Market development and monetary policy – the case of Hungary

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Abstract

Changes in market structure and mechanisms are of great importance for central banks as these developments can materially influence their monetary policy transmission channels. Following the global financial crisis, central banks adopted new forms of unconventional policy. Liquid and well established markets have allowed the central banks of the advanced economies to easily introduce measures that directly influenced monetary conditions (eg quantitative easing). In contrast, the monetary authorities of emerging market economies (EMEs) must always consider obstacles to market efficiency, quickly changing market structures and occasionally poor liquidity conditions. It is therefore essential for EME central banks to monitor, understand and even actively manage these market processes and facilitate the development of market infrastructure.

This study examines the monetary policy implications of the three major areas of development in the Hungarian financial markets in recent years: changes in interbank depo and repo markets, in household lending conditions, and in the ownership and currency structure of government debt.

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Keywords: interbank benchmark rate, repo market, development of financial market, fixed interest rate loans, self-financing, structure of debt financing.

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1. Development of the interbank depo and repo market

1.1 Reforming the interbank benchmark rate (BUBOR)

Post-crisis, the information content of BUBOR fell significantly, and quotes became "stuck" so that it could no longer serve effectively as a reference rate.

As the lighthouses of the financial system, reference rates are public goods that provide a reference point for market participants, improve the efficiency of lending and other financial products, and reduce transaction costs. Like its international peers, the Budapest Interbank Offered Rate (BUBOR) is typically used as a benchmark, for forint-related products. BUBOR is used to price a volume of debt and interest rate derivatives that is roughly equivalent to Hungary's GDP.

In Hungary, the BUBOR reforms implemented between 2012 and 2015 primarily concerned the organisational background, the averaging methodology, the number of maturities, and the terms related to panel banks. If it is to be a reliable basis for pricing financial products, BUBOR must represent all relevant market information. The fact that quotes for the most important maturities were becoming increasingly "stuck" up to April 2016 indicated that it was failing to do so, despite the reforms, and thus BUBOR was no longer serving its purpose.

The problems were exacerbated by the fact that, during the crisis, trading practically ceased in the longer segments of the unsecured interbank market, while counterparty limits fell close to zero. In addition, due to the LIBOR scandal and the ensuing regulatory tightening, "herding behaviour" became stronger and stronger, ie panel banks sought to submit interest rates that were close to the group average or to their earlier quotes. Ultimately, except for the possible reputational kudos, there was no longer any incentive for banks to provide quotations.

International benchmark reforms

Following the scandals related to the major global interest rate benchmarks, international organisations and national authorities started to examine potential ways forward (see eg the Wheatley Report, the IOSCO Principles, or reports by the FSB). These reviews identified two possibilities: the reform of existing interest rate benchmarks and the creation of new ones. In most of the advanced economies (USD, EUR, JPY, CHF), new benchmarks were initiated. As Table 1 points out, there is no consensus about the best format for the new benchmarks: there are both secured and unsecured interest rate benchmarks. However, there is consensus about one important aspect: both new and reformed benchmarks should as far as possible rely on the interest rates of actual transactions.

New interest rate benchmarks in developed markets — Table 1

Currency	Benchmark	Start	Type
JPY	TONAR	2016Q2	Unsecured
CHF	SARON	2017Q4	Secured
USD	SOFR	2018Q2	Secured
GBP	SONIA (reformed)	2018Q2	Unsecured
EUR	ESTER	2019Q4	Unsecured

Source: MNB.

Responding to international best practice and the EU Benchmark Regulation, the central and eastern European (CEE) countries have also started to develop domestic benchmarks in recent years. Due to their low liquidity and limited market size, all the CEE countries have retained their original unsecured benchmarks. One of the key differences is that Hungary, Poland and Romania have adopted a "firm quote regime". This reflects the new international standards for the transactional basis. Poland is planning to adopt a purely transactional basis for the WIBOR fixing for overnight and tomorrow/next maturities in future. Furthermore, in Hungary and in Romania, central banks are the administrators of the benchmarks. Thus, they do not fall under the scope of the EU Benchmark Regulation.

Interest rate benchmarks in CEE markets — Table 2

	Hungary	Poland	Romania	Czech Republic
Benchmark	BUBOR	ROBOR	WIBOR	PRIBOR
Type of administrator	Central bank	Private sector - local	Central bank	Private sector - international
No. of panel banks	12	10	10	6
Type	Unsecured	Unsecured	Unsecured	Unsecured
Firm quotes	Yes	Yes	Yes	-
Fee liable	-	-	-	Yes

Source: MNB.

