability. Recently, the effectiveness of the transmission mechanism has increased and monetary policy has gained additional room for manoeuvre. This paper presents the rationale for the policy measures taken after the outbreak of the crisis and their results.

The rest of the paper is structured as a follows. Section 2 describes the problems of the monetary transmission mechanism before the crisis. Section 3 provides an overview of the main processes during the crisis. Section 4 presents the measures to reduce vulnerability and improve the effectiveness of the transmission mechanism. Section 5 concludes.

2. The transmission mechanism before the crises

From June 2001 until early 2008, the Magyar Nemzeti Bank (MNB) employed an inflation targeting regime in conjunction with an exchange rate band. Since early 2008, a freely floating exchange rate regime has been in operation. From the time inflation targeting was introduced, monetary policy relied mostly on the exchange rate channel to influence economic growth and inflation. After 2001, a large fiscal deficit combined with insufficient internal savings increased the economy's vulnerability and constrained monetary policy. From the mid-2000s, the exchange rate channel became increasingly impaired as households had accumulated a large amount of foreign currency-denominated debt. This made them sensitive to exchange rate movements, so that the depreciation of the home currency weighed

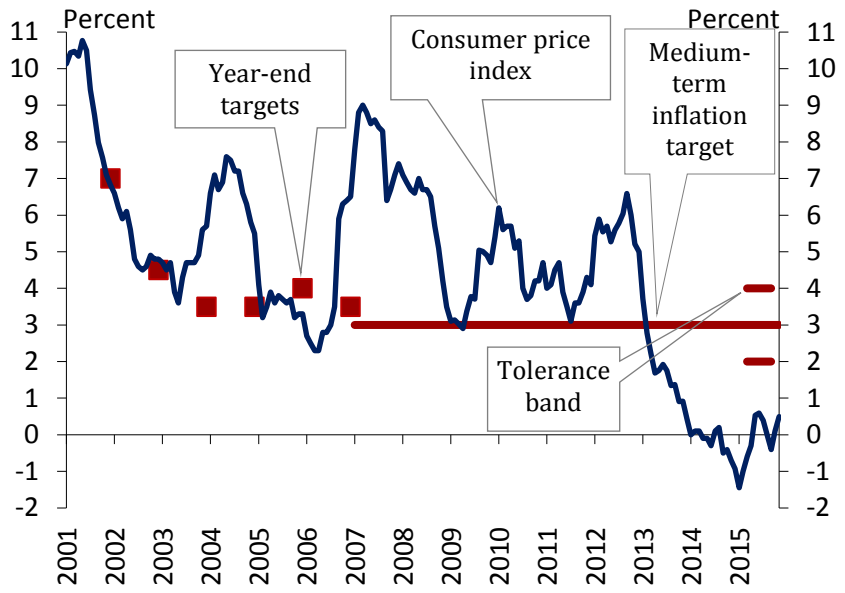
on consumption. As other transmission channels – the expectations, interest rate channels etc – were also weak, room for manoeuvre in monetary policy was limited.

2.1 High inflation expectations

From a policymaker's point of view, anchored inflation expectations help to make monetary policy more effective and flexible. In the case of an inflation shock, a smaller monetary policy reaction is needed to push inflation toward the medium-term inflation target. As a result, the output cost of disinflation, as measured by the sacrifice ratio, is lower.

The expectations channel is highly relevant for Hungary because disinflation has been one of the key challenges since the transition to a market economy. After the introduction of inflation targeting, inflation overshot the official inflation target for several years (Graph 1). In the pre-crisis period, the difference between actual inflation and the central bank's inflation target was attributable mainly to shocks (oil and food price shocks, indirect tax hikes and increases in administered prices) that were beyond the control of monetary policy. However, other factors also contributed to the overshooting of the inflation target, especially high inflation expectations.

Developments in inflation and the inflation target — Graph 1



Sources: Hungarian Central Statistical Office and MNB.

