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Improving Access to Credit for First-Time Home Buyers under Borrower-Based Measures*

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As a result of the dynamic rise in real estate prices in recent years, house prices, and therefore the minimum down payment required to obtain a mortgage, more than tripled by 2022 compared to 2014. This led to a deterioration of access to borrowing opportunities typically for young first-time home buyers aged 35 or younger, especially among clients who are not eligible for family support schemes. In this paper, we provide a detailed overview of the potential side effects of the borrower-based measure framework on first-time home buyers. Relative to their credit risk, these clients may be more severely affected by borrower-based measures, generating negative second-round effects. Therefore, in their case preferential limits may be applied, in line with international practice, notably on the level of down payment. However, when making such a decision, it is important to take into account the development of risks in the housing and credit markets and the macroeconomic environment.

Journal of Economic Literature (JEL) codes: D14, E32, E51, E58, G21, R31

Keywords: financial stability, real estate overheatedness, excessive lending, macroprudential policy, borrower-based measures, loan-to-value ratio, debt-service-to-income ratio, first-time home buyer

1. Introduction and motivation

In the aftermath of the 2008–2009 global economic crisis, so-called borrower-based instruments have become increasingly common at the international level, in order to avoid systemic financial crises. These regulatory instruments limit the debtor's repayments (debt service-to-income, DSTI), the total amount of debt (debt-to-income, DTI) or the current amount of the loan (loan-to-income, LTI) as a proportion of their income (so-called debt-to-income limits) or limit the amount of the loan

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relative to the value of the collateral (the loan-to-value ratio, LTV),[1] thus hindering the disbursement of loans that are considered too risky. The rules thus protect both debtors and lenders from excessive risk-taking and potential payment difficulties. Experience so far shows that borrower-based measures have substantially increased the resilience of households to shocks and significantly reduced the risk of excessive household indebtedness.

However, the use of borrower-based measures can also have significant unintended side effects for certain groups in society. Because of their lower savings, first-time home buyers, who are typically young,[2] may be affected particularly strongly by such measures. Because of their young age, these clients tend to have lower savings and lower, but faster growing incomes compared to other home buyers. For them, meeting the housing loan market requirements set by the borrower-based measures, in particular the minimum down payment requirement, may be excessively difficult compared to their risk. In Hungary, the rapid increase in housing prices seen in recent years has significantly reduced access to the housing loan market for young clients with low savings, especially for clients not eligible for family support schemes. This may have unintended competitiveness and demographic second-round effects (for a detailed discussion of demographic and housing market developments, see *Lentner et al. 2017*).

To reduce the overvaluation of the housing market and to improve the housing market situation of young first-time home buyers, it is possible to envisage a number of complex economic policy interventions, which target either housing market supply (rental housing programmes, tax incentives, etc.) or demand (housing subsidies, preferential financing, guarantee schemes, tax incentives, etc.). In this paper, we explore the potential negative side effects of the borrower-based measures falling under the competence of the central bank in Hungary on the housing market of first-time home buyers and their macroprudential treatment. In the *second section*, we examine the potential side effects of borrower-based measures, with a focus on first-time home buyers. In the *third section*, we outline the current international and domestic housing and loan market trends affecting the housing situation of first-time home buyers. In the *fourth section*, we outline the general domestic characteristics of this client segment based on the available data sources and discuss in detail the impact of domestic borrower-based measures on first-time home buyers. In the *fifth section*, we explore the macroprudential options for addressing the disadvantaged housing market situation of first-time home buyers and the international practice of their application, and review the possible introduction of such options in Hungary, their preconditions and potential risks. In *sixth section*, we summarise our conclusions.

[1] The content of each ratio is described in detail in the European Systemic Risk Board's (ESRB) 2016 Recommendation on closing real estate data gaps and its 2019 amendment.
[2] In our study, we considered clients aged 35 and under as young.

2. The relationship between borrower-based instruments and first-time home buyers

Although international experience suggests that the borrowing limits set by borrower-based instruments are effective in maintaining a healthy structure of lending (*Claessens et al. 2014; Akinci – Ohmstead-Rumsey 2015; Cerutti et al. 2015; Buch – Goldberg 2016; IMF-FSB-BIS 2016; Martin – Philippon 2017; Hosszú et al. forthcoming*), it is inevitable for certain households with low incomes or low savings that exceed the limits to adapt to the requirement in some way. Such a theoretical adaptation channel could be, in the case of income-based requirements (DSTI, LTI, DTI), on the one hand, reducing repayments by extending the maturity, shortening the length of the interest rate fixation or even taking out a loan denominated in foreign currency, and on the other hand, increasing income mainly by involving co-debtor(s). In the case of collateral-based regulations (LTV), coverage can be increased by including additional collateral, but in its absence, the effectiveness of the limits may encourage the supplementing of the down payment using unsecured loans. However, the use of these adaptation channels may be addressed by the detailed rules of the requirements introduced in the country concerned (e.g. the definition of the income or repayment instalments to be taken into account or the introduction of differentiated limits).

Borrower-based measures can serve as automatic stabilisers during the financial cycle. The restrictive effect of borrower-based measures tends to be stronger during the upturn of the financial cycle, characterised by a low interest rate environment and rapid real estate price increases that exceed income growth. By contrast, in the downturn phase of the cycle, characterised by a financial crisis and house price correction, borrower-based measures are less restrictive on household indebtedness (*McDonald 2015; Claessens et al. 2014*). If the requirement becomes overly strict, i.e. excludes a significant number of clients from the lending market who would otherwise remain performers despite potentially exceeding the lending limits (high second-order error), the regulation could disproportionately increase social inequalities (*Frost – Stralen 2018; Carpantier et al. 2018; Georgescu – Martín 2021*). It should be stressed, however, that overly permissive borrower-based measures can lead to the build-up of financial stability systemic risks and excessive household indebtedness. The regulator should therefore put in place a macroprudential framework that maintains household resilience to shocks and strengthens financial stability while minimising the extent of possible negative side effects.

The rise in house prices seen in recent years and the resulting increase in barriers to entry into the lending market have drawn attention to the steadily deteriorating housing market opportunities of young first-time home buyers, who may be more severely affected than average by the potential negative effects of borrower-based requirements. When establishing their independent existence and housing, young first-time home buyers typically do not yet have the wealth and thus a sufficient down payment to take out a housing loan, due to their young age. In addition to increasing the amount of the down payment, the loan amount and repayments can also rise rapidly in the event of a rapid increase in real estate prices, which can also exclude young home buyers with still insufficient income due to their stage of life from the housing loan market. The negative impact of borrower-based measures on first-time home buyers could become particularly severe in the event of rapid real estate price increases above the level justified by economic fundamentals (in particular income growth), i.e. in the event of overvaluation in the real estate market. Rents rising in parallel to housing market overheatedness, but at a slower pace than house prices, may further aggravate the situation of young first-time home buyers and extend the saving period needed to raise the amount of down payment required to obtain a mortgage. In extreme cases, this can exclude certain groups of society from the housing market for their entire careers.