The BUBOR Rules were revised to facilitate higher liquidity, with the central bank taking over the benchmark's administration.

The above-mentioned factors suggest that the information content of BUBOR fixings was inadequate. In order to increase their soundness, the BUBOR Rules were revised and the quotation system reshaped on the MNB's initiative in May 2016. This followed on from discussions with the Quotation Committee and panel banks. As a result, a quotation system based on transaction obligations was set up, similar to the case in Poland and Romania. In line with international recommendations, this reform

increased the role of real market transactions related to submissions. Additionally, at the request of the Hungarian Forex Association, as of November 2016 the MNB took over the administration of benchmarks, which it carries out through the operations of the Benchmark Quotation Committee (BQC).

The main features of the new system:

- The MNB invites the top 12 banks to participate in the BUBOR panel.
- Executable quotes were introduced on the one- to three-month maturities.
- There is a 15 minutes trading session after the 11:00 publication of the fixing, when panel banks can trade at their respective quotes.
- For the purpose of trading in this session, bid quotes are determined based on a fixed 15 bp bid-ask spread, which ensures that trades can take place.
- Later, executable quotes were extended to the six-month tenor and the 15 bp fixed spread has been lowered to 10 bp.

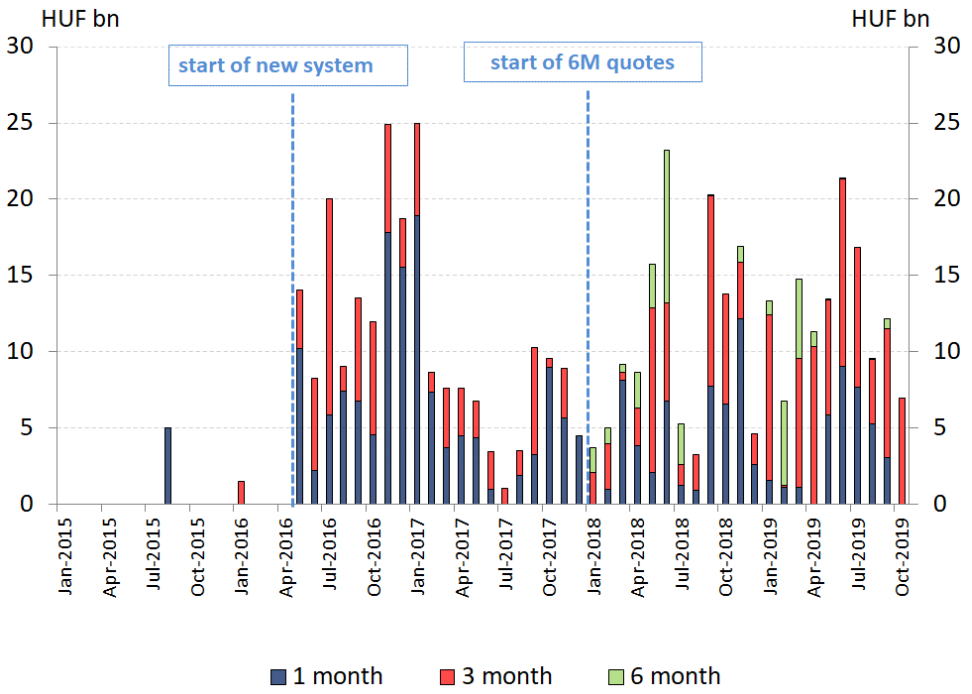
The new system facilitates a sound informational content, which is crucial as the new monetary transmission framework depends on BUBOR's responsiveness to liquidity conditions.

As a result of the reforms implemented in May 2016, for the one-month and three-month maturities in the unsecured interbank market, the volume of transactions between panel banks reached levels last seen before the crisis. Activity in the longer segment was further supported by the introduction of the transaction obligation on the six-month maturity from 2018.

In connection with the launch of the new quotation system, the MNB requested the banks to provide a "reasonable" level of partner limits towards other panel banks, as required for the operation of the system. Responding to that request, in recent years, most banks have managed to set (or increase) limits for the rest of the panel banks. The aggregate counterparty limits for the one-, three- and six-month transactions have more than tripled at system level. We consider that the resulting "limit net" provides the space required for the operation of the system.

