

Covered bonds as instruments for developing capital markets and supporting financial stability: the Hungarian experience

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Abstract

Covered bonds financing mortgages have become a more and more important form of bank financing in Europe. These bonds are widespread, especially in northern, western and southern Europe. Their characteristics make these instruments advantageous for both issuers and investors. A properly regulated and developed mortgage bond market can contribute to capital market development and at the same time to financial stability through long-term stable bank funding. This paper elaborates on the key aspects of the mortgage bond market and its importance for emerging market economies. Through the example of Hungary, we explain how regulatory incentives can ensure market development without significant side effects and how flexibility should play a vital role in any regulatory framework.

Journal of Economic Literature (JEL) codes: E58, G12, G21.

Keywords: financial stability, macroprudential policy, maturity mismatch, monetary policy, mortgage lending, mortgage bonds.

* The views of the authors do not necessarily reflect the official view of the Magyar Nemzeti Bank.
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Introduction

Mortgage-backed covered bonds have become widespread and are one of the most important forms of financing in a number of countries worldwide, especially in Europe. Due to their uniquely strong legal background, relatively simple financial framework, long maturity and low funding costs, these instruments are not only advantageous for both issuers and investors, but can also support several policy objectives at once.

Developing capital markets requires, *inter alia*, a stable and sound financial system and a solid institutional framework including adequate supervision and regulation. A properly regulated and developed covered bond market can contribute to these requirements by strengthening financial stability through long-term stable bank funding, diminishing maturity mismatches of balance sheets. It also offers a first step in the sequencing of capital market development as a relatively simple instrument suitable for several different investor types.

In Hungary, the central bank has been supporting the previously stagnant covered bond market with various instruments in recent years. Prudential measures have been used hand in hand with monetary policy operations, laying the foundations of a more active market. These experiences may serve as an interesting example to policymakers in other countries for both market development and financial stability purposes.

The first section of this article provides an overview of covered bonds and their history. The second explores the importance of the covered bond market. The third section presents the trends in and current main drivers of the covered bond market. Lastly, the fourth section discusses the approach of Hungary's central bank, the Magyar Nemzeti Bank (MNB) to encouraging the development of the covered bond market, also with regard to sustainable (green) financing.

1. An overview of covered bonds

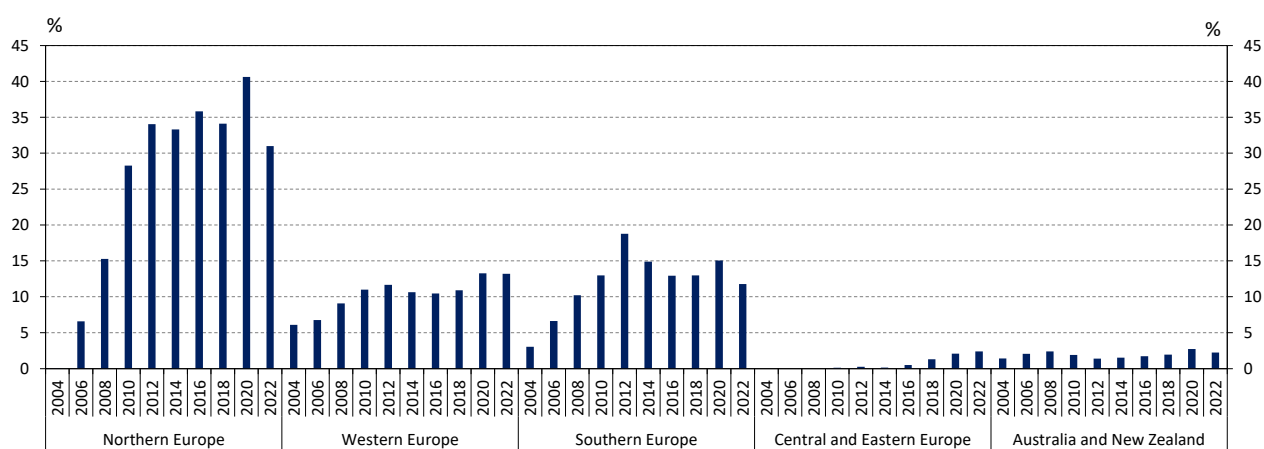
Mortgage-backed covered bonds (or mortgage bonds) have a long history in Europe: they first appeared in Prussia about 250 years ago. For a long time, covered bonds were issued primarily in Germany (Pfandbriefe) and Denmark (realkreditobligationer; Packer et al (2007)). Since then, mortgage bonds have become widespread and nowadays serve as an important form of financing in most European countries. Mortgage-backed covered bonds have gained predominance as a source of stable funding and as an asset-liability management tool (Avesani et al (2007)). They mainly play a significant role in the financing of bank lending in the northern and western European states, but in recent years there has also been significant development in countries with smaller and less developed capital markets, partly due to the renewal of the harmonised legal framework of the European Union (Borkó and Herbert (2023)). Today, there are active covered bond markets in about 30 different European countries, and use of these instruments has also expanded beyond European borders, for example to Australia, Canada, Singapore and South Korea (ECBC (2023)).