The fact that inflation regularly exceeded the inflation target made it challenging to anchor expectations. The inflation expectations of Hungarian households co-moved closely with the actual inflation figures and were backward-looking. Between 2001 and 2008, average one-year-ahead inflation expectations were around 7%, which was significantly higher than the inflation target in the 2000s, and expectations were also highly volatile in international comparison (Table 1). As expectations were unanchored, inflation expectations reacted strongly to increases in the prices of energy and food products (Gábriel et al (2014)). The gap between the expected inflation rate and the inflation target, coupled with the high volatility of expectations,

showed that, compared with other inflation targeting economies, in Hungary the inflation target did not sufficiently coordinate the expectations of economic agents (Table 1).

Developments in inflation expectations in the 2001–08 period Table 1

	Average difference between inflation expectations and target	Average difference between actual HICP and target	Volatility of inflation expectations	Volatility of actual HICP
Hungary	**2.8**	**1.5**	**5.7**	**4.4**
Czech Republic	–0.4	0.8	1.3	4.2
Sweden	–0.8	–0.1	0.3	0.9
United Kingdom	–0.6	–0.1	0.5	0.8

Note: Quantified inflation expectations can be derived from qualitative survey data of European Commission by using the extended Carlson–Parkin method. For more details about the methodology, see Gábriel (2010).

Sources: Eurostat, MNB calculations based on European Commission data.

2.2 Premium shocks

Shifts in the perceived riskiness of a country may have a significant impact on the exchange rate. In a small open economy, changes in the nominal exchange rate have a direct and significant effect on both inflation and the real economy. Financial stability concerns may also come to the fore if exchange rate movements become highly volatile. If there is a transitory upward movement in the risk premium on financial assets, and a resulting flight from the currency, monetary policymakers may have to respond by raising interest rates.

Between 2001 and 2008, the risk premium on Hungarian assets was higher and more volatile than in other European inflation targeting countries (Table 2). Despite the high global appetite for risk, there were several episodes of increased pressure on sovereign bond yields even in this period. Interest rates jumped in 2003 following speculation against the forint and also after a surprise shift of the exchange rate band. Temporary political uncertainties also led to a sharp increase in government bond yields. The fiscal deficit was considerably above 3% of GDP prior to the crisis. Furthermore, the private and the public sectors had accumulated a large stock of foreign currency-denominated debt, making the economy vulnerable. Abrupt temporary increases in the risk premium led to extra incentives to raise the policy rate. Estimates for 2001–08 show that, compared with other countries in the region, the MNB put more emphasis on smoothing out exchange rate fluctuations due to premium shocks (Vonnák (2010)). Thus, when international risk appetite suddenly reversed, the MNB had to signal its commitment to maintaining nominal stability more clearly than the central banks of other countries. These constraints became increasingly binding after the outbreak of the Global Financial Crisis.

Bond yields in the 2001–08 period

Table 2

	5Y bond		10Y bond	
	Mean	Variance	Mean	Variance
Hungary	**8.0**	**1.3**	**7.4**	**0.6**
Czech Republic	3.8	0.6	4.4	0.5
Sweden	3.9	0.6	4.3	0.5
United Kingdom	4.6	0.3	4.7	0.1

Source: Bloomberg.