One-, three- and six-month interbank transactions on the HUF depo market

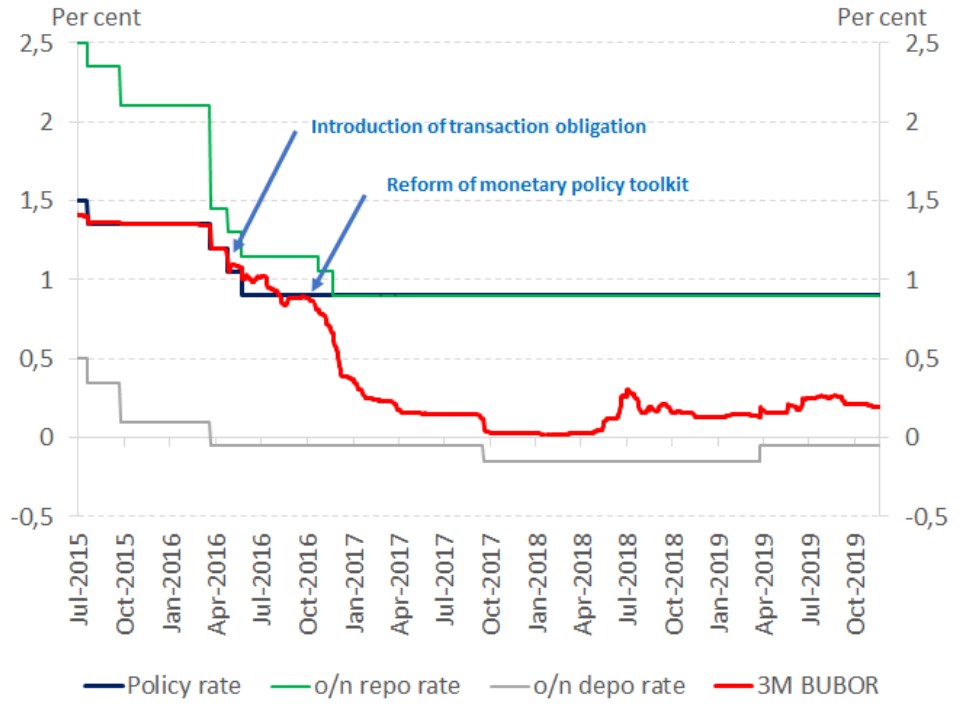
Graph 1



Source: MNB.

Hungarian central bank rates and three-month BUBOR

Graph 2



Source: MNB.

Following the introduction of the new quotation system in May 2016, the responsiveness of BUBOR increased, and quotes became unanchored from the base rate. The new quotation system therefore strengthened the information flow between the domestic money markets. As a result, even in periods of low liquidity, changes in quotes reflected developments in market conditions. This has allowed the MNB to fine-tune its monetary policy close to the zero lower bound while leaving the base rate unchanged.

The new framework's fundamental feature was that the MNB restricted commercial banks' access to the three-month deposit instrument in order to facilitate the intended easing in monetary conditions using unconventional instruments through a change in the banking sector's liquidity structure. As a result of banks' limited access to the main policy instrument, their holdings of the three-month deposit dropped, while the bulk of the banking sector's surplus liquidity shifted to overnight deposits. The downward pressure on the yields of the liquidity thus crowded out was seen in all relevant markets: following the announcement of the transformation of monetary policy instruments in July 2016, short-term interbank and government bond market yields declined by 70–80 bp by March 2017. Supplemented by the use of the fine-tuning FX-swap instrument designed to adjust unexpected movements in the liquidity path, the cap system eased monetary conditions, with the key policy rate remaining unchanged.

As the effectiveness of this new monetary transmission framework depends on BUBOR's responsiveness to liquidity conditions, the central bank closely monitors and reacts to market developments. This includes the monitoring of systemic and individual liquidity conditions; panel bank quotes and methodologies; partner limits; and movements in other markets that are used as inputs for BUBOR quotes.

