

Overview of the macroprudential measures introduced by the BNB to address the risks to the banking system

The BNB pursues its macroprudential mandate by supervising the activities of credit institutions and the banking system, based on continuous monitoring, identification and assessment of systemic risks. The analysis focuses on the inherent risks to the banking system, as well as on the developments in the economic environment in which banks operate. The analysis of the risk profile of the banking sector covers the development of the main business areas and the key regulatory risks – asset quality, profitability, capital adequacy and liquidity, and includes assessment of the cyclical and structural dimensions of systemic risks, underlying the implemented macroprudential instruments. The latest information on banking system’s developments is communicated in monthly press releases, while the main analytical conclusions are included in the BNB quarterly publication “Banks in Bulgaria”.

As part of the Single Supervisory Mechanism (SSM), which Bulgaria joined through the establishment of close cooperation between the ECB and the BNB in effect from 1 October 2020¹, the BNB performs its supervisory functions regarding banks in Bulgaria in full compliance with the requirements of the national, European and international legal and prudential framework. The implementation of the BNB macroprudential policy is subject to coordination with the ECB in line with the provisions envisaged in Article 5 of *Council Regulation (EU) No 1024/2013 of 15 October 2013 conferring specific tasks on the European Central Bank concerning policies relating to the prudential supervision of credit institutions*. The ECB may, if deemed necessary, apply more stringent measures in the area of the respective macroprudential instruments, including with regard to capital buffers. The BNB implements all ECB guidelines, instructions, analytical and methodological requirements with regard to the significant institutions in Bulgaria (SI), and is the national competent authority responsible for the oversight of the less significant institutions (LSI). The BNB has representatives in the joint supervisory teams, through which the ECB carries out supervision over the significant institutions at the SSM level. At the end of 2023, the significant institutions accounted for 69% of the assets of the banking system. Within its mandate, the BNB conducts a continuous supervisory process at the micro level with regard to the banks’ business model and risk appetite of, ensuring the availability of capital and reserves, commensurate with the risks stemming from banks’ activities. In line with its macroprudential mandate, the BNB assesses the developments and trends in the banking system. Based on this, the BNB implements macroprudential policy and instruments² to prevent and mitigate systemic risk, and to avoid spillover of unfavourable effects, thus creating conditions for the banking sector’s role as a factor for sustainable economic growth.

The BNB macroprudential policy with regard to capital buffers is highly conservative, timely and proactive, with all buffers currently activated. The capital conservation buffer was set at the maximum level of 2.5% in 2014 without a phase-in period. As of 2014, all banks maintain a systemic risk buffer of 3%, applied to domestic exposures in the Republic of Bulgaria. In view of the risks and factors with potential strong impact on the resilience of the banking system, stemming from the main characteristics of the banking sector and its role in the overall financial intermediation, the inherent risks and vulnerabilities, and the developments in the economic outlook, during the 2023 biannual review the systemic risk buffer was reaffirmed at a level of 3% of the domestic risk weighted exposures. The buffer for other systemically important institutions (O-SII) was introduced in 2016 at levels from 0.5% to 1.0% depending on the systemic importance with a phase-in period until 2020. During the

¹ <https://www.bnb.bg/BankSupervision/BSSingleSupervisoryMechanism/index.htm>

² Current assessments of the level of capital buffers are carried out based on methodologies endorsed by the BNB Governing Council, which are in line with the best European practices.

annual review of the O-SII buffer in 2023, six institutions were identified as systemically important. With regard to the cyclical dimension of systemic risk, the countercyclical capital buffer aims to strengthen banks' capital position in order to preserve the resilience of the banking system to materialisation of business- and financial cycle risks.

During the first nine months of 2023, the level of the countercyclical capital buffer was set at 1.5%, applicable to credit risk exposures in the Republic of Bulgaria, with the BNB being among the first national authorities in the EU to increase the buffer rate after the releases implemented in many countries in response to the effects of the COVID-19 crisis. In view of the persistently high rates of credit growth and the uncertainty in the economic outlook, in September 2022 the level of the countercyclical capital buffer was raised to 2.0% (in effect from 1 October 2023), considering the likelihood of aggravation and accumulation of risks to the financial intermediation, economic developments in the EU and their impact on the financial system. The BNB macroprudential policy with regard to capital buffers is highly acknowledged by the international partners (ECB, ESRB, IMF, credit rating agencies, etc.).

The accumulation of all capital buffers in Bulgaria as of the end of 2023 results in a combined buffer requirement of 8.1% of total risk exposures of the banking system, which is among the highest levels in Europe. For comparison, the combined buffer requirement for significant institutions in the SSM at the end of 2022 stood at 3.6%³. In the case of Bulgarian banks, the efficiency of the capital buffers' framework is additionally enhanced by the predominant share of risk-weighted assets under the standardised approach for credit risk, which, *ceteris paribus*, implies a more conservative conversion factor, resulting in higher amount of risk exposures and higher capital requirements per unit of banks' assets. Another factor for the higher level of risk exposures is the treatment of exposures to central banks and central governments denominated in a currency, other than the domestic currency (in Bulgaria, these euro-denominated exposures are subject to effective risk weight at 25% applicable from 1 January 2024 and 50% from 1 January 2025). Finally, the conservative level of the combined buffer requirements is a key component in setting of MREL via the recapitalisation capacity component for less significant institutions.

With a view to maintaining additional capital resilience as a factor for financial stability, the BNB applies stricter criteria to exposures secured by residential real estate mortgages under the standardised approach for credit risk than those envisaged by Article 124 of Regulation (EU) No. 575/2013. A risk weight of 35% is assigned to the part of the exposure secured by mortgages on residential immovable property which does not exceed 70% of the lower of the market and the mortgage value of the collateral (compared to a ratio of less than 80% as per Regulation (EU) No. 575/2013). Hence, the risk-weighted amount of the exposures secured by mortgage on immovable property is, *ceteris paribus*, higher, which corresponds to higher level of capital requirements and buffers.

³ Enria 2023, Banking supervision beyond capital. Speech by Andrea Enria, Chair of the Supervisory Board of the ECB, at the EUROFI 2023 Financial Forum organised in association with the Spanish Presidency of the Council of the EU.

State of the banking system

In 2023 the banking system continued to be characterised by a high capital and liquidity position, low level of non-performing loans (NPL) and increasing profitability and efficiency. As of 31 December 2023, the common equity tier one capital ratio (CET1) was 20.07% and the total capital adequacy ratio (CAR) increased to 21.65%. This represents a BGN 3.3 billion capital excess over the regulatory requirements and capital buffers (3.9% of risk exposures), with significant institutions accounting for approximately 60% (BGN 1.9 billion) of this capital excess. Liquidity indicators – liquidity coverage ratio (LCR) and net stable funding ratio (NSFR) are significantly above the regulatory requirements of 100%, with LCR at 242% and NSFR at 161% at end-2023. The liquidity buffer amounts to BGN 53 billion, 70% (BGN 38.1 billion) of which belongs to significant institutions. Typically, less significant institutions maintain higher LCR and NSFR ratios compared to those of the banking system. At the same time, gross non-performing loans and advances in the banks' balance sheets decreased further to BGN 3.9 billion and their share in total loans and advances to 3.62%.