2.3 The spread of foreign currency lending

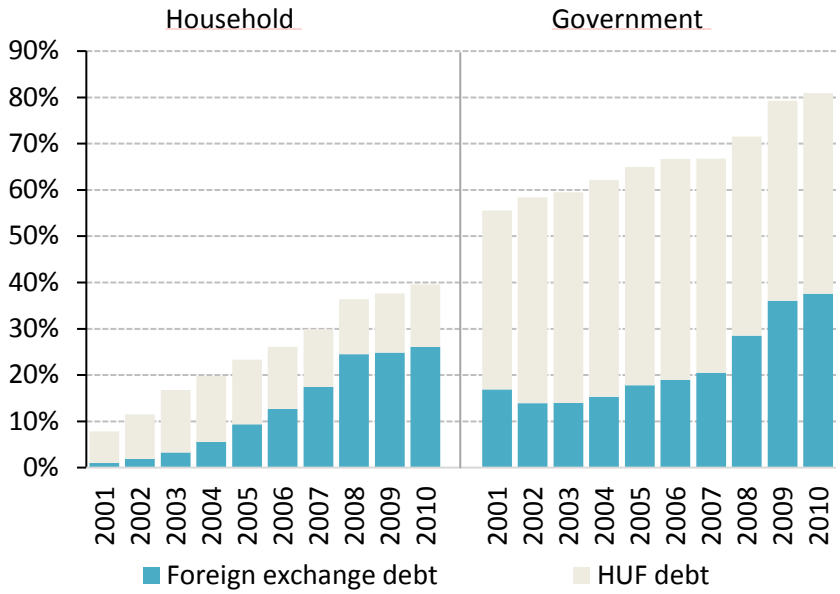
Monetary policy decisions influence supply and demand conditions in the credit market. A change in the base rate affects lending activity through the lending and balance sheet channels.

When inflation targeting was introduced, the depth of Hungarian financial intermediation was limited, weakening the lending and balance sheet channels. In the following years, the depth of intermediation increased in parallel with the pickup in borrowing. However, increased lending activity was accompanied by increasing vulnerability. Foreign currency loans gained ground in both the private and the public sectors (Graph 2). Hungarian households increasingly took on debt in Swiss francs and in euros, and to a smaller extent in Japanese yen as well.

Household FX debt increased dramatically after Hungary's accession to the European Union and accounted for nearly 70% of total household liabilities during the crisis. Both demand and supply factors had contributed to the spread of foreign currency loans. The credit demand of households was fuelled by their rising income and favourable income expectations. Increasing optimism was linked to the European Union accession and a stable macroeconomic environment. On the supply side, the banks turned to riskier but profitable household lending. There was also a significant interest rate differential between the Hungarian forint and foreign currency-denominated borrowing, which contributed to the spread of FX lending. These developments led to a significant unhedged FX position, given that the incomes and the wealth of households are principally denominated in forints.

The spread of foreign currency-denominated loans weakened the monetary transmission mechanism. Interest rates relevant for households with foreign currency-denominated loans were not linked to the central bank base rate. The build-up of household debt had also affected the traditional exchange rate channel of the transmission mechanism. Episodes of depreciation had important consequences for indebted households. When the Hungarian forint depreciated, households with a high FX debt burden reduced their consumption spending because of higher loan instalments and negative wealth effects. This decline in household consumption partly offset the positive effect of the depreciation on exports.

Household and government debt as a percentage of GDP Graph 2



Source: MNB.

3. The crisis period

Unsustainable financing at the outbreak of the financial crisis led to a sharp rise in the Hungarian risk premium. The Hungarian economy was particularly affected by the decline in risk appetite, as the economy was deemed highly vulnerable due to its large sovereign foreign debt and balance sheet exposures. The rise in the risk premium was combined with a significant exchange rate depreciation, resulting in large capital outflows and financial stability problems in the banking sector. As a result, financial stability considerations started to play an ever greater role in shaping interest rate decisions. Monetary policy had less room to manoeuvre during a period when the state of the real economy would have called for looser monetary conditions.

3.1 Monetary policy

The financial crisis exacerbated earlier problems related to the transmission mechanism. The unhedged FX position of Hungarian households posed a significant risk to the stability of the balance sheets of both households and banks. Some households tightened their belts, so that they could continue to pay their instalments. The decline in household consumption offset any growth effects that would have stemmed from increased competitiveness due to the depreciation.