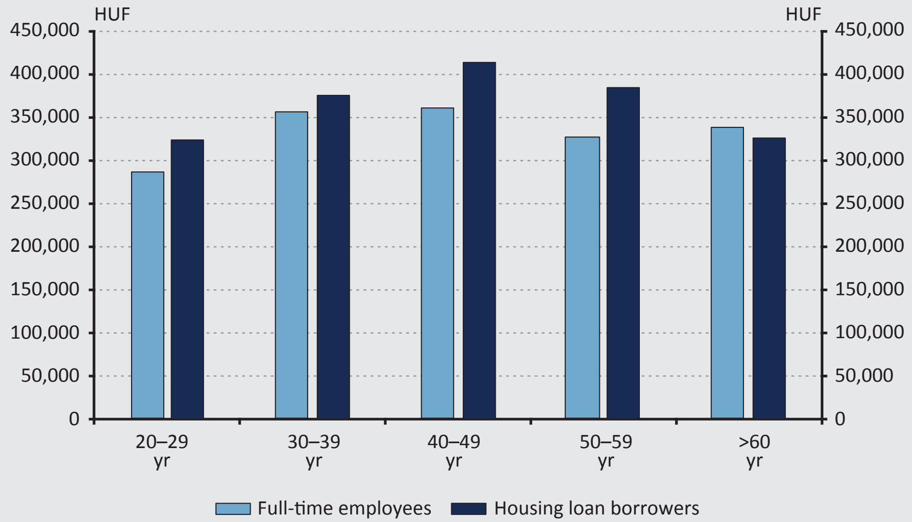
In addition to financial stability risks, overvaluation in the housing market and the general deterioration in the affordability of housing may have a number of other unintended second-round economic and social effects, which may be exacerbated by borrower-based measures among first-time home buyers. Rapid increases in housing costs reduce disposable income, to which households can adapt in a number of ways. They can reduce their other consumption and investment expenditure (education, health, food, etc.), move to smaller, technically more obsolete properties or to less expensive locations further away from their workplace. Households may also overburden transport and other infrastructure due to increased commuting (*Gabriel – Painter 2020*). Overvaluation can therefore lead to increased environmental pressures and slower renewal of the real estate stock. High housing costs may reduce labour mobility (*Causa – Pichelmann 2020*), thus reducing macroeconomic performance, while increasing income inequalities between homeowners and renters (*Causa – Woloszko 2020*). The negative effects may particularly affect first-time home buyers due to their low savings and income resulting from their young age, the shrinking of savings opportunities and thus the increased effectiveness of the LTV requirement, which may also increase poverty in old age.

The rapid rise in house prices and persistent overvaluation of the housing market can hit young first-time home buyers particularly hard through a number of potential channels. Young first-time home buyers are more likely than other home buyers to be forced to rent or live with their parents. Their access to the mortgage market is also more limited due to lower income and down payment, shorter credit history and sometimes a disadvantaged labour market situation (*Andrews et al. 2011*), which may be further impacted by borrower-based measures (*Bekkum et al. 2019*). With rising housing market overvaluation and lack of adequate access to mortgage markets, a larger share of young people may be forced into overcrowded properties or properties with a lower comfort level (*Cournède – Plouin 2022*). This may even have negative demographic effects (*Mulder – Billari 2010; Dettling – Kearney 2014*), which could be detrimental to economic growth and competitiveness. Facilitating access to the housing market for first-time home buyers could therefore have a number of positive, second-round economic and social effects: it could support the renewal of the housing stock and improve the energy efficiency of buildings, as well as help to achieve demographic objectives and reduce income inequalities.

Differentiated, preferential treatment for easier access to the mortgage market may also be justified from a prudential point of view, as the credit risk of these borrowers may even be lower, due to their home-establishing objective and thus presumably higher payment discipline, on the one hand, and the faster-than-average rising incomes of young age groups with relatively little work experience, on the other.

Net earnings data for full-time employees available at 10-year class intervals from the Hungarian Central Statistical Office (HCSO) and data on housing loan borrowers from the MNB's loan register (HITREG data reporting) both suggest that the incomes of young borrowers may be rising faster than average. Based on housing loan disbursements data for the first three quarters of 2022, the incomes of borrowers aged 30–39 are nearly 20 per cent higher than those of borrowers aged 20–29, while the incomes of borrowers aged 40–49 are 10 per cent higher than those of borrowers aged 30–39 (*Figure 1*). In some cases, the rapid increase in the income of young housing loan borrowers with children may also be supported by the subsequent recovery of income temporarily lost at a young age due to raising children. Similarly, using nearly 40 years of individual earnings data on five million US workers, *Guvenen et al.* (*2021*) also found that income growth is highest in the young age groups and most of it occurs until the ages of 35–40.

Figure 1
Average net monthly income by age of full-time employees and housing loan borrowers (2022)



Note: Average net earnings excluding benefits for full-time employees; Average income per borrower for housing loan borrowers taken into account for the DSTI calculation

Source: HCSO, Magyar Nemzeti Bank (MNB)

Few empirical studies are available on the credit risks of first-time home buyers. *Kelly et al.* (*2014*), *Kelly – O'Malley* (*2016*), and *Giuliana* (*2019*) analyse the impact of first-time home buyer status on default risk. Using data on housing loans in Ireland, the authors found a statistically significant negative effect even after controlling for a wide range of control variables on lending and borrowers. Similarly, *Lazarov and Hinterschweiger* (*2018*) found a statistically significant negative correlation between first home purchase loan purpose and loan default risk based on UK loan disbursements data. However, by contrast, analyses by *Gyourko et al.* (*2015*) and *Patrabansh* (*2015*) on US loan data showed a potentially higher risk for first-time home buyers, which the authors explained by the shorter credit history of first-time home buyers and the higher exposure at default and higher expected losses of these borrowers due to the higher loan amount (lower down payment). *Alfonzetti* (*2022*) could not capture different default risk of first-time buyers compared to other home buyers on Australian loan data (*Table 1*).

Table 1
Literature review on credit risk characteristics of first-time home buyers

Author	Sample (Geographical scope, period)	First-time home buyers' credit risk
Kelly et al. (*2014*)	**Ireland** Mortgage data as at December 2013	– **Significantly lower**, even after controlling for control variables for loan and debtors. This may be explained by a stronger commitment of debtors to their place of residence.
Kelly – O'Malley (*2016*)	**Ireland** Mortgage data as at December 2014	
Lazarov – Hinterschweiger (*2018*)	**United Kingdom** Loans granted between 1972 and 2016 at transaction level	
Giuliana (*2019*)	**Ireland** 2013–2017 loans, two-thirds of the mortgage loan portfolio	
Gyourko et al. (*2015*)	**USA** Federal Reserve Bank of New York's Consumer Credit Panel, transaction-level panel data covering 5 per cent of US households for mortgages granted between 2004 and 2008	– The risk for first-time home buyers may be **higher** due to a shorter credit history. – The expected loss given default is **higher** due to the higher LTV.
Patrabansh (*2015*)	**USA** Data on mortgage loans originated between 1996 and 2012	– There is **no difference** in default risk when controlling for credit, collateral and counterparty characteristics. – **First-time home buyers have a lower probability of early repayment.**
Alfonzetti (*2022*)	**Australia** Australian Prudential Regulation Authority, Reserve Bank's Securitisation System, ABS' Surveys (ISA, HILDA) Loans granted in the 3 years preceding 2017/2018 and in 2022	– First-time home buyers **do not have a higher risk**. – There could be essentially two **reasons** for this: **the higher income growth expected in the future and the inherently tighter credit conditions.** – By controlling for age, the effect of first-time home buyer status vanishes, i.e. **age matters most in subsequent delays.**

Based on the studies reviewed, several authors have shown that the credit risk of first-time home buyers is potentially lower or similar to that of other home buyers. An important limitation of impact estimates for first-time home buyer borrowers, however, is that only those clients who have entered the housing credit market under the current regulatory framework can be observed, and the necessary data for first-time home buyer status are often available only when differential regulatory treatment is in place or is introduced. For this reason, relatively little data is available on first-time home buyer status, which means that a risk estimate can only be made with considerable uncertainty, based on data from a few countries and relatively short time series, which may be considerably influenced by the different regulatory environments in the various countries, and therefore it cannot be stated with absolute certainty that the literature is valid in all countries. A more precise assessment of the credit risk of first-time home buyers and of the impact of the regulatory environment on first-time home buyers therefore requires further investigation, which could subsequently inform macroprudential policy decisions for such clients. However, measures to improve the housing situation of first-time home buyers may also be rational on social and economic grounds.