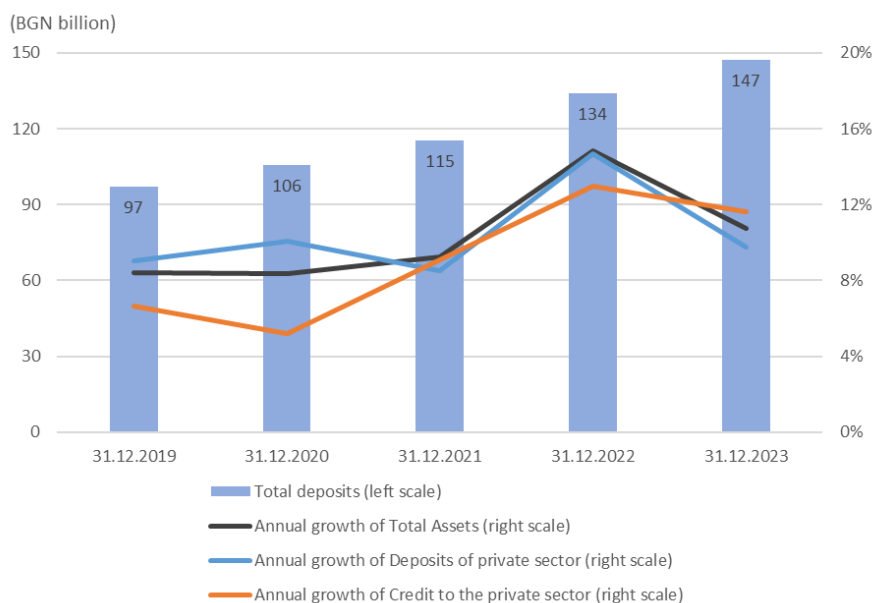
This was the result, on the one hand, of the write-offs and sales of non-performing loans by the banks, and of the growth of the loan portfolio, on the other. The provisioning remains at an adequate level of about 50%. The cost of risk ratio, currently driven mainly by the impairment expenses as a percentage of the total gross loans and advances that are subject to impairment, is at a level of 0.81%. At the end of 2023 the banking system's profit amounts to BGN 3.4 billion, which results in increased return on equity (ROE) and return on assets (ROA) ratios to 17.01% and 1.98%, respectively. The efficiency ratio, expressed as the share of operating expenses (administrative expenses, amortisation, contributions to restructuring funds and deposit guarantee schemes) of total operating income, is below 40%. Significant institutions generate slightly above 75% (BGN 2.6 billion) of the profit. Compared to the SSM SIs and LSIs, the Bulgarian banking system operates with higher levels of capital and liquidity, slightly lower credit quality and higher profitability and efficiency.

31.12.2023	CET1	CAR	LCR	NSFR	NPL	Cost of Risk	ROE	Efficiency
Banking system	20.07%	21.65%	242%	161%	3.62%	0.81%	17.01%	39.26%
SI in SSM	15.73%	19.71%	164%	127%	2.30%	0.46%	9.31%	57.02%
LSI in SSM	17.79%	19.08%	217%	132%	2.32%	n.a.	6.88%	59.28%

Source: BNB and [ECB](#).

The banking system's business model is based on stable and organic growth, supported by the sustainable increase of deposits and, in particular, of financing from the private sector. The total amount of deposits at the end of 2023 reached BGN 147 billion, and the cumulative deposit increase for the last four years was BGN 50.1 billion, while the financing from the private sector rose by BGN 43.1 billion. Deposit growth has been particularly strong during the last two years, exceeding 10% per annum for both assets and private lending. The share of significant institutions in the deposit change for 2022 and 2023 is 71% and 85% respectively.

Stock of total deposits and annual change of total assets, deposits from the private sector and loans to the private sector

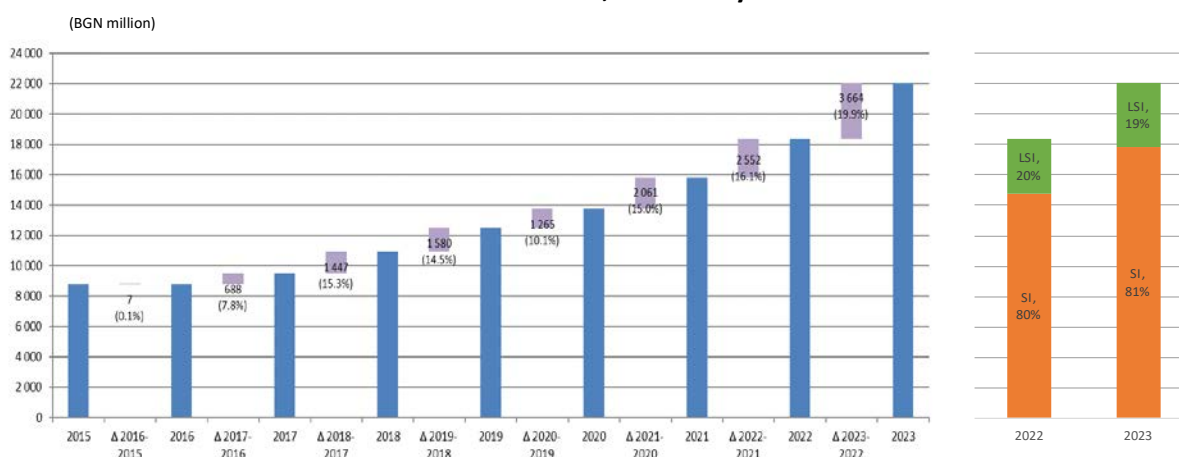


Source: BNB

Loans, secured by residential real estate

Lending, secured by residential real estate (RRE), has been on a long-term upward trend, which has been particularly noticeable in the last two years. At the end of 2023 the stock of these loans reached BGN 22 billion and they increased by BGN 3.7 billion (19.9%) during the year. The lending in this segment is concentrated in significant institutions, with a market share of approximately 80% (BGN 17.9 billion).