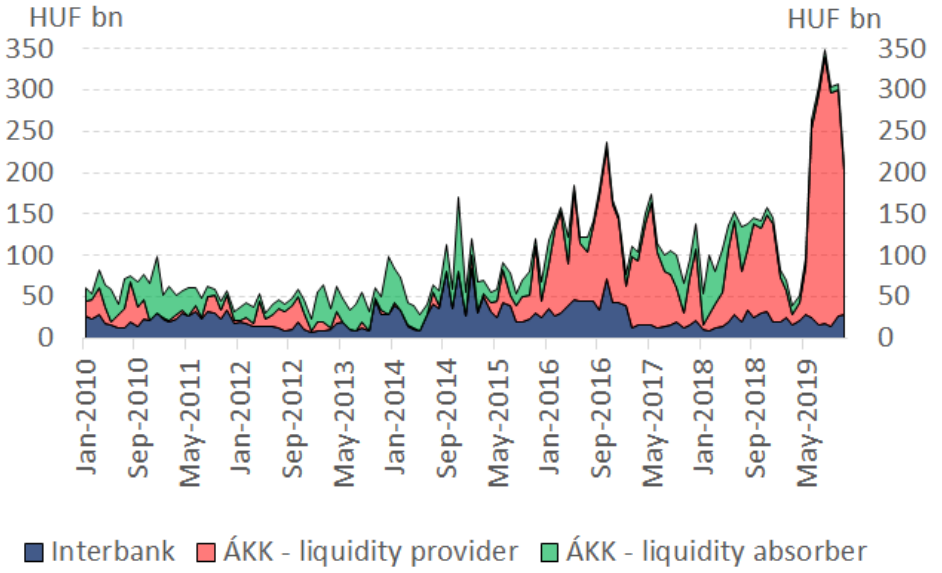
1.2 Development of the repo market

Liquidity in the Hungarian repo market is relatively low and the market is dominated by the debt management agency.

In the current Hungarian framework, ample excess liquidity does not require banks to redistribute liquidity in large amounts on the market. However, if liquidity becomes scarcer and more asymmetrically supplied in the future, the channels through which it may be distributed will become an important question. The repo market may be a key venue for the distribution of interbank liquidity in such a situation: the capital and limit requirements for repurchase transactions tend to be lower, and a pickup in the volume of business could also have a beneficial liquidity effect on the government securities market, while also providing a viable interbank trading opportunity for longer maturities.

In recent years, the domestic repo market has been fundamentally determined by the activity of the Government Debt Management Agency (GDMA, ÁKK). This activity has become one-sided in recent years, with GDMA appearing only as a liquidity provider. Interbank turnover has stagnated at around HUF 25 billion a day over the last 10 years, with significant growth only in transactions with GDMA. Looking ahead, however, in the event of declining systemic liquidity, increasing asymmetry, and any eventual fall-off in GDMA activity, market participants may increasingly rely on the repo market for liquidity management and thus this market segment may become more relevant from a monetary policy perspective as well.

Daily average turnover on the HUF repo market Graph 3



Source: MNB.

At the central bank's initiative, the main obstacles to repo market development have been removed.

At the initiative of the MNB, a working group was set up in 2017 with market participation and the aim of developing the repo market. The working group carried out several market surveys to identify the factors limiting repo market activity, and based on the results, progress was made in three areas:

1. National implementation of the standard international repo market framework contract (GMRA).
2. Launching a reliable daily repo market report from 2020.
3. Removal of technical barriers identified on the KELER's (Hungarian central counterparty) and GDMA's side.

The lack of a GMRA framework contract adapted to domestic conditions was clearly cited by market participants as a major barrier to the growth of the repo market. This is because, in the domestic market, the parties that regularly engage in repo transactions have typically entered into individual bilateral agreements on terms and conditions. As a result of the working group's discussions, the Hungarian version of the GMRA agreement was completed by autumn 2018. So far eight of the 12 BUBOR panel banks have entered into at least one GMRA agreement. The MNB regularly monitors contracts and repo counterparty limits in a manner similar to those for the BUBOR market.

Market participants also asked for a reliable repo market data source to help them assess market conditions (liquidity, yields etc). To this end, the MNB has prepared a new, targeted repo market daily report, to be launched in January 2020.

The MNB has notified the Central Clearing House and Depository (KELER) and the GDMA about the issues identified in the meetings with market participants. As a

result, several obstacles have already been removed (eg technical issues regarding negative interest rates).

2. Lending conditions from a monetary policy perspective

2.1 Facilitating the proliferation of fixed interest rate loans

The recent resurgence in household and corporate lending has increased the importance of whether lending is on a fixed or variable rate basis. This question is important from a policy point of view to ensure that credit growth will be sustainable. For the first time after the crisis, both retail and corporate lending started to pick up again in the middle of 2016. As foreign currency loans have been phased out, virtually no exchange rate risk remains in the retail sector. Given persistently low interest rates, the relative share of fixed and variable interest rate lending has become the only significant source of risk. This is particularly important in the case of long-term loans.

Interest rate types are relevant to central banks as they affect monetary transmission and financial stability. Changes in the benchmark interest rate affect the real economy partly through changes in lending rates. The strength of the interest rate channel of the transmission mechanism depends on the ratio of fixed and variable interest rate loans. From a financial stability point of view, an increase in the reference interest rate leads to an increase in instalments if interest rates are variable. However, in the case of fixed interest rates, an increase in the reference interest rate increases funding costs for banks, if interest rate exposures are not well hedged.