3. Current housing and housing loan market developments

House prices have risen strongly across Europe in recent years, with Central and Eastern European countries typically experiencing house price increases above the EU average. In comparison, house prices in Hungary have also risen sharply, especially in the last two years. By 2022 Q3, house prices in Hungary had risen to more than 250 per cent of their 2015 average, a level only approached by the Czech Republic, where house prices rose to 220 per cent of their 2015 average over the same period *(Table 2)*. The unprecedented price rise is explained by the favourable macroeconomic performance of recent years, a wide range of home purchase subsidies, rising construction costs, labour shortages and the rigidity of housing market supply, while market feedback suggests that inflation fears and early demand related to interest rate hikes may have also affected house prices.

The rapid rise in house prices in recent years has led to a substantial deterioration in the affordability of housing in Hungary, and the overvaluation of the housing market has reached historically high levels. The ratio of house prices to incomes has been rising since 2014, so that by 2022 H1, an average 75-square metre dwelling in most cities required more than 10 years of average net income to buy. As a result of the sustained house price increases, the estimated level of overvaluation in the housing market rose to a historically high level of around 20 per cent by 2022 Q2, which is also outstanding by international standards (*MNB 2022a*), and has not declined significantly since then (*Table 2*). However, the deteriorating macroeconomic environment in the wake of the Russia-Ukraine war, rising interest rates and potentially tightening lending conditions may have led the housing market to the peak of its multi-year upward cycle, and looking ahead, a considerable slowdown in the housing market is expected. The importance of dynamic house price growth is enhanced by the fact that the proportion of home-owners in Hungary is also outstanding by European standards, the 3rd highest in Europe, and has remained stable in recent years.

In many cases, the rental market, with its limited development, is not a real housing alternative for households. High prices have also emerged in the rental market, making it even more difficult for young people to find housing. In 2022 Q3, Budapest was one of the 10 most expensive European capitals relative to tenants' incomes (*Table 2*), and annual rental growth is also considered high. In Hungary, the limited size of the municipal rental housing market (less than 1 per cent of the housing stock in 2021[3]) cannot compensate for the market-based rents increasing with housing prices, forcing young people to face high rents in addition to soaring house prices. High rents considerably reduce the savings opportunities of young people and increase income inequalities between groups in society that own their own property and those that do not.

It can also be observed that young people are living longer with their parents. According to the OECD 2020 survey, nearly half of 20–29 year olds in OECD countries live with their parents, while the same proportion exceeds 60 per cent in Hungary (*Cournède – Plouin 2022*). In 2019, 62 per cent of 18–34 year olds lived with their parents in Hungary, 12 percentage points more than in 2005, according to the HCSO survey.[4]

[3] https://www.ksh.hu/stadat_files/lak/hu/lak0004.html, downloaded: 12 March 2023.
[4] https://www.ksh.hu/docs/hun/xftp/idoszaki/fiatalok/atlagosan_27_evesen_koltozunk/index.html, downloaded: 3 March 2023.

Table 2
Trends in housing and credit risks in EU countries (2022 Q3)

	Housing market overvaluation (%)	Changes in house prices (2015 = 100)	Share of households living in owner-occupied housing (%)	Rent/income ratio (%)
LU	61	192	71	39
SK	41	181	92	55
SE	36	138	65	37
CZ	36	221	78	55
AT	32	176	54	24
DE	24	166	49	33
PT	22	194	78	63
NL	21	189	70	43
HU	**20**	**256**	**92**	**47**
FR	20	134	65	40
DK	16	137	59	36
LV	14	188	83	34
BE	14	136	71	30
EE	11	191	82	37
ES	9	144	76	45
BG	4	174	85	54
HR	4	162	91	45
GR	–1	NA	73	36
LT	–1	200	89	51
PL	–1	167	87	63
MT	–1	146	82	NA
SI	–2	177	76	44
FI	–2	112	70	29
IE	–6	167	70	53
IT	–8	107	74	35
CY	–11	113	70	28
RO	–18	143	95	48

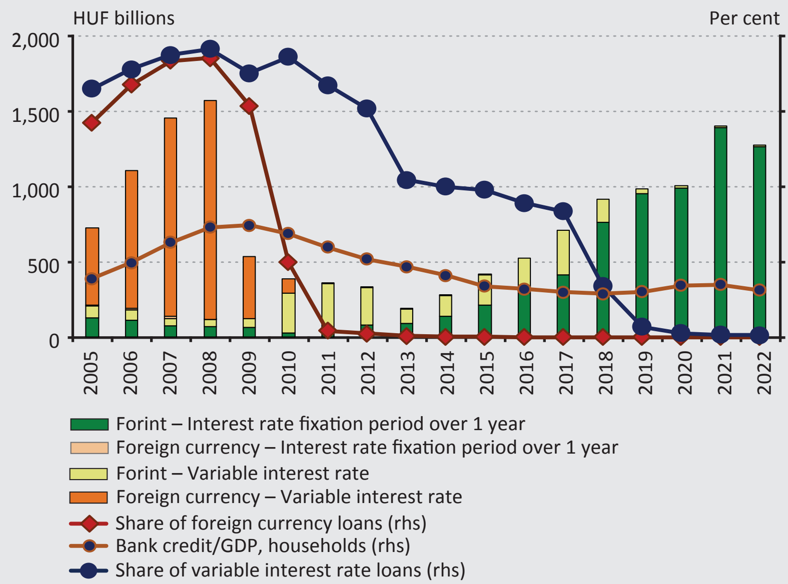
Note: Data on housing market overvaluation[5] for Slovakia, France, Lithuania and Cyprus for 2022 Q2. No data on house price changes are available for Greece. Share of owner-occupied housing for 2021; for Slovakia for 2020. The rent/income is for one-bedroom apartments. The data are not available for Malta. The red-green scale is used to indicate risk, while regarding the proportion of owner-occupied properties, high/low ratios do not indicate risk per se, thus a different scale was used.

Source: European Central Bank (ECB), Eurostat (download date: 10 January 2023), MNB

[5] Estimates of the overvaluation/ undervaluation of residential property in each EU country are based on several different valuation methods. For details, see *Jarmulska et al.* (*2022*).

Persistent overvaluation in the housing market may also lead to loan market overheatedness, which, despite the dynamic expansion of the housing loan market in recent years, cannot be identified at present. Although the amount of domestic housing loan disbursements has shown dynamic double-digit annual growth since 2014, the total amount of housing loan originations only approached the pre-2008-2009 crisis nominal level by the end of 2021, and remained below it in real terms (*Figure 2*). Despite a rapid and sustained increase in housing loan disbursements, the ratio of household indebtedness to GDP has not changed significantly in recent years, totalling to around 15–20 per cent of GDP, which is among the lowest in the EU. With a low level of retail loan portfolio to GDP, the share of home purchases financed by loans in Hungary has remained stable at between 40–50 per cent (*MNB 2022a*).