Covered bonds have shown their safe haven status and proved to be one of the only asset classes able to restore investor confidence and ensure issuers access to the debt capital markets in volatile times (ECBC (2023)). During the global financial crisis of 2008-09 and the ensuing euro area crisis, there were no crashes in the covered bonds market. Based on that, it is not surprising that more than 99% of covered bonds have at least an A rating and three quarters have a AAA rating in the euro area (Mérő (2021)).

Both the issuance and amounts outstanding of covered bonds have grown considerably since the mid-1990s. Announced issuance of covered bonds increased from less than EUR 100 billion in the mid-1990s to over EUR 350 billion in 2006. In mid-2007, the outstanding amount of covered bonds reached EUR 1.7 trillion (Packer et al (2007)), and in 2022 it was about EUR 2.7 trillion, while the issued amount exceeded EUR 630 billion (ECBC (2023)). Mortgage bonds are widespread mainly in Europe, especially in northern, western and southern Europe. In northern Europe, the outstanding amount of these bonds relative to GDP was above 30% in the 2010s, while in western and southern Europe the values were above 10%. In central and eastern Europe, the ratio started to increase in the second half of the 2010s to about 2.5%, while in Australia and New Zealand, the value was hovering below 2.5%. In other regions, the market for these instruments is not significant (values below 0.5%).

Ratio of outstanding amount of mortgage bonds to GDP

Chart 1



In the case of regions not shown on the graph, the highest value does not exceed 0.5%. Northern Europe: Finland, Iceland, Norway, Sweden. Western Europe: Austria, Belgium, Denmark, France, Germany, Ireland, Luxembourg, Netherlands, Switzerland, United Kingdom. Southern Europe: Cyprus, Greece, Italy, Portugal, Spain. Central and eastern Europe: Czechia, Estonia, Hungary, Latvia, Poland, Romania, Slovakia.

2. The importance of covered bonds from various perspectives

2.1 Buyers' and sellers' perspective

Mortgage bonds are securities embodying a debt relationship issued by credit institutions mainly with the collateral coverage of mortgage loans. These are regarded as being among the safest assets on banks' balance sheets due to their real estate collateral. The loans are earmarked as collateral for the outstanding covered bonds and are kept in separate cover pools. As a result of the coverage, as well as the strict regulatory requirements and accompanying tight supervision, mortgage bond investors can keep their money in a low-risk and relatively crisis-proof asset. Mortgage bond owners have a double claim: first, on the issuing institution, and second, in the event of its eventual insolvency, on the cash flows from the mortgage loans serving as collateral (Borkó and Herbert (2023)). Moreover, mortgage bonds cannot be involved in the crisis management process during bank resolution procedures (they are not part of "bail-in-able" liabilities). Due to all these reasons, despite the cover pool assets' sensitivity to real estate market price volatility, mortgage bonds' rating can even be significantly better than that of the issuing bank or the home country of the issuing bank.

Banks may benefit from a new form of funding for their mortgage lending operations. Less liquid mortgage loans can be transformed into covered bonds, enhancing liquidity. Banks can diversify their funding mix and investor base and extend the maturity profile of the liabilities. Through the joint issuance of a covered bond, small institutions can also access (international) capital markets that would otherwise not be available to them (Avesani et al (2007)). The low risk of these instruments is also reflected in a number of prudential requirements that make covered bonds an attractive source of funding for banks. The EU regulation on the calculation of capital requirements (Capital Requirements Regulation, CRR) allocates a favourable risk weighting to mortgage bonds in certain legal constructions and they can be considered liquid assets when calculating the Liquidity Coverage Ratio (LCR).