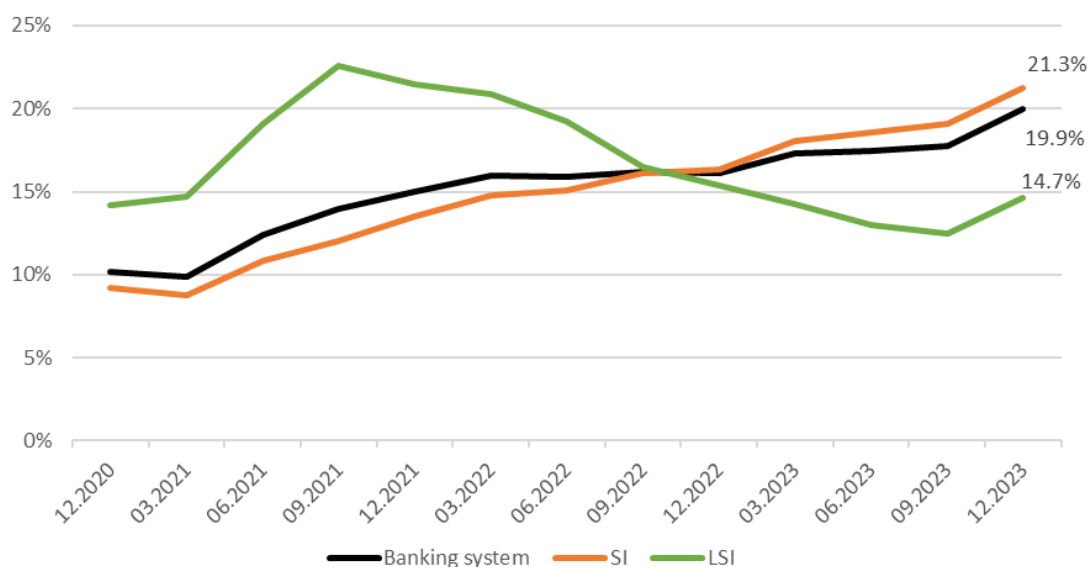
Stock of loans, secured by RRE



Source: BNB

The annual growth rate of loans, secured by residential real estate, for the banking system rose from 10.1% at the end of 2020 to 15.0% and 16.1% in the next two years and accelerated to 19.9% at the end of 2023. Lending by SIs increases at a rate comparable to that of the banking system, and in 2023 it is marginally higher. The annual growth rate of lending by LSIs has been declining since the third quarter of 2021 and reached 14.7% at the end of the review period.

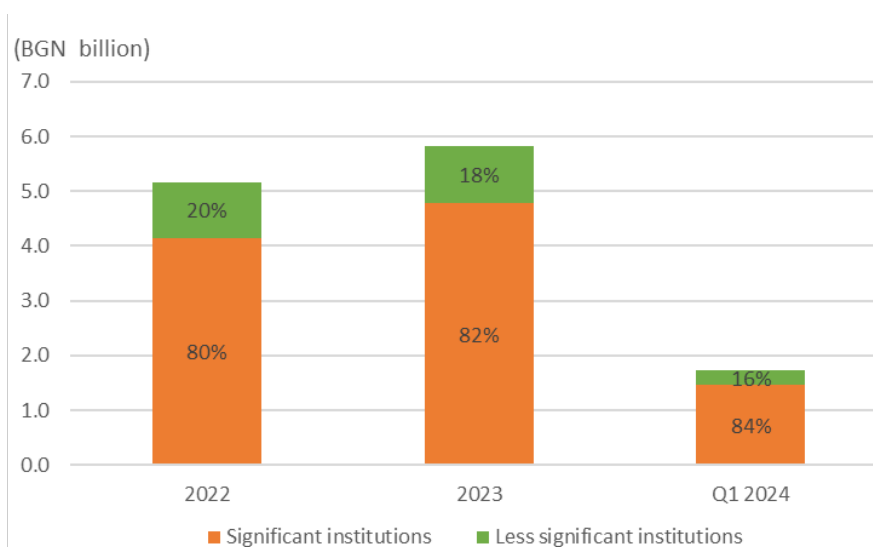
Annual percentage change of loans, secured by RRE



Source: BNB

The gross amount of newly granted RRE loans is BGN 5.2 billion in 2022 and BGN 5.8 billion in 2023. In the first quarter of 2024 new RRE loans amount to BGN 1.7 billion. The significant institutions form the majority of new RRE loans and maintain a share of at least 80%.

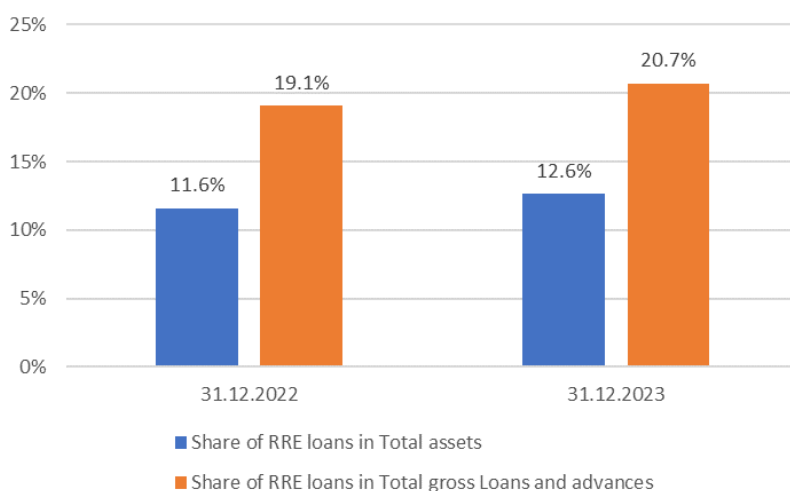
Newly granted loans, secured by RRE



Source: BNB

The share of loans, secured by residential real estate, of the banking system's total assets and of loans and advances, remains at a low level, which indicates that there is no excessive exposure of banks to this segment. At the end of 2023 the share of RRE loans in total assets is 12.6% and 20.7% in total loans and advances. The change of these relative shares in comparison to 2022 is minimal.

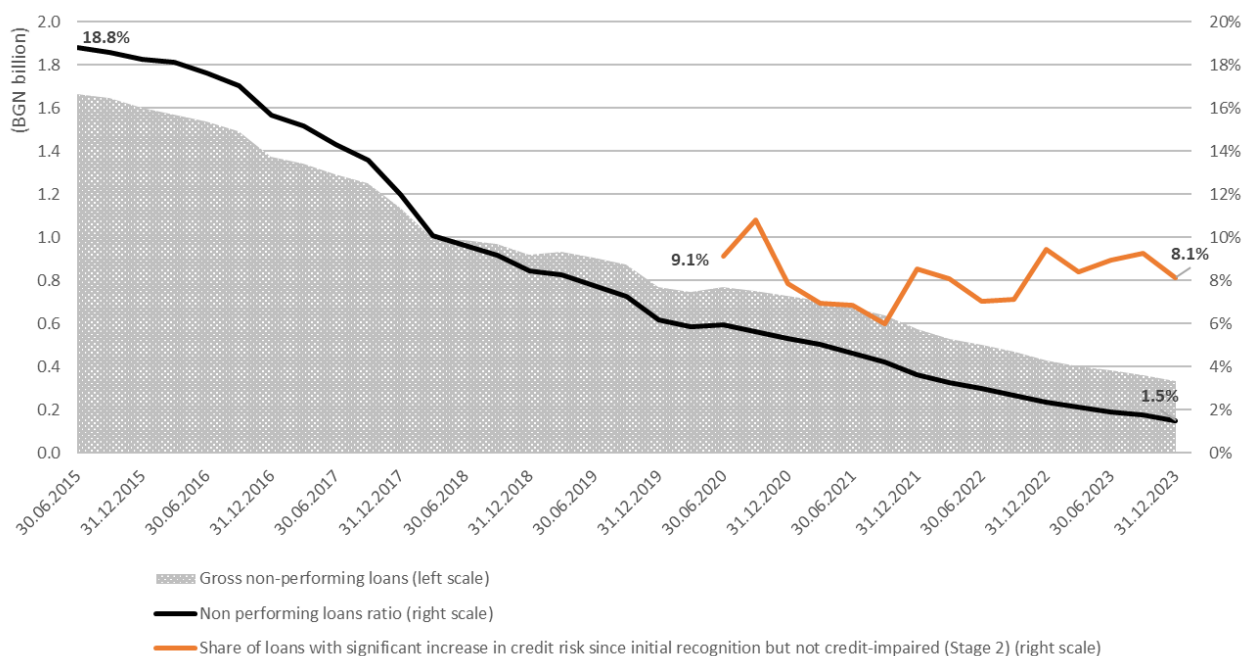
Share of loans, secured by RRE, in total assets, and loans and advances