Figure 2
Trends in domestic housing loan disbursements



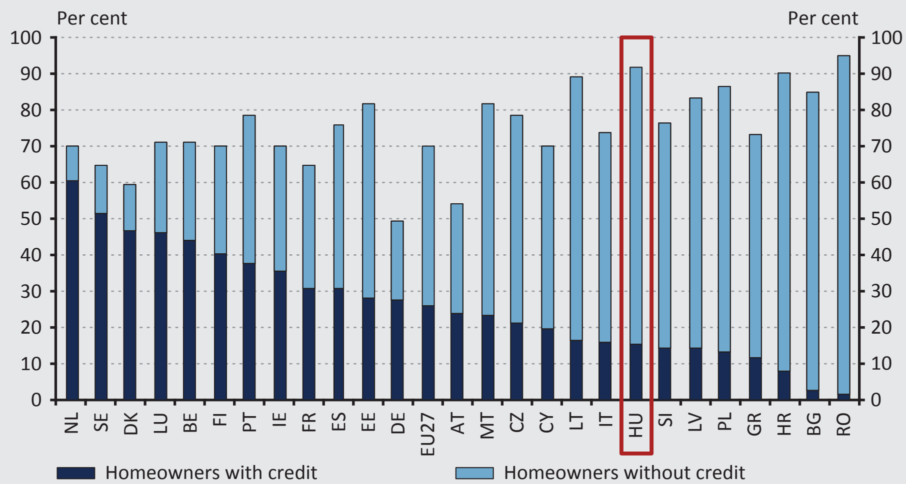
Note: Household bank loan/GDP exchange rate adjusted data based on household financial accounts.
Source: MNB

In Hungary, the share of homeowners with a housing loan is below the EU average, which may be explained by high entry barriers to the housing market.[6] In Hungary, the share of homeowners with housing loans in the total population reached 15 per cent in 2021, compared to 26 per cent in the EU27 on average, according to Eurostat

[6] The housing market entry barrier was considered to be the housing transaction costs and the minimum amount of down payment required.

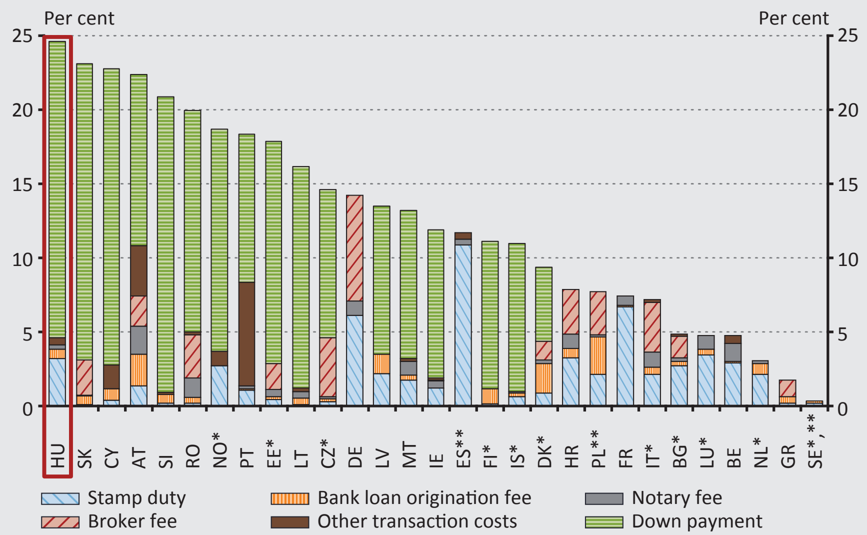
data (*Figure 3*). Low international housing loan penetration may be explained by low levels of public confidence in the financial system, general credit aversion, past adverse mortgage market experiences (e.g. foreign currency lending) and high levels of required down payments, which are also considered high internationally. Hungary ranks in the middle of European countries in terms of real estate transaction costs (*ESRB 2020*). However, the minimum down payment required is among the higher ones. Considering the required down payment and the related transaction costs together, the barriers to entry into the housing market in Hungary are among the highest in the EU, amounting to around 25 per cent of the total purchase price paid by the buyer (*Figure 4*), which may be further increased by the higher down payment requirement due to the possible shortfall in the market value of the property as determined at the loan assessment.

Figure 3
Proportion of homeowners in the EU with and without a loan in the total population (2021)



Source: Eurostat

Figure 4
Entry barriers to the housing loan market as a share of the value of an average dwelling in the EU (2019)



*Note: MNB collection with regard to the minimum required down payment. The minimum down payment required may be further increased by the difference between the purchase price paid by the buyer and the market value as determined by the loan assessment. In countries marked with *, repayments are tax deductible, depending on the marital status. For countries marked with **, no data are available on the minimum down payment required.*

Source: ESRB (2020) and MNB collection

4. The potential impact of domestic borrower-based measures on the access of young first-time home buyers to housing loans

4.1. The development of domestic borrower-based measures and their effectiveness

From 1 January 2015, the MNB became one of the first central banks in Europe to introduce binding borrower-based measures. For mortgage loans, as a general rule, the loan amount cannot exceed 80 per cent of the market value of the collateralised real estate at the time of the loan assessment[7] (LTV) and the repayment burden of the borrowers' outstanding loans cannot exceed 50 per cent of their regular and certified monthly net income (DSTI). The borrower-based limits are differentiated in terms of different dimensions based on the various risks of the exposures (*Table 3; Fáykiss et al. 2018*).

[7] Term within the meaning of Section 2(10) of MNB Decree No 32/2014. (IX. 10.) on regulation of the Debt Service-to-Income Ratios Instalment Payment and the Loan-to-Value Ratios

Table 3
Domestic borrower-based limits for mortgage loans as a general rule

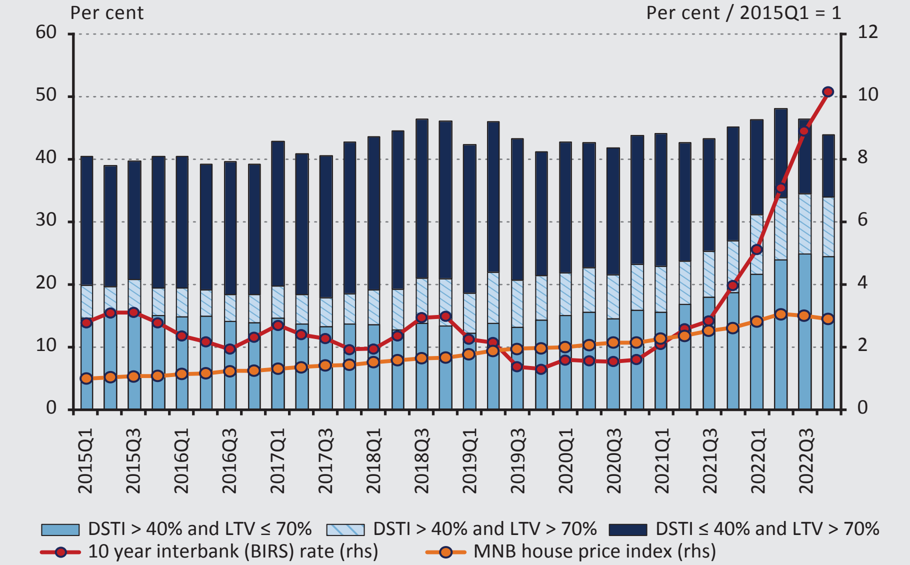
	Borrower-based measures in Hungary				European practice
	Category	**HUF**	**EUR**	**Other FX**	**Differentiation in several dimensions**
DSTI (%)	Monthly net income below HUF 600,000	50	25	10	~50 (min. 40, max. 50)*
	Monthly net income at least HUF 600,000	60	30	15	
LTV (%)	For mortgage loan	80	50	35	~85 (min. 60, max. 100)

*Note: DSTI limits effective from 1 July 2023. Regarding financial leases, 5 percentage points higher LTV limits can be applied. Lower DSTI and LTV limits apply to foreign currency loans, and lower DSTI limits apply to loans with a maturity of over 5 years and an interest period of less than 10 years. * Regulatory constraints of a net regular income-based ratios similar to the domestic ones as a general rule*

Source: MNB

Changes in the availability of loans to buy a home are well illustrated by the clustering of home loan disbursements near borrower-based limits. The clustering of housing loan disbursements around the DSTI and LTV limits (the share of loans with DSTI above 40 per cent or LTV above 70 per cent), i.e. the stretch of borrowers according to DSTI and LTV requirements, remained essentially unchanged until the end of 2021. However, from the end of 2021, the effectiveness of the DSTI requirement has become more pronounced as interest rates have risen (*MNB 2022b*). While between 2015 and 2021, around 20 per cent of new home loan disbursements were granted at a DSTI above 40 per cent, by the end of 2022 this share had reached close to 35 per cent (*Figure 5*). By contrast, there has been a gradual decline in LTV stretch, mainly explained by a reduction in loan amounts as a result of the rising interest rate environment. Thus, in recent years almost one half of new housing loan disbursements have been granted by banks to borrowers considered to be stretched in terms of DSTI or LTV requirements.