2.2 Policymakers' perspective

Capital market development requires a number of factors, including macroeconomic stability, a stable and sound financial system, and a solid institutional framework along with adequate supervision and regulation (Rojas-Suarez (2014)). Building a deep and liquid mortgage bond market can contribute to all these prerequisites. First, additional mortgage financing through these instruments and the resulting lower financing rates can help economic growth via the real estate market. Second, rules protecting investors, issuers and borrowers alike (such as LTV ratios, mortgage value rules, etc) are key characteristics of such covered bonds, ensuring prudent lending practices for bond-financed mortgages. Third, covered bonds are typically long-term funds, often with fixed interest rates that therefore strengthen the maturity matching of banks' balance sheets. Lastly, the strong legal safeguards attached to covered bonds require that the institutional, regulatory and supervisory framework is attractive enough for investors to enter the market.

In theory, capital market development should occur sequentially, partly due to the natural deepening of the financial infrastructure and partly due to prudential considerations. As an information asymmetry exists between investors and issuers (buyers and sellers), the former are expected to prefer simpler contracts, less risky investments, higher collateralisation, shorter maturities and more direct control in the allocation of funds in early stages of financial development. As banking systems develop and reach a high level of stability, trust in financial intermediation also strengthens, leading to more control being relinquished by investors. This leads to the creation of capital markets, usually in debt instruments as these have lower verification costs than equity. Issuers are also expected to favour debt instruments due to the lower expected return (Carvajal et al (2019)).

While countries may exhibit different characteristics and capital markets may therefore develop in differing sequences and structures, covered bonds may serve as a solid foundation for policymakers to support the deepening of their domestic capital markets. Covered bonds offer a level of transparency and clarity that should prove more attractive as an initial investment to investors in emerging markets with less developed financial instruments compared to more sophisticated products, such as derivatives. The assets backing these bonds are mostly mortgages, the creditworthiness of which will be ensured by the strong legal requirements that usually pertain to these instruments, offering a suitable next step to investors once long-term stability of the banking sector has been achieved. As issuers are banks, the verification costs of investors may also be lower compared to other investment vehicles given the strong prudential and disclosure requirements. Furthermore, the development of a deep and active covered bond market can foster financial stability by reducing maturity mismatches in banks' balance sheets, thereby supporting two policy objectives at once.

From a prudential point of view, one of the most beneficial features of covered bonds is that their low risk level allows lenders to obtain long-term stable funds in capital markets at a reduced borrowing cost. By increasing the share of such liabilities on their balance sheets, banks can significantly improve their maturity matching. The maturity of mortgage loans is usually long, up to 20–30 years or even more, while banks' funding typically has a much shorter or no maturity. Therefore, a significant gap develops between the asset and liability sides. This has the potential to exacerbate the impact of exogenous shocks, increase the severity of crises and slow the post-crisis adjustment process (Goldstein and Turner (2004)). By issuing mortgage bonds, it is possible to attract long-term funds at a relatively favourable price to reduce this maturity mismatch and the risk of liability rollover. In addition, the interest risk of the bank arising from fixed-rate loans, which significantly reduce the risk of default, and the bank's interest rate risk arising from bank sources with variable interest rates (eg deposits) can also be substantially reduced by issuing fixed-rate mortgage bonds (Borkó and Herbert (2023)).