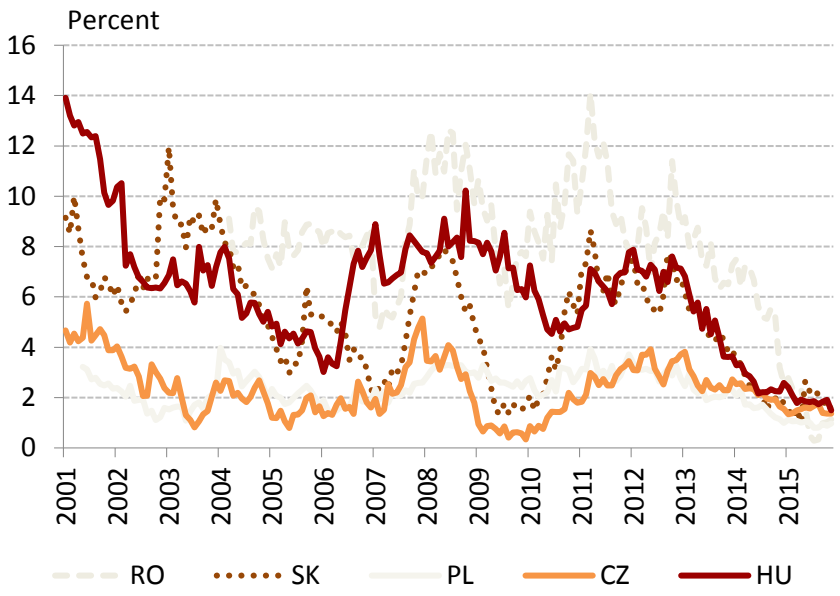
At the end of 2008, the exchange rate was under significant depreciation pressure. Bearing in mind financial stability concerns, the MNB increased the base rate significantly. As both monetary and fiscal policy were constrained, output contracted sharply. Banks were required to write down losses, and their profitability declined. A sizeable and prolonged balance sheet adjustment started, which led to a significant contraction in lending. In addition to supply side constraints, demand

constraints also contributed to the decline in credit growth, as households became more cautious.

The weakness of the economy started to ease in 2010 following the gradual normalisation of the global economic situation. Besides external developments, domestic factors (the implementation of a more disciplined fiscal framework, increasing domestic savings, structural reforms etc) also contributed to the improvement. From the end of 2012, inflation gradually slowed and has remained at near-zero levels since the beginning of 2014. Favourable cost-side pressure, restrained demand, the gradual adjustment of expectations and the cuts in regulated energy prices all contributed to the moderation in inflation.

From late 2012, households' inflation expectations declined in line with actual inflation and in accordance with the backward-looking nature of expectations. The main contributing factors were a reduction in fuel and regulated energy prices in parallel with low commodity price developments. The expectations of Hungarian households have fallen to levels similar to those of countries with histories of sustained low inflation (eg the Czech Republic and Poland) (Graph 3).

Households' inflation expectations — Graph 3



Sources: Hungarian Central Statistical Office, MNB calculations based on European Commission data.

Inflation expectations have now been low and stable for some time. If the MNB continues to keep inflation in line with the medium-term target, household inflation expectations may become more forward-looking. As a result, in the case of an inflationary shock hitting the economy, inflation expectations should continue to remain close to the target, which should also lead to a quicker easing of the price shock. If expectations remain anchored in the long run, this may contribute to the sustainability of the low inflation environment and make monetary policy more effective.