Variable interest rates might be more advantageous under normal economic conditions from a monetary policy point of view, but historically low interest rates present a significant risk, which can erode financial stability. The interest rate of variable rate loans is linked to a short-term reference rate. The higher the proportion of variable rate loans, the sooner the effect of a benchmark interest rate change feeds through to lending rates. This would seem to speed up monetary transmission, but the revaluation of loans can lead to negative side effects which may outweigh the initial benefits in the longer term. (Previously in Hungary, the large volume of foreign currency loans has constrained monetary policy, because interest rate cuts increased the principal amount of loans through exchange rate depreciation.) The likelihood of a potential interest rate increase is higher in the current low interest rate environment, which may increase the proportion of overdue loans through increased instalments. Therefore, fixed rate loans are currently more likely to mitigate interest rate risks. This has been repeatedly communicated by the MNB in recent years.

An appropriate supply of fixed rate, long-term funding is a prerequisite for fixed rate lending, to alleviate asset-liability mismatches. The high proportion of fixed rate loans ensures that credit expansion is sustainable. A further condition for financial stability is the availability of large amounts of fixed rate funds for the purpose of financing the large amounts of fixed rate loans appearing on the banking system's balance sheet. The MNB contributed to the expansion of the supply of such funds in two markets, namely the interest rate swap and the mortgage bond markets.

In January 2018, the MNB introduced two unconventional monetary policy instruments to provide an appropriate amount of fixed rate funds, namely the general, unconditional monetary policy interest rate swap (MIRS) facility and the

targeted mortgage bond purchase programme. Both contribute to the sustainable growth of the proportion of fixed rate loan contracts by reducing maturity mismatches. The MNB determined the total amount of the general purpose MIRS to be HUF 1,100 billion, which by the end of 2018 appeared as an additional fixed rate liability item on the banking system's balance sheet. Through its mortgage bond purchase programme, the MNB directly provided the banking system with fixed rate funds. In addition, it led to an increase in mortgage bond issuance and boosted market activity.

The presence of liquidity by itself is not sufficient. In addition, financial markets should be properly developed. Therefore, the MNB's mortgage bond purchase programme covered only bonds that were listed and continuously quoted on the Budapest Stock Exchange (BSE). Furthermore, the BSE in collaboration with the MNB developed several mortgage market indices to improve market transparency. Subsequently, the MNB introduced a swap facility with which bonds with a shortening maturity could be exchanged for longer-maturity ones. A repo facility was also introduced, which allowed financial institutions to borrow long-term mortgage bonds. These measures jointly contributed to the proper functioning of the mortgage bond market.

2.2 Macroprudential measures related to interest rates

A holistic macroprudential policy approach can preserve manoeuvring space for monetary policy by limiting the potential financial stability implications.

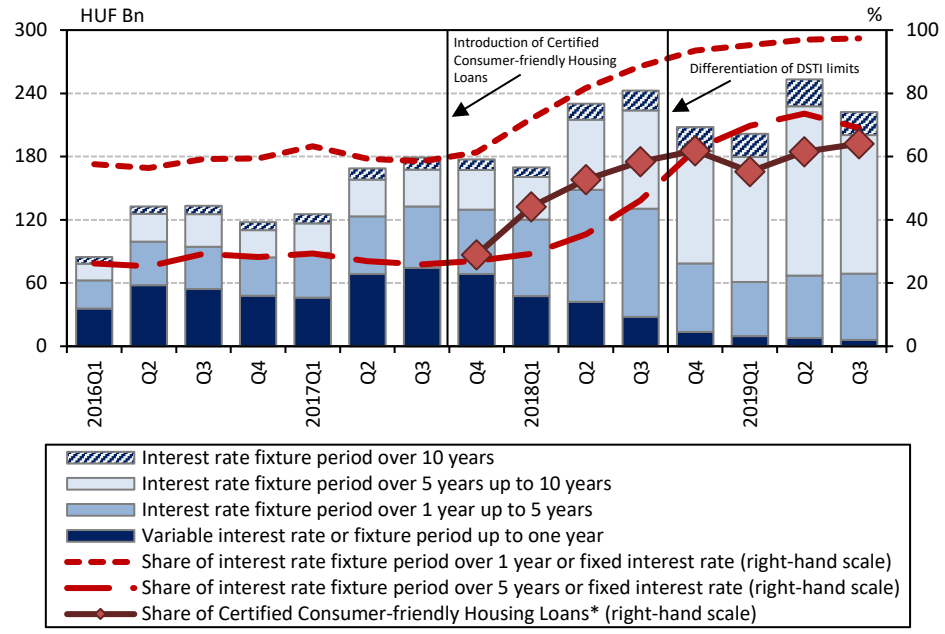
The higher the interest rate risk exposure of market participants, the higher their sensitivity to monetary policy actions. Hence, macroprudential policies that increase the resilience of market participants could contribute to the effectiveness of monetary policy. The MNB has applied several macroprudential policy measures in recent years to limit the interest rate risk of borrowers, thus increasing their resilience to shocks.