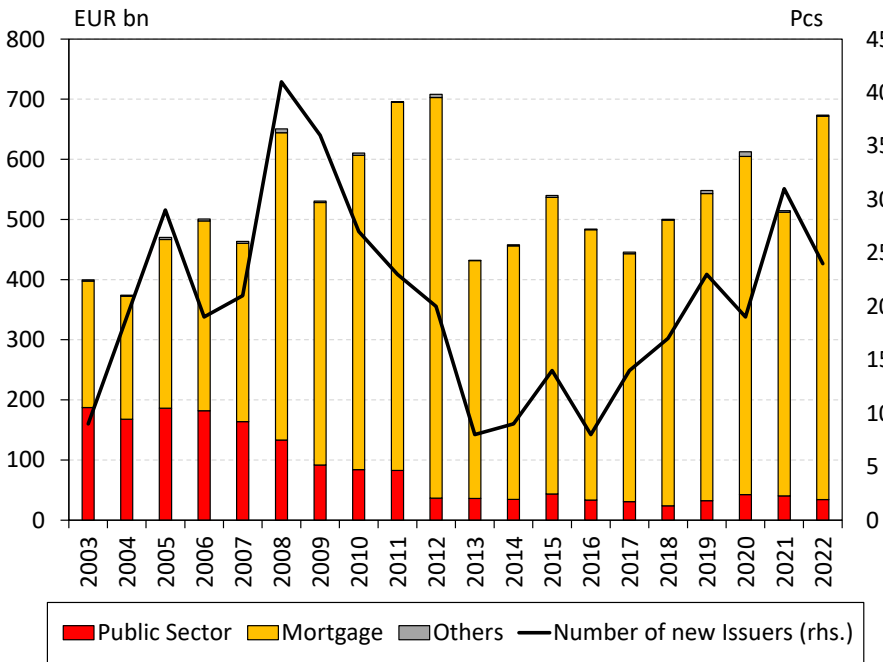
3. Recent trends in covered bond markets

As funding instruments, covered bonds have been resilient during various crises, from the 2008–09 financial crisis to the Covid-19 pandemic and today's conflicts. Covered bonds have shown their safe haven status similarly to developed countries'

government bonds and have proved to be one of the asset classes that have managed to restore investor confidence and ensure issuers access to capital markets in volatile times. Even during the European sovereign debt crisis, covered bond issuance reached record high levels in 2010–11, supported by the demand for safe and secure assets from investors while banks were struggling to sell unsecured bank debt. Compared to senior bonds, covered bonds are more attractive now than before the financial crisis, which is also reflected in the pricing. In addition, the European Central Bank’s asset purchase programmes have supported market liquidity (Nicolaisen (2017)).

Covered bond issuance volume and number of new issuers

Chart 2



Source: ECBC (2023).

The covered bond market has a decent track record historically in Europe, but recently bond issuance has surged outside of Europe also, especially in countries where issuers have partially replaced central bank funding with covered bonds, such as Canada. The European Covered Bond Council (ECBC) expects issuance in these new markets to increase further, supported by new issuers in countries with an established legislative framework, such as South Korea and Singapore. Further growth can be expected once new legislative frameworks are established, granting issuers in new markets access to covered bond investors (ECBC (2023)).

The recent rise in interest rates and tightening monetary conditions largely affects the covered bond market through decreasing housing loan demand. The ECB bank lending survey shows sharply decelerating housing loan demand due to higher interest rates, weaker consumer confidence, and a darkening market outlook (ECB (2023)). Rising rates have contributed to a reduction in debt financing flows to households for house purchase. In addition, the ECB decided to stop the asset purchase programme reinvestments or third covered bond purchase programme

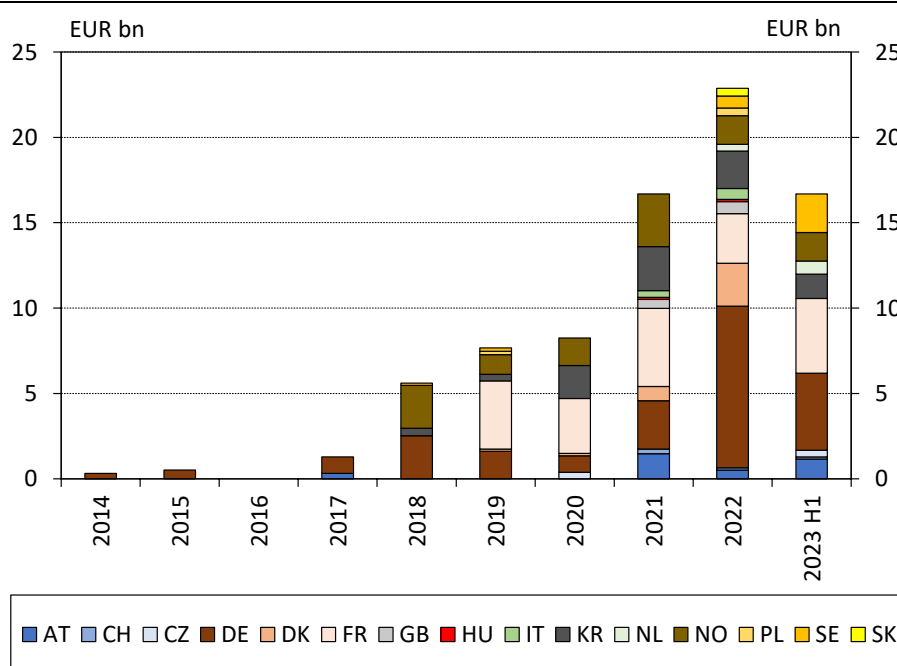
(CBPP3) as of July 2023, which is relevant from a market liquidity perspective. Consequently, weaker lending growth weighs on issuance potential and market liquidity recovery is likely to be a slow and gradual process. The issuing capacities of covered bond issuers and the asset quality in the cover pools are closely linked to real estate market developments, which have been pointing to increasing risks due to slowing price developments and lowering transaction numbers (MNB (2023a)).