Figure 5
Share of housing loans granted near borrower-based limits



Note: By volume. 10 year interbank (BIRS) rate (%), MNB house price index (2015Q1 = 1)
Source: MNB

Typically young, first-time home buyers may be in a disadvantaged position compared to other home buyers when buying a home with a loan, as their life situation (lower current income) makes it difficult for them to raise the down payment needed to take out a housing loan. In 2015, when the borrower-based rules came into force, assuming a savings rate of 25 per cent, it was necessary to save around HUF 2.7 million for the down payment and nearly HUF 330,000 for related transaction costs (tax levied on the transfer of property, lawyer's fees, notary fees, etc.) for an average 45-square-metre, HUF 10.9 million home. To take into account the potential discrepancy between the purchase price paid by the buyer and the market value established in the loan assessment, for the minimum down payment required, we performed the calculation using a minimum down payment of 25 per cent of the purchase price of the property. The minimum total savings required to buy a home could therefore be around 28 per cent of the value of the property in 2015, which would take an average of 7.1 years to achieve, based on the average income of workers under 40.[8] By 2022, the required down payment has risen to HUF 7.3 million, the associated transaction costs to HUF 1.5 million and the required savings period to more than 10 years. In addition, due to the increase in interest rates, indebtedness with a 75 per cent LTV would already result in an

[8] The HCSO publishes the age of workers in 10-year class intervals, therefore we have calculated the earnings of those under 40.

income burden above 50 per cent, which would require other negative adaptations, for example, affecting the quality of property or further postponement of home purchase. Although the family support schemes available may improve young people's home buying chances, in the absence of external help, the opportunities for first-time home buyers, especially single people, who are not eligible for family support schemes, are severely limited (*Table 4*). The social group affected by the problem is also increasing with marriages being delayed until a later age.

Table 4
Possible financing structure for first-time home buyers buying their own home

	2015	2022
Average house price* (45 m^2; HUF)	10,900,000	29,200,000
Minimum down payment required (25 per cent of the purchase price;** HUF)	2,725,000	7,300,000
Transaction costs related to the purchase of real estate (3–5%;*** HUF)	327,000	1,460,000
Total savings needed to buy a home (HUF)	3,270,000	8,760,000
Average monthly net income for those under 40**** (without tax deductions; HUF)	142,939	287,614
Housing price/income per year (%)	6.4	8.5
Years needed to buy a home (savings rate = 25%;***** year)	7.1	10.2
Loan amount borrowed (LTV = 75%; HUF)	8,175,000	21,900,000
Average interest (10-year fixation; %)	6.4	6.9
Repayment instalment (maturity: 25 years; HUF)	54,669	152,946
DSTI (%)	38	53

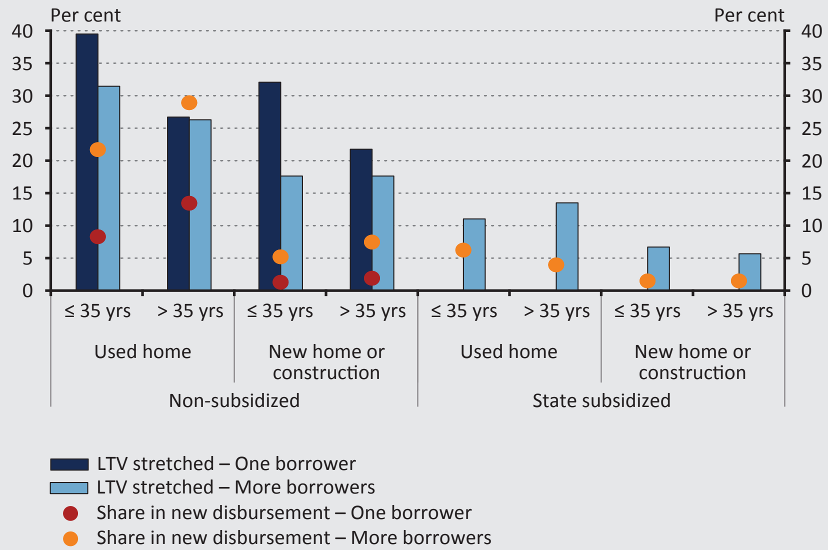
*Note: * Average house prices are estimated based on the National Tax and Customs Administration (NAV) housing transaction data for urban home purchases. ** To take account of any difference between the purchase price paid by the buyer and the market value established at the loan assessment, a minimum down payment of 25 per cent was assumed. *** Property purchase tax, lawyers' fees and other transaction costs related to the purchase of real estate. For the tax levied on the transfer of property, we calculated using a 2 per cent levy for 2015 and a 4 per cent levy for 2022, due to the decreasing availability of the tax relief due to the increase in property prices. Tax relief on state-subsidised loans was not taken into account. **** The average income of potential borrowers under the age of 40 was estimated on the basis of data from the HCSO. ***** For the time required to save the down payment, a savings rate of 25 per cent was assumed.*

The example illustrates the impact of house price and interest rate rises in a hypothetical home purchase, but the actual effects may differ significantly depending on the characteristics of the home purchase and the borrowing.

Source: NTCA, MNB, HCSO

The asymmetric impact of the increasing need for the down payment on first-time home buyers is also indicated by the high LTV stretch of these home buyers. Looking at the distribution of housing loans with an LTV compliance above 70 per cent, which can be considered as stretched from an LTV perspective, across different client segments, we see that the share of housing loans with a low down payment in 2022 is the highest among young, under-35, single (without a co-borrower), not claiming state subsidies, presumably first-time home buyer borrowers buying used homes: while the share of LTV stretched loans is close to 20 per cent for loans with no state subsidy and multiple borrowers with a new home purchase loan purpose, and around 30 per cent among used home buyers, the same share was close to 30–40 per cent among young borrowers borrowing alone. For state subsidised housing loans, a lower stretch of loans according to the LTV can be identified due to the loan crowding-out effect of housing subsidies, i.e. access to state subsidies can considerably reduce the amount of the down payment required. In addition, despite the lower real estate values, there is also a higher LTV stretch of used home buyers relative to new home buyers, especially among young borrowers who could potentially qualify as first-time home buyers, which may suggest that borrowers who are stretched in terms of LTV may also be forced to adapt in terms of quality, which may also slow down the renewal of the housing stock (*Figure 6*).

Figure 6
Proportion of housing loans with low down payments (LTV > 70%) by volume compared to disbursements within different client segments (2022)



Note: We considered loans granted with an LTV of over 70 per cent to be loans taken out with low down payments. Excluding loans under the Green Home Programme, without renovation and extension loan purposes. First-time home buyers tend to be in the younger age groups; therefore, we approximated this segment with the age below 35. The share in new disbursements indicates the share in total 2022 disbursements of each client category shown (e.g. clients aged 35 or less, buying a used home, with unsubsidised loans).