Source: BNB

The quality of RRE loans remains good in the context of the long-term downward trend in the amount and share of non-performing loans. At the end 2023, the gross non-performing loans amount to BGN 332 million and the NPL ratio is 1.5%. Compared to June 2015, the absolute volume of NPLs has decreased more than fivefold and the NPL ratio has declined by more than 17 percentage points. Provisioning remains on an adequate level of 50%. The ratio of Stage 2 loans (with a significant increase of credit risk according to IFRS 9) is 8.1% at the end of the period.

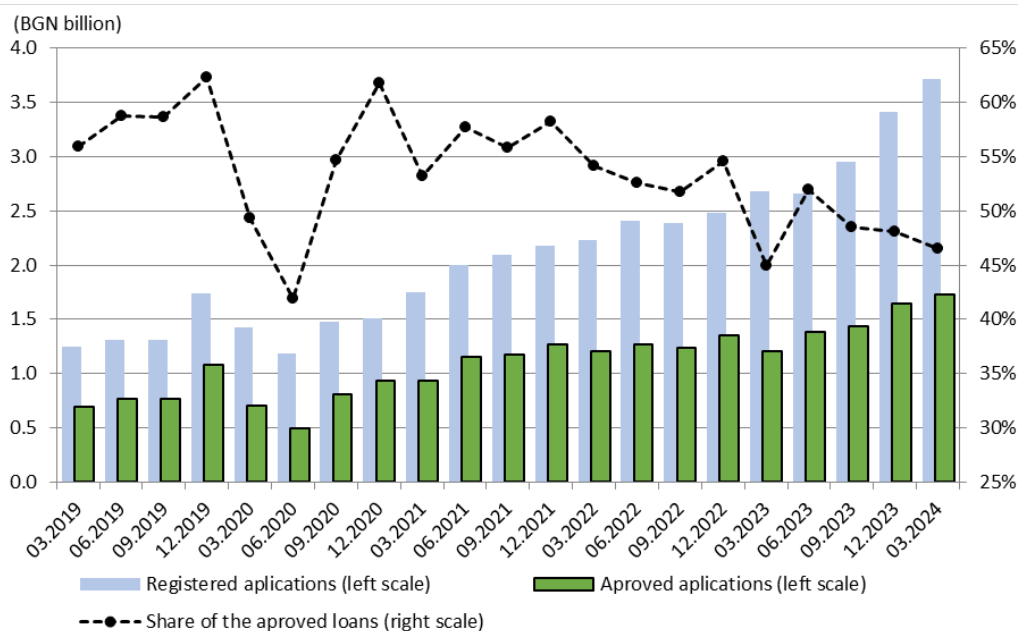
Quality of loans, secured by RRE



Source: BNB

In 2023 the demand for RRE loans increases, especially in the last quarter of the year. The trend continues also during the first quarter of 2024. Despite this, the number of approved loan applications for the quarter has grown only slightly. The share of approved loan applications remains below 50% and even decreases to 46% at the end of first quarter of 2024.

Residential real estate lending activity



Source: BNB

Lending standards⁴

The analysis of banks' exposures to lending, secured by residential real estate, is an important aspect of the macroprudential monitoring of systemic risks in the banking system. Over the last few years, the range of observed data with respect to the RRE lending segment was further expanded with targeted surveys in 2019 and 2021, and with the introduction of the quarterly macroprudential reporting on lending standards applied by banks upon origination of RRE loans at the beginning of 2022. The data allows monitoring of the banks' risk appetite during RRE loan origination relative to indicators measuring the degree of collateralisation, indebtedness and creditworthiness, and is in line with the Recommendation of the European Systemic Risk Board of 31 October 2016 on closing real estate data gaps ([ESRB/2016/14](#)) amended in 2019 ([ESRB/2019/3](#)).

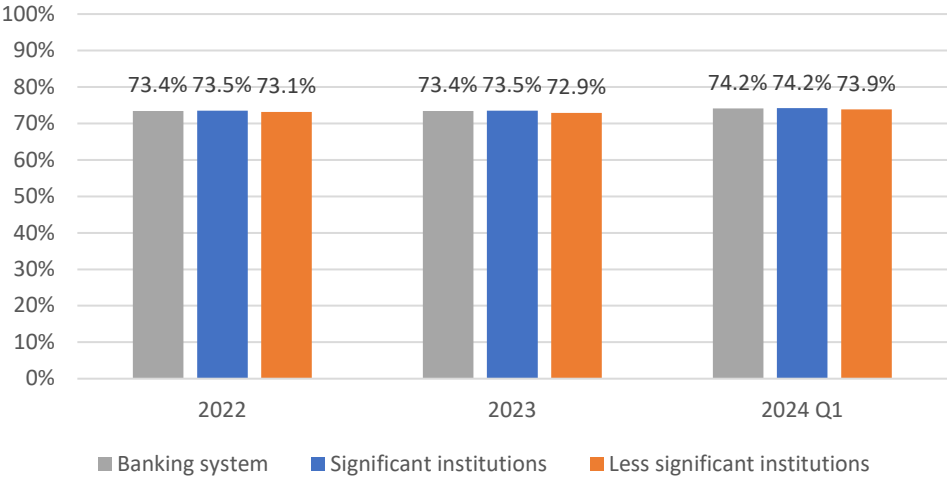
The review of information observed in the context of the macroprudential analysis suggests that over the past two years, the elevated lending activity has generally not been accompanied by a loosening of lending standards and banks have taken a balanced approach to risks stemming from RRE lending.

The ratio between the loan amount and the current market value of collateral at origination of the loan contract (LTV-O) measures the degree of collateralisation of new loans secured by RRE. In 2022 and 2023 the weighted average LTV-O ratio for the banking system remains practically unchanged, and in the first quarter of 2024 it increases slightly. A comparison between the weighted

⁴ Aggregation of data on lending standards from the BNB's supervisory reporting is based on reporting templates received up to 07.05.2024. The source of information on the active limits on lending indicators by country is the ESRB database "[Overview of national macroprudential measures](#)" as of 30.04.2024.

average indicators for significant (SI) and less significant (LSI) institutions shows that both groups apply similar lending standards at origination.