The conditions for granting preferential capital treatment to covered bonds in Europe will be strengthened through additional requirements outlined in new EU legislation. The European Parliament is proposing laws on securitisation and covered bonds to further enhance capital markets. This involves introducing new asset classes of debt instruments and providing access to new participants. The market might provide attractive alternatives for long-term investors (ECBC (2023)). Covered bonds are preferred in country-level regulation as well; for example in Germany, where these instruments have a deeper culture, covered bonds are not subject to mark-to-market rules. However, varying country-specific frameworks and practices pose challenges for achieving a consistent treatment of covered bonds.

Trends in sustainability are also one of the most decisive factors in the covered bond market's current development. In 2022 the new issuance of sustainable covered bonds coming from 14 countries exceeded EUR 20 billion for the first time. This was almost equal to the total issued volume before 2021; however, compared to the total market, it is still not significant. In 2023, new issuance was around EUR 17 billion during the first half of the year, implying that the market continues to expand at a solid pace and is likely to reach a new record in terms of issuance in 2023 (ECBC (2023)).

Sustainable covered bond issuances in Europe by country

Chart 3



Source: ECBC (2023), estimated data.

A key reason for issuers to come to the market with covered bonds in a sustainable format is that these bonds tend to broaden the investor base, so they can be priced with a premium (or so-called “greenium”). The greenium, however, does not seem to be the selling point of green covered bonds. We see relatively small or no advantage in pricing when comparing conventional and green bonds. Germany has started issuing so-called “twin bonds”, which are identical apart from the green aspect, with the goal of measuring the greenium. This phenomenon is reflected in the pricing as well, since there has never been more than a 1 percentage point advantage over the green bond. The reasons behind the relatively small greenium are limited size and liquidity, almost identical risk profile, plus mistrust because of greenwashing (Sakai et al (2023)).

4. The Hungarian case of rebuilding the mortgage bond market with central bank policy support

4.1 Complex policy mix to revitalise the mortgage bond market

In Hungary, following the German model, the foundations of today’s legal framework for mortgage bonds were laid out in the 1990s (Papp (2005)). In the early 2000s, due to the introduction of state interest subsidies available for housing loans financed with mortgage bonds, the stock of mortgage bonds in circulation experienced a rapid and significant increase. However, with the withdrawal of the scheme, cheaper but less stable sources came to the fore, which contributed to the buildup of systemic risks in the banking sector. With the gradual expiration of previously issued mortgage bonds, by the end of 2016 the stock fell to about a third of the end-2009 volume.

In order to reap the benefits of mortgage bonds for capital market development and financial stability detailed earlier, starting in 2017 the MNB started supporting the redevelopment of the market and issuances with several instruments. These included supply-type regulatory incentives (a macroprudential policy tool), demand-type bond purchase programmes (monetary policy tools) and other soft coordinator-type assistance (negotiations, regulatory initiatives, stock exchange index, etc).

To achieve financial stability goals, in April 2017 the MNB introduced the regulation on the Mortgage Funding Adequacy Ratio (MFAR), the purpose of which was to reduce the maturity mismatch between bank HUF assets and liabilities. The introduction of the measure was warranted in particular by the long-term HUF mortgage loan portfolios increase after the conversion of FX loans into HUF debt implemented in 2015. This led to an increase in the HUF maturity mismatch of Hungarian banks that mostly relied on deposit funding and other short-term financing. Based on the regulation, the residential mortgage loan portfolio with a remaining maturity of more than one year must be financed in a specified proportion with long-term mortgage-backed funds, ie mortgage bonds or refinancing loans taken out from mortgage banks and serving as collateral for the issuance of mortgage bonds. In the beginning, 15% of mortgage loans had to be financed with such liabilities, and this has gradually increased to 25% in recent years.