Source: MNB

4.2. Number and characteristics of the domestic first-time home buyer client segment

Determining the number of first-time home buyers and their share in the housing loan market is only possible with significant uncertainty. Based on the ESRB's *recommendation* on closing real estate data gaps,[9] the MNB has been collecting data on the first-time home buyer status of housing loan borrowers based on the optional self-declaration in the framework of the central bank's loan register data service since July 2021. In addition to the information available in the central bank's loan register, data on the potential share of first-time home buyers are also available from market real estate agents for all home buyers, regardless of whether or not they financed their purchase with a loan. According to the central bank's loan register, borrowers declared their first-time home buyer status[10] for around 35 per cent of bank housing loans granted in 2022, representing nearly 25,000 contracts. However, among the clients who made a declaration, construction and state-subsidised loans represent a negligible share; therefore, the data available for these types of loans cannot be considered representative, and these transactions were eliminated from the loans examined. After data cleansing, the resulting sample database covers 22 per cent of bank housing loans granted in 2022, representing around 16,000 transactions.

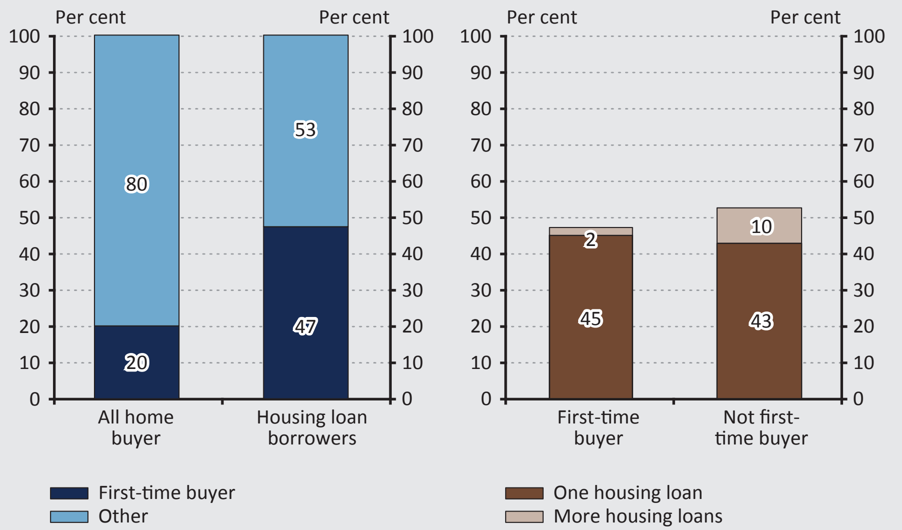
Based on the data of borrowers who made a declaration, the share of first-time buyers among new borrowers is estimated to be around 47 per cent. This is more than double the proportion of first-time home buyers among all home buyers, estimated at around 20 per cent according to real estate agents.[11] The over-representation of first-time home buyers in the central bank's loan register data may be explained by the higher loan market participation of first-time home buyers due to their lower down payment and the higher willingness of first-time home buyers to declare compared to other home buyers.

To check the data quality of declarations of first-time home buyer status, we also examined the proportion of those taking out their first housing loan as a function of their declaration of first-time home buyer status. Around 95 per cent of clients declaring themselves as first-time home buyers actually had only one or same-day housing loans, confirming the reliability of client declarations of first-time home buyer status. However, 43 per cent of new housing loans clients who also had a single housing loan did not identify themselves as first-time home buyers. These clients are likely to have already bought a home on their own without taking out a loan, or to have already repaid a loan on their previous home purchase. Overall,

[9] Based on the ESRB's 2016 Recommendation on closing real estate data gaps and its 2019 amendment.
[10] Excluding bank loans collateralised by residential property, excluding loans from building societies.
[11] Based on DunaHouse Barometer data: https://dh.hu/en/barometer

however, the identification of first-time home buyers based on currently available lending data is only possible with significant uncertainty (*Figure 7*).

Figure 7
Hypothetical share of first-time home buyers among all home buyers and housing loan borrowers (left panel) and distribution of housing loan borrowers* by the number of their housing loans (right panel) (2022)



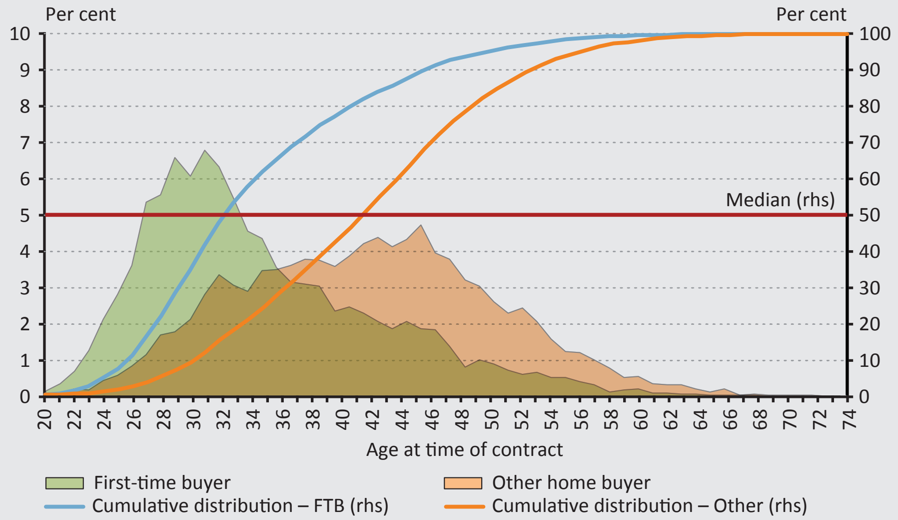
*Note: *For housing borrowers, based on a sample covering 22 per cent of new bank housing loan disbursements. First-time housing loan borrowers were defined as those with a single housing loan or a housing loan taken out on the same day. Individual and data quality factors may explain first-time home buyers with multiple housing loans.*

Source: MNB, Duna House Barometer

Although the share of first-time home buyer clients in new housing loan disbursements can only be estimated with significant uncertainty, the characteristics of each client segment (first-time home buyer or other) can be considered representative. This is supported by the fact that the average values of the main characteristics (loan amount, maturity, APRC, DSTI, LTV, etc.) calculated on the basis of the available sample database data typically differ from the average values of total disbursements by less than 5 per cent, with loans with low APRs being slightly over-represented among respondents, but this does not considerably affect the conclusions of our analysis.

Based on available data, we expect that the vast majority of first-time home buyers will be in the under-35 age group. The median age of these clients is 32 years, about 10 years less than the median age of other clients. However, the age distribution of first-time home buyers is more skewed to the right, with a significant weight of older people among those claiming to be first-time home buyers, which may suggest that a proportion of borrowers are able to buy their first home only with a significant time lag compared to the average (*Figure 8*). Identifying young first-time home buyers – also bearing this in mind – solely on the basis of the age of the borrowers is also only possible with significant uncertainty and type II error.