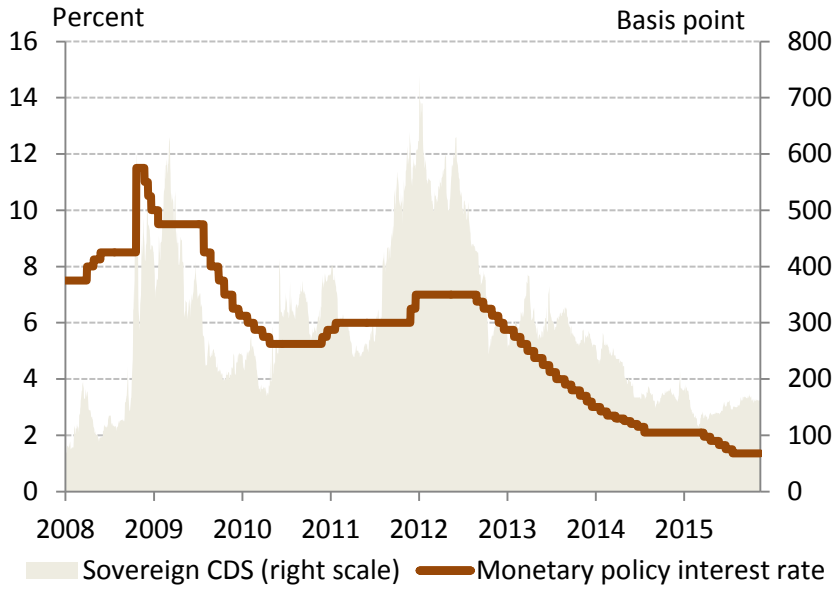
The adjustment of outstanding foreign currency debt, combined with the low underlying inflation dynamics and more anchored inflation expectations brought

about by the global financial crisis, gradually gave monetary policy more room for manoeuvre. As a result, monetary policy was able to respond to the low inflation environment and weak economic demand. These developments allowed the MNB to implement a rate-cutting cycle which ended in June 2015. In the course of the easing cycle started in August 2012, the interest rate was reduced by a total of 565 basis points from 7% (Graph 4). According to estimates, the rate-cutting cycle increased inflation on average by 1 percentage point each year between 2013 and 2015, thus avoiding deflation. In addition, lower rates stimulated economic activity; the easing cycle also increased GDP by around 1 percentage point in the same period (Felcser et al (2015)).

The rate-cutting cycle was supported by a steady decline in the risk premium. As a result of decreasing vulnerability, monetary policy was able to react to the negative output gap in line with the framework of the flexible inflation targeting regime.

Central bank base rate and CDS

Graph 4



Sources: MNB, Bloomberg.

3.2 New measure to stimulate lending: the Funding for Growth Scheme

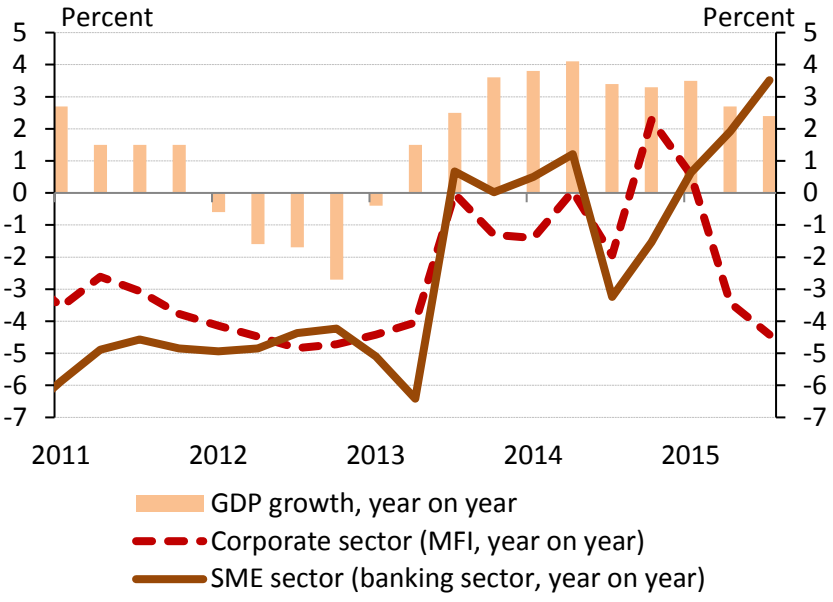
Credit conditions tightened significantly after the outbreak of the financial crisis, resulting in a decline in corporate lending. Small and medium-sized enterprises found it particularly difficult to find financing. As banks' risk tolerance weakened, longer-term loans declined within the SME sector, which could have led to long-term negative growth effects. Monetary policy was unable to tackle the problem using the traditional channels of the monetary transmission mechanism. Therefore, the MNB started to look for alternative instruments to ease monetary conditions.