Weighted average loan-to-value ratio (LTV-O)

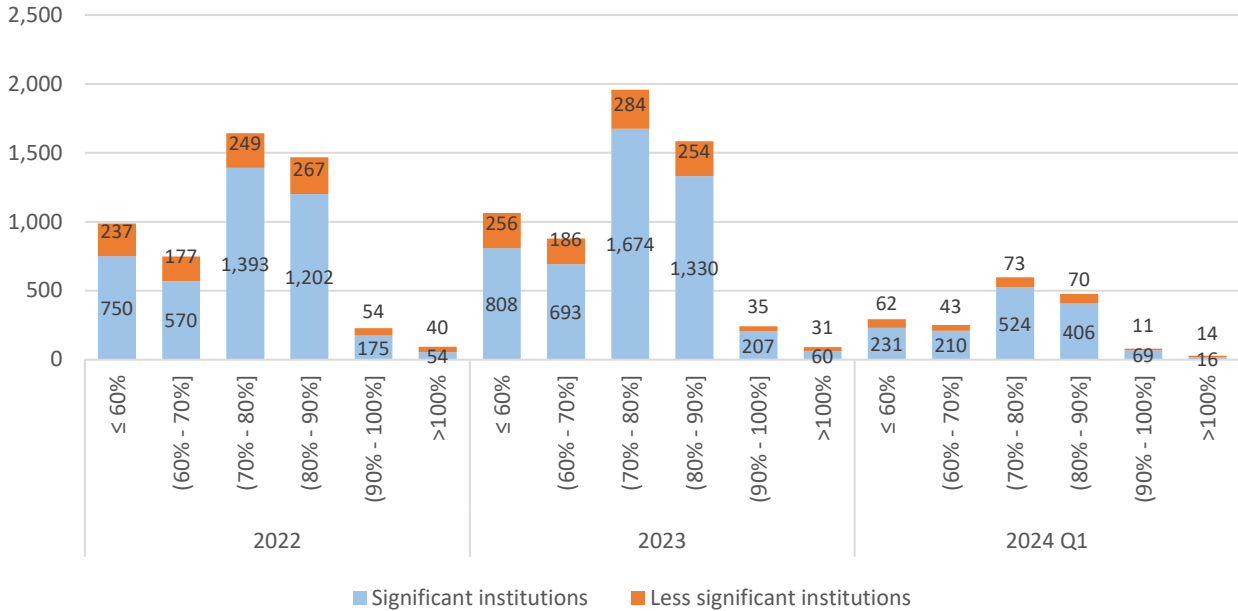


Source: BNB

The breakdown of new lending flows by intervals of the LTV-O ratio reveals that in 2022, 2023 and at the beginning of 2024, the highest volume of new loans is within the LTV-O interval of 70-80%, followed by the interval 80-90%, while the volume of new loans with an LTV-O ratio above 90% is insignificant. In structural terms, the prevailing share of RRE loans belongs to significant institutions across all intervals of the LTV-O ratio, and for the observed period there have been no significant changes.

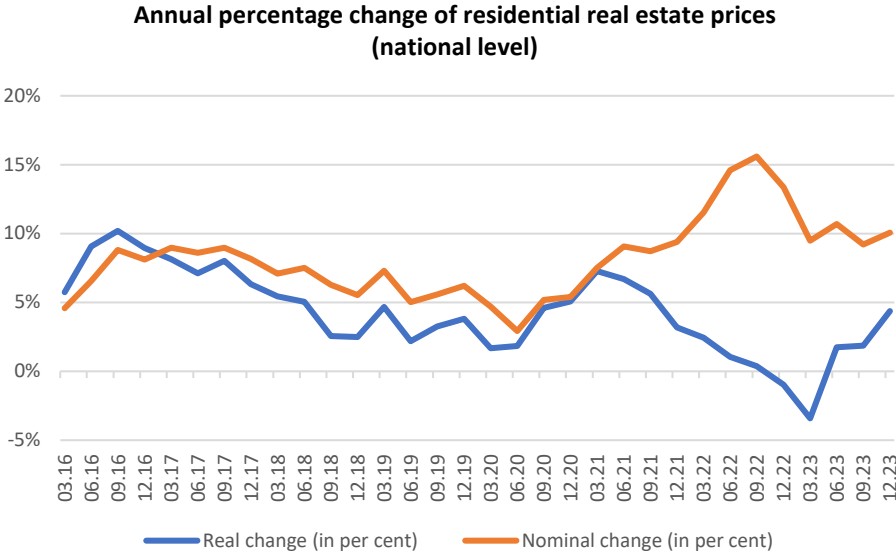
(BGN million)

Breakdown of new loans by intervals of the LTV-O ratio



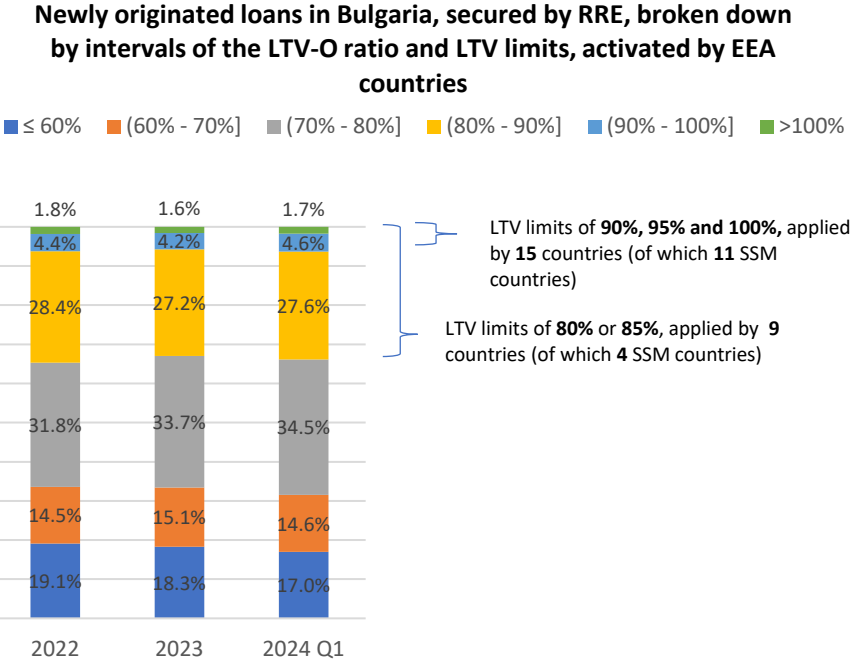
Source: BNB

The degree of collateralisation, as measured by the LTV-O ratio, reflects the elevated lending activity and the rising RRE prices. In real terms, in the end of 2023 the annual change in RRE prices is positive and increasing, but remains close to its average for the past eight years.