The MNB regularly reviews the MFAR requirement regarding market developments and financial stability goals with the intention of deepening the

mortgage bond market and strengthening and diversifying demand without overly increasing banks' operating costs. Accordingly, the requirement has changed several times in light of changing market conditions and in close cooperation with market participants. This has meant both level increases and changes in content, primarily affecting the quality characteristics of acceptable funds, as well as limiting cross-financing, and recently the postponement of previously announced tightenings (Table 1).

History of and revisions to the MFAR regulation			Table 1
Applicable from	Step	Reason	Impact
1 April 2017	Introduction of the MFAR regulation encouraging an increase in HUF maturity consistency through the involvement of long-term, mortgage-based funds, with a minimum level of 15%	Decrease HUF maturity mismatch, revitalise mortgage bond market	Tightening
1 October 2018	Regulatory limit increase to 20% and tightening affecting the quality of the funds that can be drawn	Decrease HUF maturity mismatch, revitalise mortgage bond market	Tightening
1 February 2019 and 1 October 2019	Regulatory limit increase to 25% and tightening of the de minimis limit and the quality of funds that can be raised	Decrease HUF maturity mismatch, revitalise mortgage bond market	Tightening
24 March 2020	Relief related to the effects of the pandemic , suspension of cross-financing restrictions	Covid-led complex financial-economic situation	Loosening
1 July 2021	Consideration of green mortgage-based funds with preferential weighting, introduction of strictures strengthening financial stability goals from 1 October 2022 (since then postponed)	Need to increase new (green-focused) investors and target ESG risks	Loosening
1 July 2022	Acceptance of FX mortgage-based funds under certain conditions, raising the de minimis limit, postponing tightenings to 1 October 2023	Need to increase new (foreign) investors to decrease cross-banking ownership	Loosening
23 December 2022 and 1 January 2023	Postponement of restrictions (level increase, cross-ownership rules, expectation of stock market introduction) for an indefinite period and technical modification in order to ensure the acceptability of the legal new form of refinancing	Complex economic-financial environment	Loosening
1 October 2023	Postponement of the green requirement for funds based on FX mortgage bonds entering into force on 1 October 2023 to 1 October 2024	Complex economic-financial environment, slowed lending, high interest rate environment, FX market entry barriers	Loosening

Source: MNB.

In 2018, the MNB also launched a mortgage bond purchase programme (MBPP) primarily for monetary policy reasons. The mortgage bond market is an interest rate channel that affects borrowing conditions and smooth market functioning; ample liquidity is desired for effective policy transmission. The programme also supported adaptation to MFAR requirements and market development by ensuring robust

demand of a suitable volume under favourable price conditions. The first purchase programme ended at the end of 2018; it was restarted by the MNB in 2020 during the Covid-19 outbreak, and then continued in 2021 targeting only green mortgage bonds (Table 2). The general features of the programmes were: (1) purchased assets could be HUF bonds with a fixed interest rate and minimum (three or five years) initial maturity; (2) asset purchases happened on both primary and secondary markets; and (3) additional requirements were also incorporated to boost market developments, such as the mandatory listing of bonds on the stock exchange or contracted market-makers providing daily two-way quotations.

History of and revisions to mortgage bond purchase programmes (MBPP) Table 2			
Applicable from	Step	Reason	Impact
Q1–Q4 2018	First MBPP	Introduced in the easing cycle to lower long-end yields and revive the mortgage bond market.	Loosening
Q2–Q4 2020	Second MBPP	In response to Covid-19 to ease credit conditions and provide liquidity support.	Loosening
Q3 2021–Q2 2022	Green MBPP	In line with the new green mandate to adopt best practices and foster first green bond issuances.	Loosening

Source: MNB.

Furthermore, partially within the preparatory and revision processes of previously mentioned policy steps, the MNB has made significant efforts to support a comprehensive and consistent legal framework by giving suggestions to the Ministry of Finance related to the mortgage bond regulatory framework in Hungary along with data reporting obligations and definitions. Additionally, the MNB initiated the exploration and introduction of the Budapest Stock Exchange mortgage bond market indices,¹ to increase transparency and help investors' decisions, which also supported the development of the market.