To alleviate the disruptions observed in lending to SMEs, the MNB launched the Funding for Growth Scheme in June 2013 and then its extension (FGS+) as a temporary monetary policy tool. Its aim was to support the economic recovery, and

encourage lending to this segment of the economy. The FGS considerably improved SME's access to credit on favourable terms. Overall, around 31,000 enterprises received financing and utilisation of the FGS was HUF 2,126 billion (6.6% of GDP) until the end of 2015. As a result, the decline in corporate lending has stopped and the programme has had a positive impact on GDP growth as well (Graph 5). Based on our empirical investigations, in 2013 the programme generated significant new investment in the SME sector that would not have happened otherwise. Some 30% of investment undertaken by participating firms is attributed to the FGS, but this result is heterogeneous with respect to firm size. This ratio is higher for micro firms, namely 60% (Endrész et al (2015)). As a result, the growth effect of the two phases of the FGS has been around 1% in both 2013–14 and 2014–15 (MNB (2015a)).

In the long run, as market-based lending is preferable, the schemes will be gradually phased out as lending conditions improve. The MNB introduced an exit phase of the programme from the beginning of 2016 with stricter conditions in terms of both amount and loan purpose. The one-year additional availability of FGS loans may ensure the smooth return to market-based lending both by credit institutions and SMEs.

Growth rate of loans outstanding to the entire corporate sector and SMEs — Graph 5



Note: In the case of the corporate sector, the time series is based on transactions, while the SME data are based on estimated transactions from Q4 2013.

Sources: MNB and Hungarian Central Statistical Office

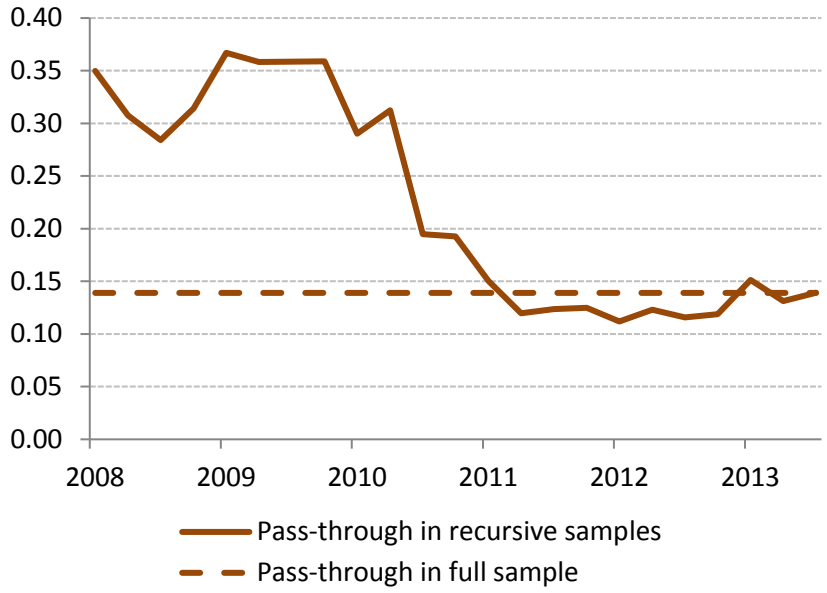
3.3 Further decline in the effectiveness of the exchange rate pass-through

As previously discussed, foreign currency-denominated lending changed the impact of exchange rate depreciation on output even before the crisis. During the crisis, the pass-through of cost shocks to prices has also changed. While the exchange rate was one of the strongest factors influencing inflation developments before the crisis,

recent analysis suggests that persistently weak demand may have moderated the exchange rate pass-through. The smaller inflationary impact was particularly noticeable in the case of traded goods. Before the crisis, the prices of imported goods calculated in forints co-moved tightly with domestic industrial goods prices. By contrast, in recent years there has been a break in this relationship.