Source: National Statistical Institute, BNB calculations

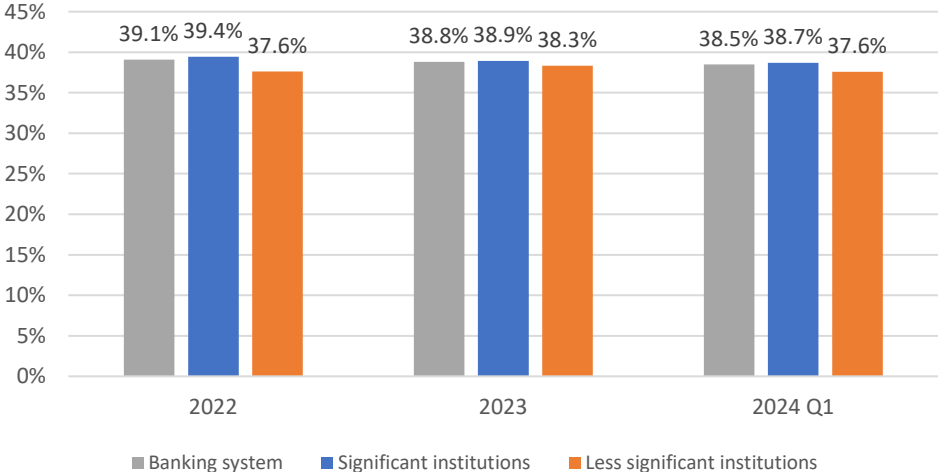
To address medium-term systemic risks, related to the elevated RRE lending in a low interest rate environment, in recent years a number of countries from the EEA have started to develop and introduce so called “borrower-based measures” (BBMs). With regards to the LTV-O ratio, currently 24 countries from the EEA have introduced LTV limits, and 15 of these countries are members of the SSM. The measures aim to predominantly restrict new RRE loans with LTV-O ratios at or above 90%.



Source: BNB and ESRB (“[Overview of national macroprudential measures](#)”, 30 April 2024)

The weighted-average ratio between current debt service and monthly disposable income at origination (DSTI-O), measuring the ability of borrowers to repay their total debt obligations, is improving in 2022, 2023 and the first quarter of 2024. The calculation of the ratio by sub-groups shows that the significant institutions originate loans with slightly higher DSTI-O ratios compared to the banking system average, whereas the levels of the indicator for the less significant institutions are relatively lower.

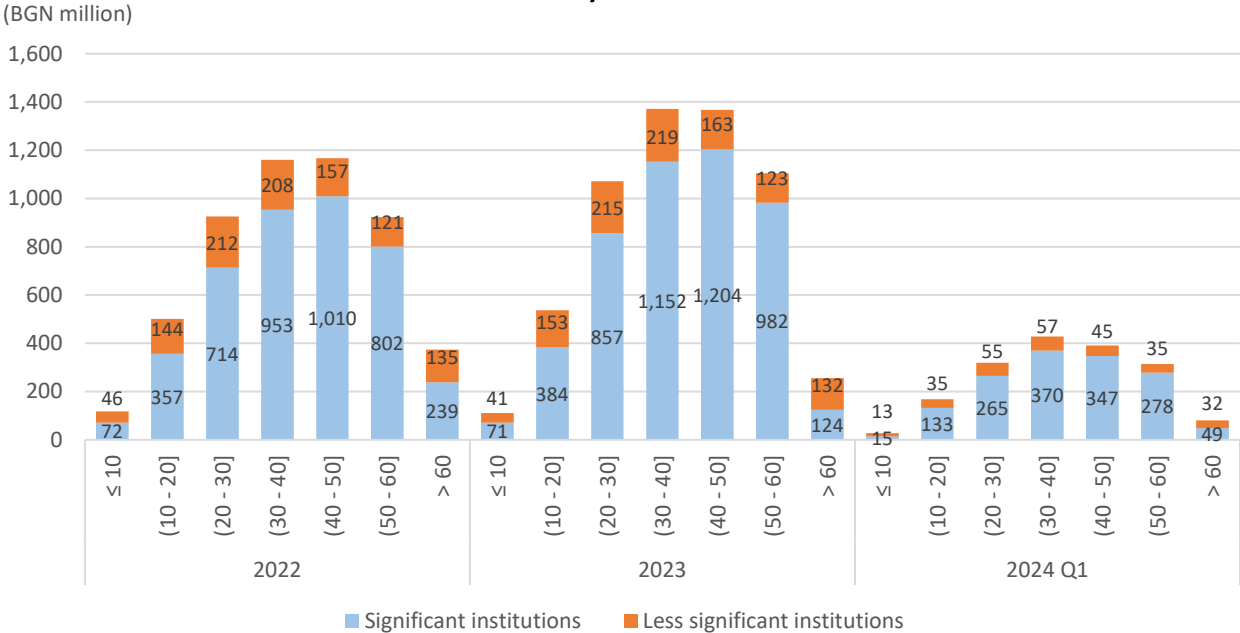
Weighted-average debt service-to-income ratio (DSTI-O)



Source: BNB

The breakdown by intervals of the DSTI-O ratio reveal that bank lending is concentrated in the DSTI-O interval of 20-60%. As with the LTV-O ratio, the majority of newly originated loans across all DSTI-O intervals belong to SIs.

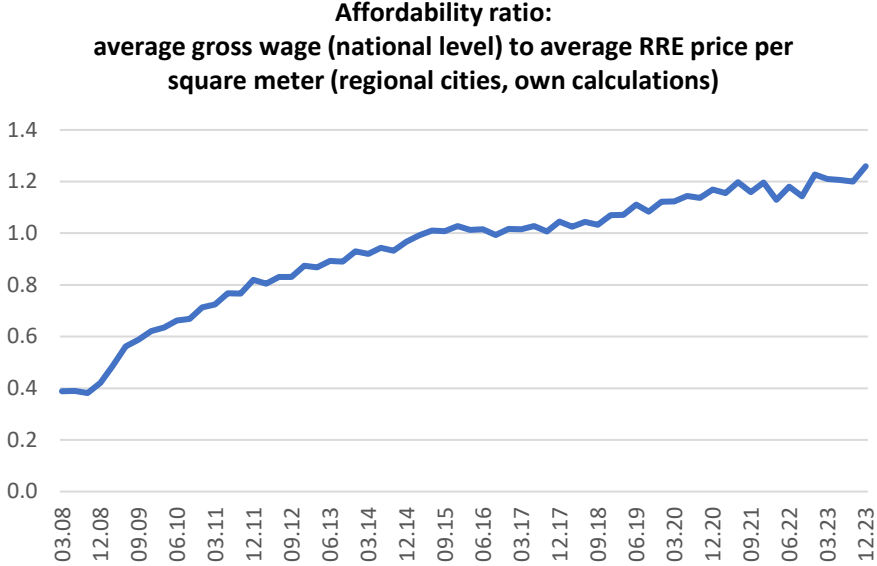
Breakdown of new loans by intervals of the DSTI-O ratio



Source: BNB

Lending standards related to the ability of borrowers to repay their debt do not show signs of deterioration, which can be related to the wage increases observed in the past few years.

The affordability ratio, which is the ratio between the average gross wage on a national level and the average residential real estate price per square meter in the regional cities, has been improving sustainably.