4.2 The results of coordinated central bank policy interventions

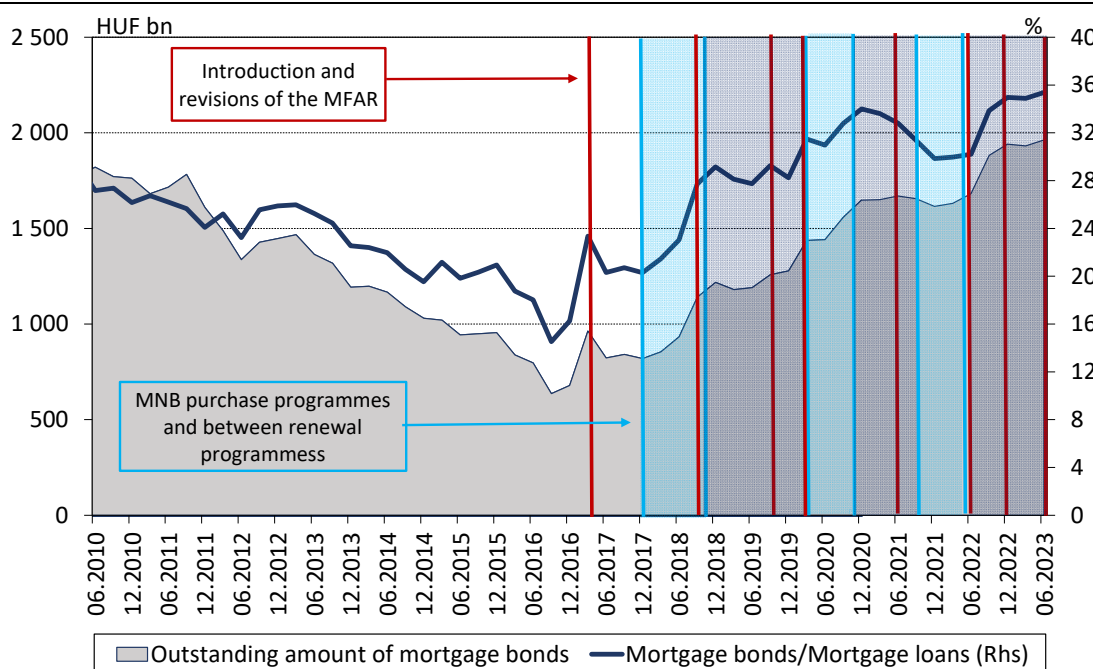
In large part thanks to the MNB's actions and in a favourable macro-financial environment, the domestic mortgage bond portfolio started to grow again in 2017 and increased to the 2007–08 pre-crisis levels, more than doubling the outstanding mortgage bond amount and reaching 36% of the mortgage portfolio's volume (Chart 4). The regulatory steps taken by the central bank induced significant changes in the structure of the market and the level of competition among institutions as well: two new mortgage banks (institutions with a specialised licence to issue mortgage bonds) were established (Erste and K&H) in addition to the already existing ones (OTP, FHB – now MBH – and UniCredit), increasing the number of issuers to five; the refinancing

¹ See MNB, "New mortgage bond index to support market development", press release, Budapest, 30 November 2017, www.mnb.hu/en/pressroom/press-releases/press-releases-2017/new-mortgage-bond-index-to-support-market-development.

market (where issuers provide loans to finance the mortgages of banks that have no licence to issue mortgage bonds) also became more active and competitive. Accordingly, the balance sheet maturity structure of banks has improved and the mortgage bond market has been steadily revitalised, enhancing stable funding and thus financial stability. Also due to the MNB's steps, green mortgage bonds financing energy-efficient housing have also appeared in the Hungarian market since 2021, rising to a close to 10% share within all mortgage bonds (Chart 5).

Mortgage bonds and mortgage bond/mortgage loan rate in Hungary

Chart 4



Source: MNB.

4.3 Remaining challenges and corresponding objectives

Despite the significant results of the recent regulatory steps, certain challenges remain for developing a self-sustained and efficient mortgage bond market (MNB (2023b)). It is important to take macroeconomic and financial market developments into account to provide an effective framework for deepening capital markets and enhancing financial stability without significant side effects.