Based on empirical estimations, prior to the crisis 30–40% of exchange rate depreciation appeared in consumer prices on a two-year horizon (Vonnák (2010)). In recent years, however, prices responded less to a depreciation of the exchange rate (Graph 6). The decrease in pass-through can be attributed to cyclical factors, namely the weak demand environment. Furthermore, structural factors (eg falling inflation) have also contributed to the weakening of the relationship. A 1 percentage point shift in the exchange rate over a two-year time horizon changed consumer prices by only half as much as it did pre-crisis (Hajnal et al (2015)).

Response of prices to a 1% depreciation after 2 years — Graph 6



Source: MNB.

4. Policy measures to improve monetary transmission

Overall, at the beginning of the crisis the Hungarian risk premium increased significantly, while economic activity fell sharply. The effectiveness of the transmission mechanism decreased further and monetary policy had little room for manoeuvre. It became increasingly clear that monetary policy had to implement new measures to reduce vulnerability and improve transmission effectiveness.

4.1 Measures to improve monetary transmission

After the outbreak of the crisis, the financial position of economic agents deteriorated considerably and deleveraging started. Although net external debt declined considerably, the prolonged adjustment became a drag on economic recovery and led to a sustained reduction in monetary policy effectiveness. The central bank started to explore new measures to speed up the adjustment, with the goal of making it less costly.

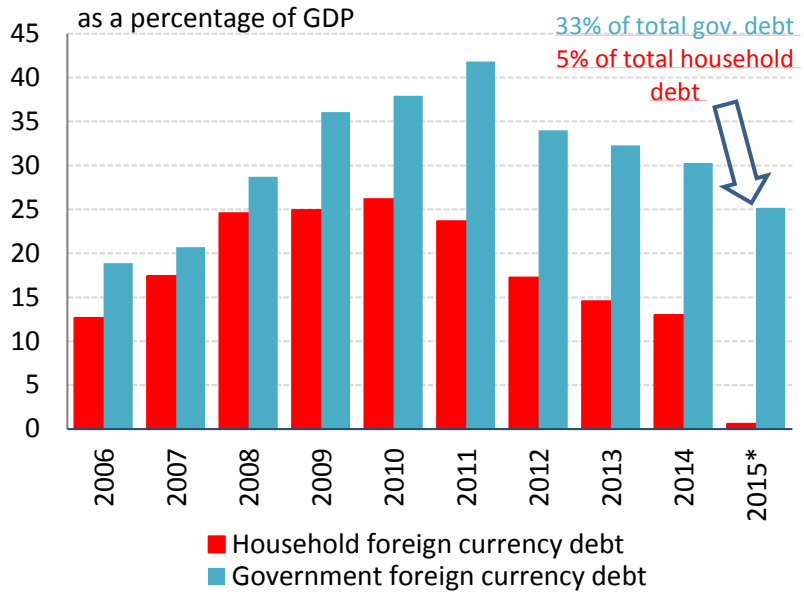
To reduce external vulnerability, the MNB introduced the Self-financing Programme in April 2014. According to the concept of self-financing, external vulnerability is mitigated by reducing gross external debt and moving in the direction of forint financing of the government. Based on data for the period up to March 2015, the ratio of FX debt to gross government debt declined to below 34% from 40% before the programme was launched. At the same time, the banks' share went up from 15% to nearly 19% (MNB (2015b)). The higher share of forint-denominated debt strengthens the interest rate channel.