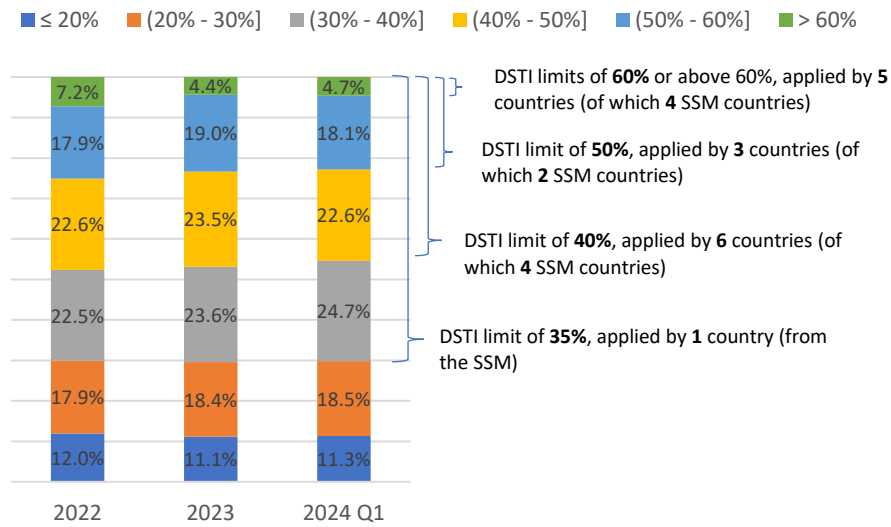


Source: National Statistical Institute, BNB calculations

Note: The indicator depicted on the chart provides a simplified view of the extent to which the average gross wages cover the average RRE price per square meter. An increase in the ratio signifies general improvement in housing affordability. It should be borne in mind that the indicator is based on gross salary data. It does not include loan origination and servicing costs, and is presented for illustrative purposes only.

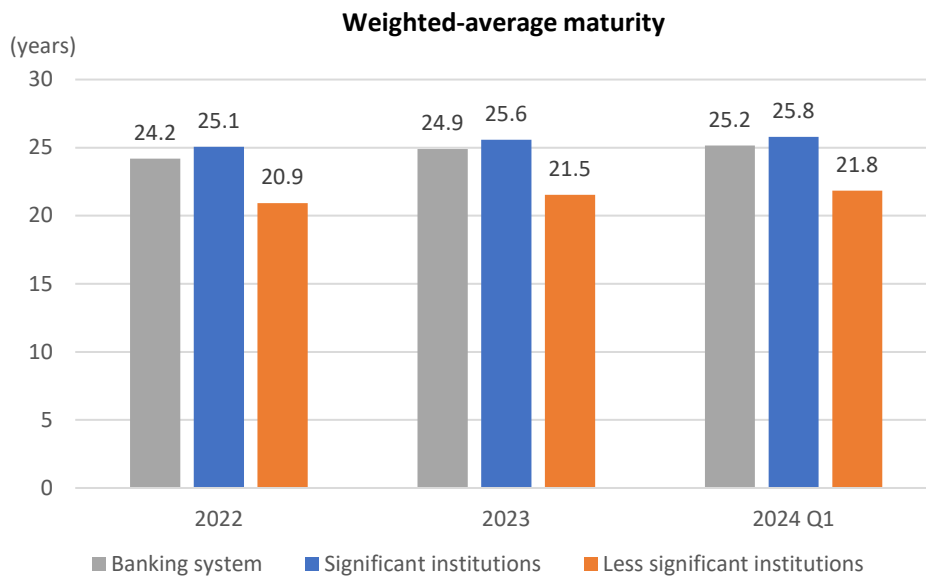
A total of 15 countries from the EEA (11 of which SSM members) have introduced measures with regards to the DSTI-O ratio. These measures are mainly targeted at limiting the origination of loans with DSTI-O ratios above 40% (6 countries), above 50% (3 countries) and above 60% (5 countries).

Newly originated loans in Bulgaria, secured by RRE, broken down by intervals of the DSTI-O ratio and DSTI limits, activated by EEA countries



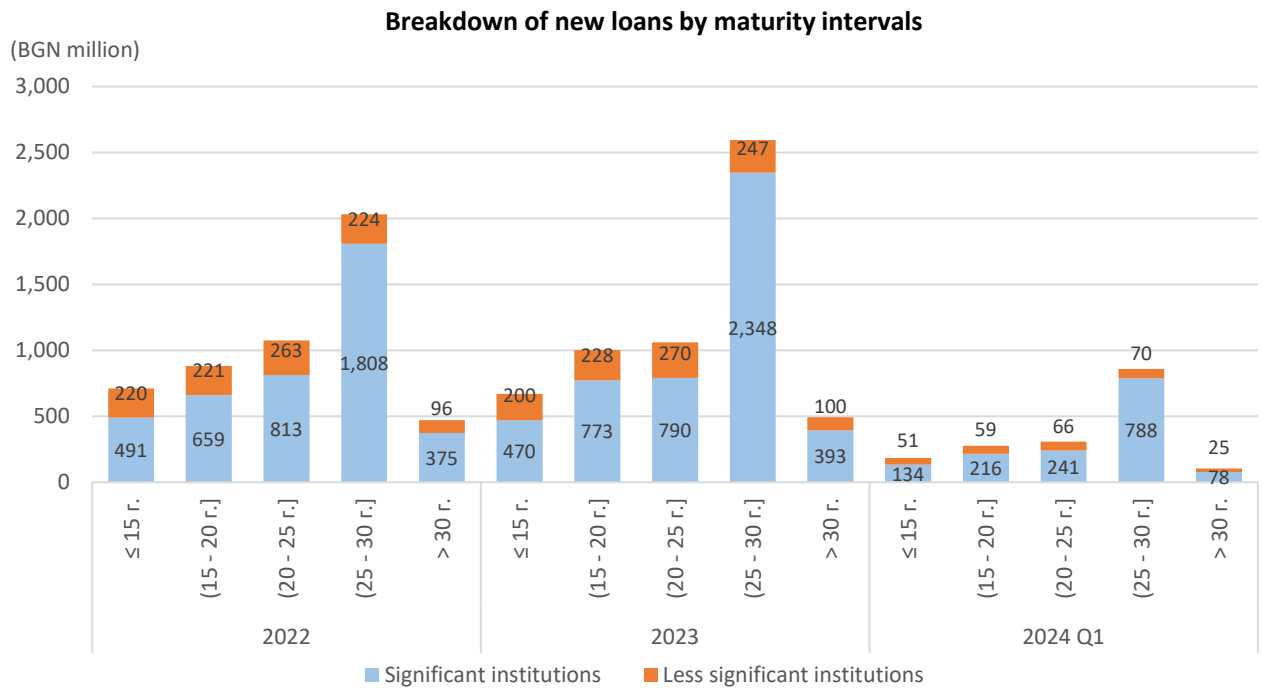
Source: BNB and ESRB ("[Overview of national macroprudential measures](#)", 30 April 2024)

Aggregated data for the banking system shows that in the first quarter of 2024 the debt burden is spread over 25.2 years on average, which represents an increase compared to 2022 when the average maturity of newly originated loans was 24.3 years. The increasing terms of new loan contracts is mainly due to the increase of the average size of new loans. For example, in the first quarter of 2024 the average loan size is BGN 198 thousand, compared to BGN 156 thousand in 2022.