In June 2017, the MNB introduced the **Consumer-friendly Housing Loan certification programme** to increase competition in the banking sector and to curb the interest rate risk of mortgage loans. The conditions for certification set limits for the applicable interest rate spread above the reference rate, applicable fees and administrative deadlines and sets the minimum length of the interest rate fixture period at three years (five years since October 2018).

In October 2018, **lower debt service-to-income (DSTI) limits were set for new variable rate mortgage** loans, if their remaining maturity exceeds five years, to take account of the interest rate risk exposure of households. The amendment of the DSTI regulation ensured that the borrowers with higher interest rate risk have an ample income buffer to withstand the potential rise of their debt servicing cost due to a potential interest rate shock.

Additionally, since October 2018, the **Mortgage Funding Adequacy Ratio (MFAR)** further enhances the disbursement of mortgage loans on long-term interest rate fixtures. Based on the MFAR regulation, at least 25% of mortgages must be financed with long-term funds. The higher share of fixed rate long-term funds that are available at favourable rates may support the further spread of mortgages with longer interest rate fixture periods.

New housing loans by the length of the interest rate fixture period



Note: *Without loans disbursed by building societies.

Source: MNB.

Due to the MNB's various initiatives, the share of variable rate loans in new lending declined to negligible levels by the end of 2018. While the share of variable rate housing loans had been around 40–50% in the new housing loans up to 2018, their share started to decline with the advent of Certified Consumer-friendly Housing Loans, stabilising at around a 2–5% share following the amendment of the DSTI limits, by the end of 2018.

The MNB also recommends the refinancing of the outstanding variable rate loans with fixed rate ones. According to the recommendation, banks should inform their vulnerable clients about their interest rate risk exposure and offer them an opportunity to amend the contract and fix the interest rate for at least five years. Due to current expectations regarding the low-interest rate environment, the number of contract modifications based on the offers of the institutions has remained limited so far.

3. Market development through "self-financing": greater reliance on domestic funding

Following the 2007–09 global financial crisis, external vulnerability, financial stability risks and rising risk premia have significantly narrowed room for manoeuvre in monetary policy, making the recovery more difficult. After 2010, Hungary's key policy goals have been to reduce its economic vulnerability, eliminate funding from multilateral institutions, and lessen the country's external financial dependence.

In the autumn of 2008, foreign investors began to rapidly cut their holdings of government securities, in response to the country's perceived vulnerability to financial and economic stability threats. External and foreign currency debt had indeed increased during the crisis: from November 2008 to the end of 2009, Hungary had drawn down a total of EUR 14.4 billion from the IMF-EU credit line. One of the main sources of external vulnerability post-crisis was the unsound debt structure: foreign investors had a high share due to the low risk appetite of the domestic market, and because domestic financial institutions were very cautious vis-à-vis government debt.

From the beginning of 2012, Hungarian economic policy aimed to increase the proportion of public debt that was funded domestically. To this end, GDMA's newly introduced retail securities offered private investors more favourable terms. As a result, household savings started to play a larger part in the government securities market. Meanwhile, the issuance of large forint-denominated bond series to reduce foreign exchange exposure led to an increase in the share of forint denominated debt held by foreign investors. As a result, it became possible to gradually repay loans from international institutions and to shift to market-based funding.

The concept of self-financing called for policy measures aimed at reducing external vulnerability and for related measures on the part of the central bank. This process started with the launch of the GDMA's retail government securities programme, and continued from 2014 with the involvement of the banking system in the central bank's Self-Financing Programme, which provides for the replacement of foreign and foreign currency debt with domestic funding.

A number of MNB proposals support self-financing, debt financing and the development of submarkets:

1. modifications to monetary policy instruments to limit and steer liquidity;
2. supporting the more efficient operation of the forint interest rate swap (IRS) market through central bank tools;
3. stronger involvement of household savings in the financing of public debt;
4. expanding BIRS (Budapest Interest Rate Swap) maturities and initiating settlement of long-forint IRS; and
5. extending the maturity of forint-denominated bonds, which may encourage take-up by domestic institutional investors.