Figure 8
Age distribution of housing loan disbursements among first-time home buyers and other clients (2022)



Note: By number of contracats, based on a sample covering 22 per cent of new bank housing loan disbursements.
Source: MNB

Self-reported first-time home buyers are, on average, younger than non-first-time home buyers, borrow smaller and longer-term loans at slightly higher average APRCs, have lower earnings, higher LTV stretch but similar DSTI compliance, buy used homes at a slightly higher rate, and are more likely to be single borrowers without a co-borrower. The DSTI value of first-time home buyers' housing loans at the time of loan assessment is similar to the value of housing loans of non-first-time home buyers, but the aggregate monthly net income of these borrowers for the DSTI calculation is HUF 596,000 on average, HUF 142,000 lower than that of other non-first-time home buyers. In line with preliminary expectations, first-time home buyers borrow more than the value of their collateral, resulting in an average LTV that is 7 percentage points higher than for non-first-time home buyers. Overall, despite the lower earnings, first-time home buyers provide an average of HUF 13 million down payment for their home purchases, while non-first-time home buyers provide an average of HUF 21 million. Clients who identify themselves as first-time home buyers are buying properties of similar size compared to other buyers on average, meaning that no significant negative adaptation in terms of floor area can be identified for the time being.

For first-time home buyers aged 35 and over who are likely to be particularly affected by the borrower-based measures, the share of single borrowers without a co-borrower is considerably higher, by 7 percentage points, than for first-time home buyers aged under 35. This draws attention to the less favourable access to housing loans for single clients (*Table 5*). The same may be confirmed by the fact that the average per capita income of single first-time home buyers without a co-borrower is about one and a half times the per capita income of first-time home buyers with a co-borrower, which means that only borrowers with above-average income may be able to borrow on their own, which may further delay the ability of first-time home buyers to purchase a home.

Table 5
Main characteristics of first-time home buyer and non-first-time home buyer clients (2022)

	First-time home buyer (≤ 35 years)	First-time home buyer (>35 years)	First-time home buyer (total)	Not a first-time home buyer
Median age (year)	29	42	32	42
Share of buyers without co-borrower (%)	34	41	37	37
Share of second-hand home buyers (%)	94	94	94	92
Average loan volume (HUF million)	16	18	17	19
Average maturity (year)	19	19	19	18
Average APR (%)	7.4	7.1	7.3	7.1
Average PTI (%)	33	32	33	33
Ratio of loans granted with a DSTI above 40 per cent (%)	25	25	25	26
Average DSTI-income (HUF thousand)	574	631	596	738
Average LTV (%)	56	52	54	47
Ratio of loans granted with an LTV above 70 per cent (%)	28	24	27	17
Average dwelling size (m^2)	75	79	77	81
Average market value* (HUF million)	29	34	31	40
Average down payment * (HUF million)	13	16	14	21

*Note: Based on a sample covering 22 per cent of new bank housing loan disbursements. *Estimated value based on the LTV value reported by credit institutions.*

Source: MNB

However, when analysing the situation of first-time home buyers, it should be underlined that only clients who are creditworthy in the current credit and economic environment and presumably have above average income and savings opportunities can be tracked in the central bank's loan register. That said, there may also be an increasing number of clients who, as a result of inflation, rising interest rates and overvaluation in the housing market, no longer have the minimum savings or income to borrow a housing loan and are therefore being priced out of the housing loan market.

5. International regulatory trends supporting housing opportunities for first-time home buyers

5.1. International practice on preferential terms for first-time home buyers

The impact of borrower-based measures on first-time home buyers is being mitigated in many countries through the introduction of preferential rules. There are different ways of defining debtors who are eligible for preferential treatment as first-time home buyers: most countries typically link first-time buyer status to a home ownership condition (Finland, Iceland, Romania, Malta) or to the absence of prior borrowing (Belgium, Ireland, Luxembourg, Malta). In Portugal and Slovenia, first-time home buyers are considered buyers who take out a loan to buy a property as their primary residence, while in the Czech Republic and Estonia the preferential treatment is linked to the age limit of 36 and 35, respectively.

Supporting first-time home buyers' access to housing by setting higher LTV limits within the borrower-based requirements is the most common. Preferential treatment of the target group concerned means applying LTV limits 5–10 percentage points higher, typically in the 85–95 per cent range (Finland, Iceland, Romania, Ireland, Portugal, Malta, Czech Republic, Estonia). In Luxembourg, first-time home buyers have access to loans with a 100 per cent LTV limit, while in Slovenia they must comply with a more restrictive preferential limit of 80 per cent, compared to the general limit of 70 per cent. In Belgium, a general LTV limit of 90 per cent is recommended for mortgage lending, with 20 per cent speed limit up to a maximum LTV of 100 per cent; however, as regards first-time home buyers, the macroprudential authority allows a higher limit of 35 per cent within the maximum lending compared to the general 20 per cent "speed limit" for home purchases for own use, and considers loans above 100 per cent LTV up to 5 per cent of the lending to be acceptable.

The higher loan amount available can increase the income stretch of first-time home buyers, which is why several countries (Ireland, Slovakia) tolerate exceeding the income limits required to take out a loan, allow higher limits (Iceland, Ireland, Czech Republic, Slovakia) or exempt them (Malta) from the rules (*Table 6*).

Table 6
International practice of preferential borrower-based limits for first-time home buyers

	Prerequisite for a first-time home buyer preferential treatment				NORMAL LIMIT	PREFERENTIAL LIMIT
	Real estate ownership	Housing loans	Residence	Age and family status		
FI	None	–	–	–	• **LTV: 85%**	• **LTV: 95%**
IS	None	–	–	–	• **LTV: 80%** • **DSTI: 35%**	• **LTV: 85%** • **DSTI: 40%**
RO	None	–	–	–	• **LTV: 85%**	• **LTV: 95%** (in the case of "Noua Casa" guarantee)
MT*	None	–	–	–	• **LTV: 75%** (regardless of value limit) • **DSTI: 40%** • **maturity limit of 25 years or up to retirement age**	• **LTV: Above EUR 175,000 loan amount 90 per cent** (which may be exceeded for 10 per cent of disbursement) /**no LTV below this amount** • **DSTI: No limit below EUR 175,000 loan amount**/ 40 per cent limit above this amount • **Maturity limit of 40 years or up to retirement age**
BE	None and never was	–	–	–	• **LTV: 90%** (max. 20 per cent of disbursements may exceed 100 per cent LTV)	• **35 per cent of disbursements may exceed 90 per cent LTV up to 100 per cent, 5 per cent may exceed 100 per cent LTV**
IE	None and never was	–	–	–	• **LTV: 90 per cent** for second and subsequent home purchases; **70 per cent** for buy-to-let home purchases • **LTI: 3.5** for second and subsequent purchases, and for buy-to-let purchases	• **LTV: 90%** • **LTI: 4** (which may be exceeded for 15 per cent of disbursements)
LU	None and never was	–	–	–	• **LTV: 90%** for owner-occupied; **80%** for buy-to-let	• **LTV: 100%**
PT	–	–	Permanent	–	• **LTV: 80%**	• **LTV: 90%**
SI	–	–	Permanent	–	• **LTV: 70%**	• **LTV: 80%**
CZ	–	–	Permanent	Under 36 years	• **LTV: 80%** • **DSTI: 45%** • **DTI: 8.5**	• **LTV: 90%** • **DSTI: 50%** • **DTI: 9.5**
SK	–	–	–	Under 41 years	• **DTI:** over 41 years **7.75 to 5.25 tightening**	• **DTI: 8, under 41 years** (which may be exceeded for 5 per cent of disbursements up to 9)
EE	–	–	–	Parents under 35 (or 40) raising one (or more) child(ren) under 16 or a specified worker under 35*	• **LTV: 85%**	• **LTV: 90%** (if guaranteed by KredEx)

*Note: *In the case of Malta, the LTV limit is 90 per cent even if the borrower is not a first-time home buyer, but the property is used as a primary residence and there is no outstanding housing loan.*

Source: ESRB, MNB, national websites – based on February 2023 data

The potentially higher loss given default due to the higher credit exposure as a result of the preferential requirements for first-time home buyers can be mitigated by setting up mortgage insurance or public guarantee funds. Mortgage insurance products, known internationally but currently unavailable in the Hungarian market, provide lenders with insurance cover in the event of default on their mortgage loans. The scheme could be a way to reduce the risk of default, but would require significant capital from insurers, making it difficult to ensure the maintenance of such products on a market basis. Public engagement may therefore be necessary to ensure the viability of the concept, which could take the form of a guarantee or assumption of premium payments by the state.