To strengthen the effectiveness of the interest rate and the exchange rate channels, policymakers also implemented measures to reduce the FX exposure of households. An early repayment scheme in 2011 lowered the stock of households' foreign currency loans, which was then followed by the introduction of an exchange rate cap system. Despite continuous deleveraging and the measures discussed above, the financial strain on households and supply side constraints on lending continued to weaken the lending channel of the transmission mechanism. Even though the exchange rate risk of FX loans was borne primarily by households, the losses arising from loans becoming non-performing due to unfavourable exchange rate movements weakened banks' profitability.

The latest measure to free households of their exchange rate exposure was the conversion of FX loans into forint loans. In the autumn of 2014, the adoption of new laws paved the way for a final solution to foreign currency loans. A great majority of the foreign currency and foreign currency-based mortgage loans of households were converted into forints in 2015.

As a result, the current outstanding net amount of foreign currency liabilities of households and government has significantly declined in recent years (Graph 7). In the case of households, foreign debt is now negligible, it was around 5% of total debt in 2015 compared to the pre-crisis 70% level. Regarding the government sector, the share of foreign debt fell from around 45% in 2009 to 33% in 2015. Accordingly, monetary policy is less constrained by concerns about financial stability.

Foreign currency debt of households and government as a percentage of GDP Graph 7



Note: *MNB estimation

Source: MNB

A new regulatory environment for the pricing of household lending was also needed, since the existing regulation allowed banks to change interest rates unilaterally in a non-transparent way. Other country experiences (eg that of Poland) showed that transparent pricing (such as lending rates based on a reference rate) may dampen the negative effects of financial distress on households. According to the "fair banking" law, enacted in November 2014, lenders may grant loans with interest rates fixed for interest periods of at least three years, or with variable interest rates tied to a reference rate plus an interest rate spread fixed for the entire maturity, or at least for three-year interest periods. As an additional condition, upon expiry of the interest periods, lenders may only modify the interest rate or the interest rate spread in line with any MNB-approved and published change in the objective interest rate or interest rate spread change indices. The interest rate change indices protect consumers from unilateral interest rate hikes, while they are symmetrical in the sense that banks may raise interest rates when it is justified by objective circumstances. In the future, developments in the central bank base rate should have a more direct influence on lending rates and as result on aggregate consumption and inflation.

An important obstacle to improving the credit channel further is the large amount of non-performing loans on the balance sheets of commercial banks. At the end of 2014, the central bank established an asset management company (MARK Ltd, a private company established for the purpose of debt restructuring and management) to reduce the amount of non-performing commercial real estate loans. The aim is to remove distressed or non-performing loans from the whole Hungarian banking system, helping to strengthen the financial system by easing credit supply constraints. The company can also support monetary policy by improving the effectiveness of the credit channel.

The benefits of efforts to decrease vulnerability and improve monetary transmission are visible. While several emerging markets have recently been hit hard

by the Federal Reserve's pullback from quantitative easing, and by uncertainty with respect to the timing of the Fed's rate hike, the Hungarian economy has remained resilient and the policy interest rate continues to be set in accordance with the domestic economic conditions.

5. Conclusion

In the 2000s, most monetary transmission channels were weak in Hungary, making monetary policy less effective. The exchange rate channel had functioned as the strongest channel within the monetary transmission mechanism; however, it also became impaired following the spread of FX loans. Due to the economy's increasing vulnerability, monetary policy also repeatedly had to counter the impact of renewed increases in risk premia. The financial crisis exacerbated problems related to the transmission mechanism.

The gradual improvement in international risk perceptions and the economic environment widened the room for manoeuvre in monetary policy and facilitated the interest rate-cutting cycle starting from 2012. To strengthen the effectiveness of the interest rate channel and the exchange rate channel, policymakers implemented targeted new measures. As a result of these measures and the deleveraging by households, the vulnerability of the economy has declined, the effectiveness of the transmission mechanism has improved considerably and monetary policy became more efficient. The stricter inflation targeting regime is expected to be more successful in smoothing business cycles and keeping inflation in line with the target over the medium term.

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