Through the Self-Financing Programme, and by revising its monetary policy instruments, the MNB has redirected the excess liquidity of the banking sector into the market for eligible collateral, especially government securities. The programme's success was due to the cooperation of the GDMA, as the debt manager financed the maturing foreign currency debt by issuing a sufficient amount of HUF government securities, so that demand from banks could adjust to changes in the supply side through central bank measures. In particular, in line with the completion of the interest rate reduction cycle and the maintenance of the base rate, the central bank's targeted unconventional instruments have been playing an increasingly important role in monetary policy since mid-2016.

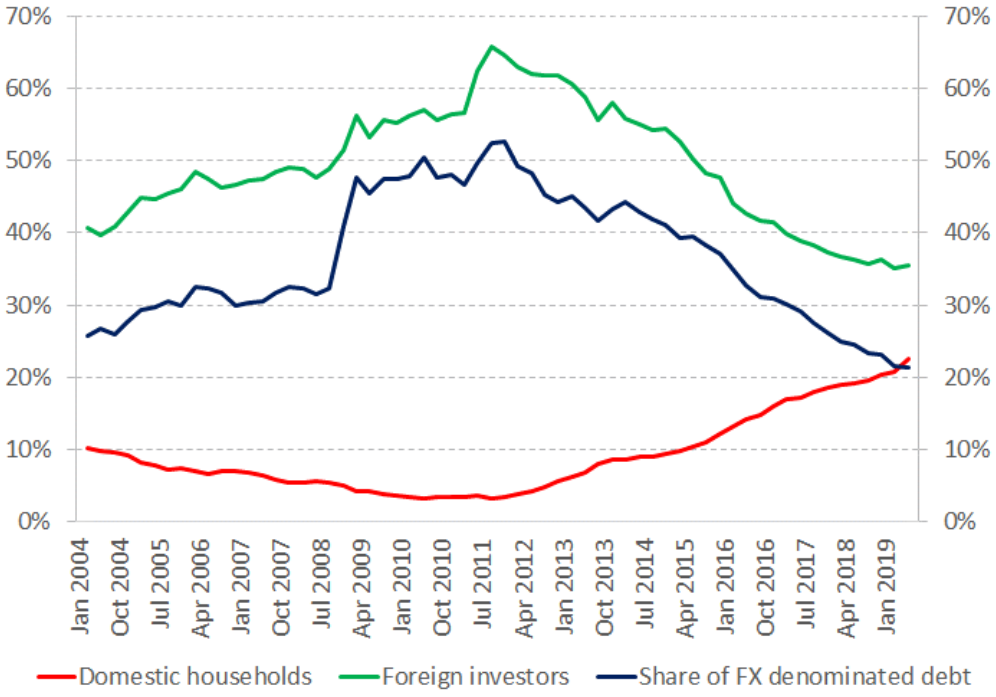
Between 2014 and 2016, the MNB announced the Self-Financing IRS instrument for three-, five- and ten-year maturities to enable credit institutions to replace the fixed interest rate on their securities with a floating rate, which the banks could use to reduce their interest rate risk. The central bank also sought to influence long-term

yields and reduce banks' interest rate risk through the use of unconventional central bank instruments with long-term yields, such as MIRS tenders.

The MNB has supported the launch of long-term government bond benchmarks by introducing a 20-year BIRS quotation and developing the HUF interest rate swap market. Long-term HUF IRS settlement provided by the London Clearing House (LCH) would be a key development in this regard. Currently, the longest maturity of forint IRS settled with LCH is 11 years. With the introduction of the 20-year forint bond, pension funds and life insurance companies may be gradually developing and transforming their investment policies and portfolios, potentially creating demand for longer-term government securities, complemented by demand from other sectors such as banks and foreign investors.

Share of FX debt and the holdings of domestic households and foreign investors as a proportion of total government debt

Graph 4



Source: MNB.

Continued high savings in domestic sectors have allowed the self-financing process to gain new momentum with the 2019 renewal of the retail government securities strategy. In designing this strategy, the GDMA took into account the central bank's proposals. With the restructuring of the retail government securities portfolio and the introduction of the new instrument, the Hungarian Government Security Plus (MÁP Plusz), in June 2019, the GDMA continued to encourage the financing of public expenditures and the renewal of maturing foreign currency bonds from domestic sources, while reducing the risks of external financing. The aim was to increase the popularity of government securities savings by eliminating the transaction tax on purchases of government securities (there is no transaction tax on transfers to and from the Hungarian Treasury) and the interest tax on series issued after 1 June 2019. As most sales took place in Budapest, the sale of MÁP Plusz in materialised form

started in early November, which was designed to attract customers with smaller amounts of savings.

In recent years, the domestic ownership ratio of government debt has increased significantly, owing to the active role of credit institutions and the more active role of households in financing.