In addition to mortgage insurance, guarantee funds for housing loans can also be set up to ensure that home buyers can obtain loans with lower down payments and interest rates. A guarantee usually provides security for the amount of the loan not covered by the collateral, and thus the level of down payment required can be reduced for guaranteed loans, as fewer client funds do not increase the bank's expected losses. There are examples of housing loans with a state guarantee in several countries, such as the Netherlands, Finland and France. In addition, Estonia, Latvia and Romania have 5–10 percentage points higher LTV limits for loans that are guaranteed.

5.2. Possible applications in Hungary

In line with international practice, a differentiated increase in the LTV limits may be the most appropriate way to provide preferential treatment for typically young first-time home buyers in the domestic borrower-based framework. For first-time home buyer borrowers, the LTV requirement is typically the effective limit. However, due to the potentially lower probability of default of young first-time home buyers, a differentiation of the DSTI requirement could also be considered. However, to date, the higher income burden of young housing loan borrowers compared to other borrowers has not been identified.

An LTV limit that is 5 to 10 percentage points higher could reduce the down payment needed to buy a home and thus the savings period needed to buy a home by three quarters or even half. This would greatly improve young people's chances of obtaining a home, while the higher loan amounts that would become available would not lead to excessive indebtedness or a significant increase in the probability of default due to the already limited income stretch under the DSTI rules. Similar to international examples, Hungary may also consider linking the use of preferential LTV limits to state guarantees or mortgage insurance in order to mitigate the potential increase in loss given default.

The situation of first-time home buyers could also be improved by less targeted, but also internationally applied, exemption rules exempting a specific part of the disbursement from the borrower-based measures. These allow a certain proportion of new loans to exceed the general regulatory limits, giving lenders more flexibility in their lending. Although such portfolio-limit-type speed-limit regulation is typically not directly aimed at preferential treatment of first-time home buyers, but rather at improving the flexibility of the borrower-based framework in general, it can also be a suitable tool to improve access to the loan market for first-time home buyers.

The preferential treatment of first-time home buyers in the context of borrower-based requirements poses significant operational challenges. While a wide range of international practices can be identified in relation to the potential target group, when identifying first-time home buyers, age, previous home ownership and an existing housing loan may be the main factors to consider. The introduction of potential regulatory preferential terms could achieve the desired effect if they could be incorporated into the housing lending process in a way that minimises the scope for circumvention, but is flexible and does not considerably complicate the borrowing process. In particular, this requires rapid, automated, electronic access to the data needed to determine first-time home buyer status. This could be best facilitated by the digitisation of land registers, the early completion of the e-land registry project and the development of easier, automated banking access to detailed, expanded land registry data. There are currently a number of barriers to obtaining data on the fact of first-time home buying, as land registry data is currently difficult to search and query as to whether a particular owner has previously owned a home; therefore, borrowers can only be identified on the basis of their declaration, age or outstanding housing loans with considerable uncertainty and significantly slowing the loan approval process.

However, the preferential treatment of first-time home buyers may also have the potential to increase risks in the real estate market. Therefore, the timing of its possible introduction justifies particular attention. A preferential LTV limit for first-time home buyers could potentially increase credit risks via higher loan amounts available to creditworthy new home buyers and already creditworthy home buyers, and could lead to increased housing market demand. In the absence of a similar adjustment in housing market supply (for a detailed analysis of the reasons for low housing market supply, see the MNB's housing market reports[12]), stronger housing market demand could further increase house prices and the already high level of housing market overvaluation. However, borrowers exiting the rental market may reduce rental yields and thus demand in the investor housing market (*Hosszú et al. forthcoming*).

[12] https://www.mnb.hu/en/publications/reports/housing-market-report

Because of these factors, the preferential treatment of first-time home buyers under the borrower-based framework requires particular attention to housing and loan market risks and the cyclical situation of the loan market. Further research is needed to more accurately identify and quantify the potential benefits and risks of preferential treatment for first-time home buyers, which could be facilitated by the gradually expanding data set of the central bank's loan register. However, in the current risk environment, the potential risks of regulatory changes to boost housing market demand may outweigh their benefits.

6. Conclusion

Experience in recent years shows that borrower-based instruments have proven effective in preventing excessive household indebtedness, but can significantly limit access to loans and housing for first-time home buyers, who are typically young clients. These clients find it more difficult to meet the minimum income and down payment requirements set by the borrower-based measures, mainly because of their low savings due to their age, especially if they are single and not eligible for family support schemes. In Hungary, around 30–40 per cent of non-state-subsidised loans to borrowers under 35 years of age were granted by banks close to the LTV limits, which is around twice the share for the over-35 age group and almost four times the share of state-subsidised lending. The risk of first-time home buyer clients may be lower than other home buyers due to their higher willingness to pay as a result of their home-buying objective and their faster income growth compared to other borrowers, and their exclusion from the housing market may have considerable negative social and economic consequences. This may be mitigated by their preferential treatment under the borrower-based measures, of which there are many international examples.

We estimate that in 2022, the share of young, first-time home buyers in the housing loan market in Hungary could be around 50 per cent. This share may be around twice their share of total home purchases financed by loans and not by loans, indicating the low possibilities of these clients to buy a home with own funds. Our analysis shows that borrowers who identify themselves as first-time home buyers are younger, borrow smaller amounts for longer terms, have lower incomes, higher LTV stretch, but similar DSTI compliance compared to non-first-time home buyers. For first-time home buyers aged 35 and over, who are presumably particularly affected by the borrower-based measures, the share of single borrowers without a co-borrower is considerably higher, by 7 percentage points, than for first-time home buyers aged 35 and under, which may indicate less favourable access to housing loans for single clients.

In the context of domestic regulation, possible preferential treatment of young first-time home buyers could be considered, similar to international practices, primarily through the introduction of higher LTV limits. In terms of domestic borrower-based measures, there has been an increased clustering of young borrowers close to regulatory limits, especially for LTV limits, although DSTI limits have also become increasingly effective over the past year as interest rates have risen. Potentially higher loss given default of larger exposures resulting from preferential LTV limits could be mitigated by the remaining DSTI limits, the provision of state guarantees or the development of loan insurance schemes similar to international examples. However, given the current significant overvaluation in the housing market, the introduction of a preferential LTV limit for first-time home buyers could only be considered if the potential additional risks arising from this are offset in other areas (e.g. through complex public programmes).

Preferential treatment of first-time home buyers in the context of the borrower-based requirements could have the desired effect if it could be incorporated into the housing lending process in a flexible way that does not considerably complicate the borrowing process. In particular, this would require the development of rapid and up-to-date electronic access to the data needed to determine first-time home buyer status. The most obvious solution would be to digitise land registers and improve their accessibility and extend their content.

LTV limits potentially 5–10 percentage points higher would considerably mitigate the housing difficulties of young first-time home buyers in Hungary, but could also have unintended second-round effects, and therefore the timing of their potential introduction is crucial. Higher LTV limits could reduce the down payment requirement for young first-time home buyers by three quarters or even by one half, generating significant additional housing market demand, which, in the absence of a similar adjustment in housing market supply, could lead to further house price increases and a further rise in the already high level of housing market overvaluation.

However, further research is needed to more accurately identify and quantify the potential advantages and disadvantages of potential preferential treatment of young first-time home buyers, which may be supported by the growing data set of the central bank's loan register.

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