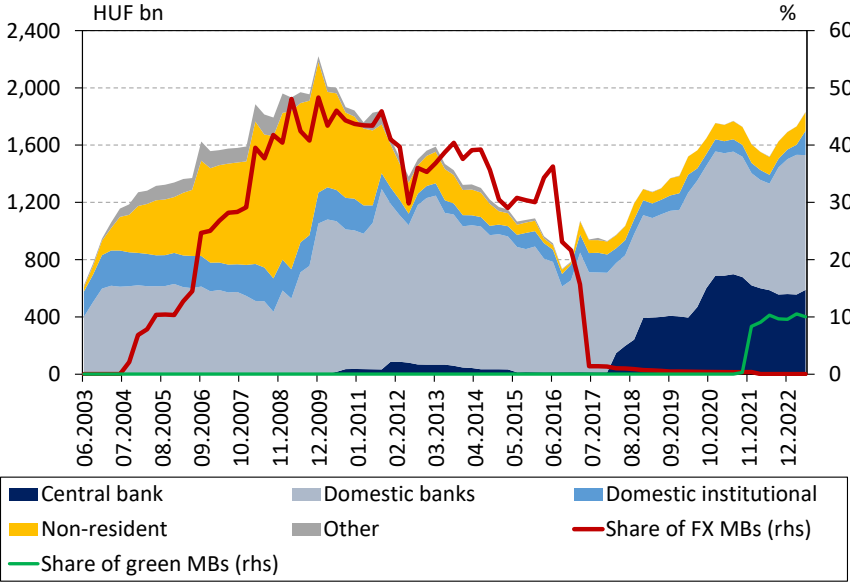
In the current market environment, the renewal of expiring mortgage bonds may prove to be a challenge from an investor and cost perspective. The high inflation and high interest rate environment and tight monetary policy disincentivise the growth of the market. The real estate market is showing a significant slowdown, while mortgage lending has dropped sharply, leading to sluggish growth or even a decline in the available volume of cover pool assets (MNB (2023c)). Central banks are currently also less active as investors through purchase programmes, leading to increasing funding costs and lower liquidity.

Although the mortgage bond market has undergone significant development, the scarcity of demand and the concentration of the investor base remains a challenge (Chart 5; Borkó and Herbert (2023)). The cross-ownership of mortgage bonds between banks, financed from other, usually short-term funds, does not lead to raising new stable funds at the system level, and moreover carries contagion risks among the institutions. Additionally, concentrated ownership causes low market liquidity and correspondingly less favourable price conditions, increasing the relative costs of this type of funding.

The MNB has made several steps within the MFAR requirement to diversify the ownership structure by introducing cross-ownership restrictions (currently postponed), by accepting and showing positive discrimination towards green mortgage bond-based funds (from 1 July 2021), and also by accepting FX mortgage bond-based funds (from 1 July 2022). However, there have been no significant changes yet, as the government bond market has a strong displacement impact, the complex financial-economic environment after Covid-19, heightened by geopolitical conflicts, is unfavourable for issuers, and the non-bank institutional investor base in Hungary is weak. Therefore, several planned MFAR tightenings have been postponed. The market outlook is currently unsure due to economic and geopolitical uncertainties, but the likely normalisation of monetary and financial conditions is expected to enable the corresponding revisions to the MFAR regulation. Increased limits and the reintroduction of banking cross-ownership constraints, along with increases in green and/or FX issuances, have the potential to support a significant step in the evolution of the Hungarian mortgage bond market. These may improve the ownership structure, inviting new non-banking institutional and foreign investors and ensuring the self-sustained development of the Hungarian mortgage bond market in the future.

Outstanding mortgage bonds by ownership sector, denomination and green aspect in Hungary

Chart 5



Data at face value.
Source: MNB.

Conclusion

Mortgage bonds play a key role in European financial markets and offer significant benefits for investors and banks; moreover, these financial instruments encourage financial stability and the development of capital markets. For emerging market economies (EMEs), mortgage bonds represent an important milestone to introduce new capital market instruments and enable relatively low-cost stable funding for the banking sector. In Hungary, the MNB's support via macroprudential and monetary policy instruments has achieved significant results and can therefore serve as an example for other EMEs with similar market structures. An important lesson is that while regulatory incentives can significantly contribute to market development, the sequencing of these steps should take into account the state of the economy and the financial system and adapt flexibly to any changes to minimise negative side effects.

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