The modifications to the monetary policy instruments, which started in 2014, contributed significantly to the growth of the domestic banking system's demand for government securities, which resulted in a significant restructuring of the ownership structure of forint government securities. The forint-denominated government securities portfolio of the credit institutions sector increased by HUF 2,400 billion, while their forint market share rose gradually to 35-40%. The fact that nearly 90% of bank purchases involved longer-term, fixed-rate government bonds suggests that the abovementioned IRS facilities of the central bank had a significant role in this process. The forint issuance strategy also supported the extension of the average remaining maturity. As a result, the average maturity of forint-denominated government securities held by banks has risen from 2.8 years to almost four years by the end of 2016 and is currently fluctuating at around four years.

In recent years, growing household wealth has been partly funnelled into public debt. This was supported by the fact that the GDMA has offered households a wider range of savings vehicles. The agency has also sought to increase the attractiveness of retail government securities by raising their coupons. Between 2012 and 2016, households invested on average half of their new savings in government securities, with their forint-denominated market share rising from 15% to 23%. However, changes in retail preferences have led to a slight slowdown in purchases since early 2018, with government securities accounting for only about 25% of households' new financial assets.

In recent months, the MÁP Plusz has contributed to (i) an increase in the total retail government securities portfolio; (ii) a shift in the maturity structure towards longer maturities through a shift in retail product types; and (iii) an increase in households' share of the market for forint-based government securities to above 31%. Through its effects on savings and consumption decisions, the MÁP Plusz may also cool inflation generated by strong wage growth. Savings in retail government securities reduces import-intensive domestic consumption, which reduces external debt, strengthening the current account balance.

Prompt and effective action to address temporary side effects is important when addressing market stress.

Coordination of government and central bank measures may broaden the room for manoeuvre for monetary policy. At the same time, continuous and detailed monitoring is needed to deal adequately and effectively with temporary market side effects. Some recent examples include:

1. The introduction of MIRS tenders increased the volatility of long-term yields, owing to the rapid build-up and subsequent decline in demand during the first auction.
2. Following the launch of the MÁP Plusz, interbank liquidity temporarily dried up, as also indicated by an increase in BUBOR. In response, the MNB announced an extraordinary HUF-liquidity-providing FX swap tender.

3. In connection with the MÁP Plusz, some market players attempted to arbitrage the issue by taking out a Lombard loan (with the MÁP Plusz as collateral) on favourable terms, with which they made a leveraged purchase of MÁP Plusz. The MNB and the GDMA acted jointly to stop such transactions at an early stage.

4. Conclusion

Since the crisis, it has become common practice for central banks to intervene more actively in market processes, most notably through quantitative easing, which can only work effectively in advanced markets. In EMEs, liquidity provision may not be effective due to market inefficiencies, and therefore more emphasis must be placed on the development of market infrastructure. This creates more room for the central bank to manoeuvre, and can increase the effectiveness of monetary policy.

A number of conclusions can be drawn from the Hungarian experience:

- The interbank rate's responsiveness to liquidity conditions is a key aspect for monetary transmission frameworks that rely on controlling liquidity conditions. Central banks need to closely monitor systemic and individual liquidity conditions; panel bank quotes and methodologies; partner limits; and price movements in a wide range of market segments.
- It is essential to facilitate new channels for the distribution of interbank liquidity (eg via the repo market). This includes being ready to monitor markets that may become more important in the future.
- The ratio of fixed and floating rate loans in the market influences monetary policy transmission and financial stability. From the point of view of monetary policy transmission, variable interest rates may be more advantageous in a normal economic environment, but stability considerations will prevail in a low interest rate environment.
- A holistic macroprudential policy approach can preserve monetary policy room for manoeuvre by limiting any potential financial stability implications. Macroprudential policies that increase the shock resilience of market participants could contribute to the effectiveness of monetary policy.
- High external vulnerability and risks to financial stability may, at critical times, significantly limit the room for manoeuvre of monetary policy. Central banks can use innovative tools to support the reduction of external indebtedness. While central banks have only a limited direct influence on the level of public debt, they can influence the structure of debt and its ownership. Improvements in the ownership structure of debt, its currency composition and maturity structure can significantly reduce vulnerabilities.

In the interests of market development, central banks sometimes need only to take the first step and then wait for market forces to take effect (eg the process of switching from variable rate to fixed rate loans in Hungary). In other cases, there is a need for a permanent central bank presence due to special emerging market conditions (eg the administrator role of BUBOR could not be fulfilled by the market due to the strict rules set out by the new European Benchmark Regulation).