Source: BNB

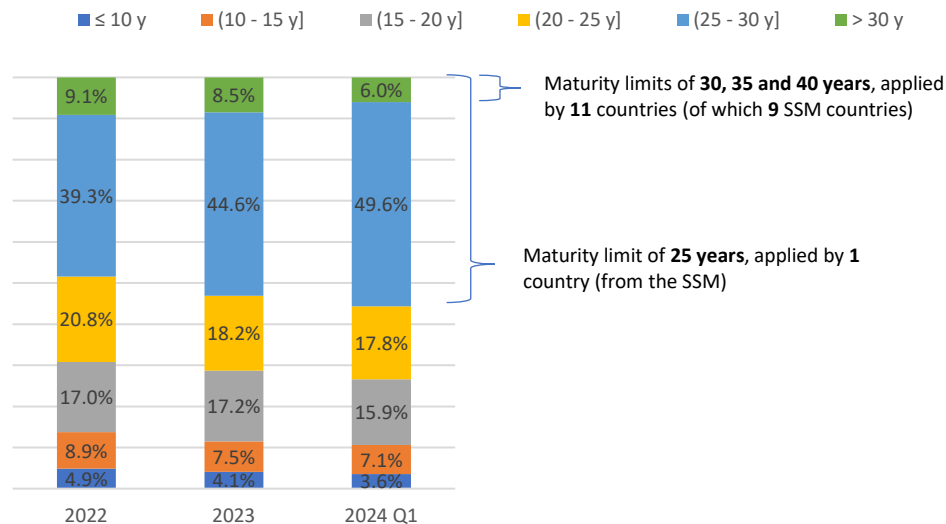
The maturity of new loans increases for both SIs and LSIs. However, SIs grant loans with relatively longer average term to maturity.



Source: BNB

Currently, 12 EEA countries (out of which 10 SSM countries) have introduced measures with regards to the maximum maturity of loans, secured by residential real estate. These measures mostly restrict the origination of loans with maturity exceeding 30 years.

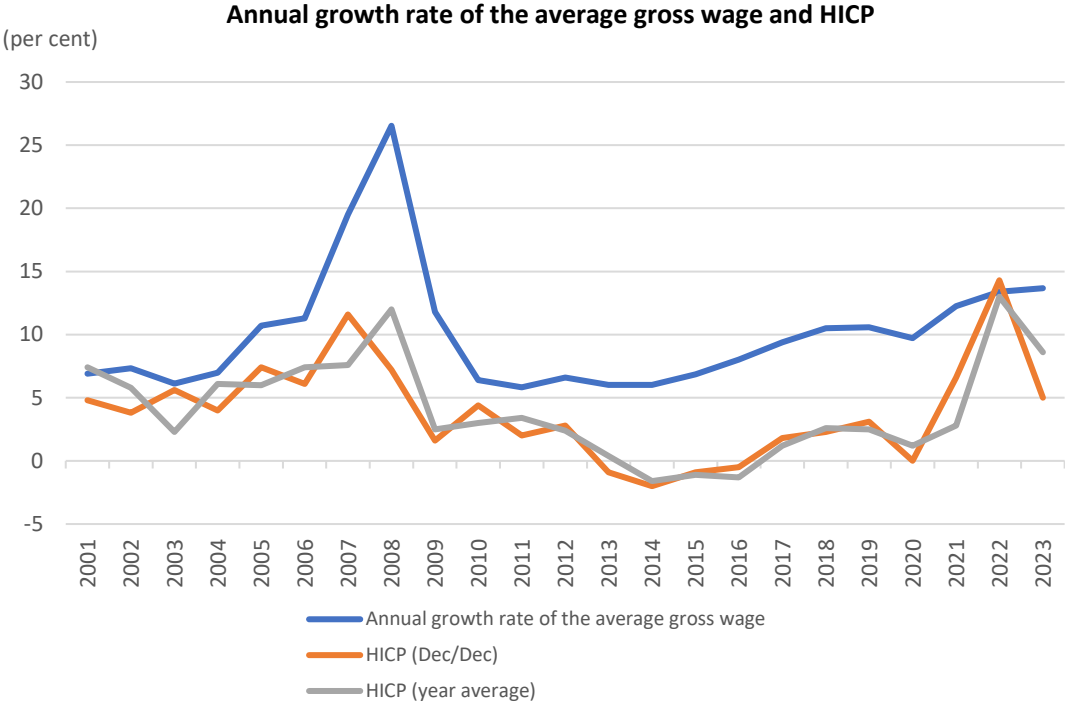
Newly originated loans in Bulgaria, secured by RRE, distributed by maturity intervals and maturity limits, activated by EEA countries



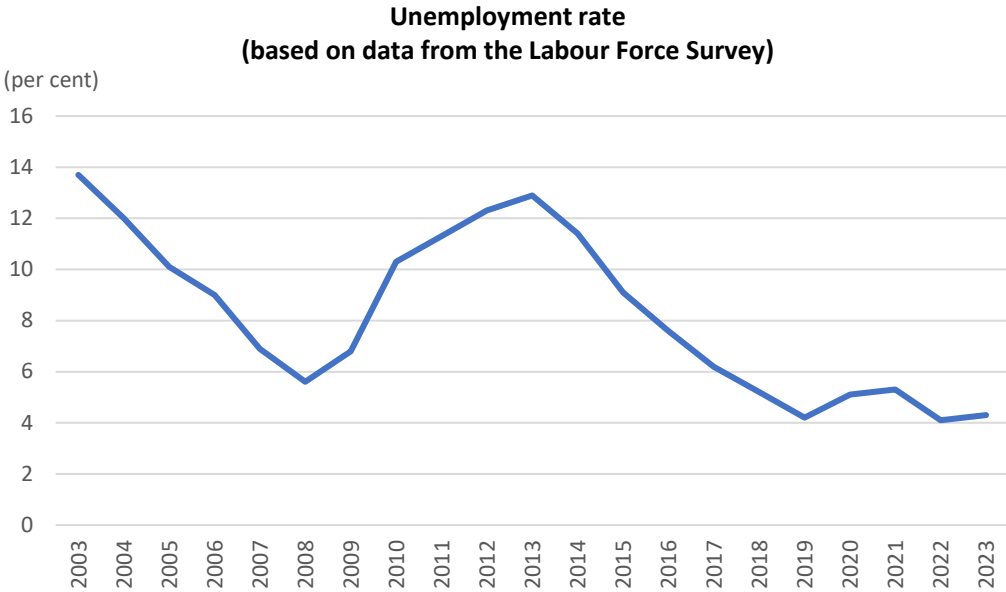
Source: BNB and ESRB ([“Overview of national macroprudential measures”](#), 30 April 2024)

Macroeconomic factors

The demand for housing loans is impacted to a large extent by the developments on the labour market. The average gross wage has been increasing at rates higher than the consumer price inflation, while the unemployment rate is at low levels. The labour force shortages underlie expectations for continuation of these developments in the coming years, although potential deterioration of economic conditions could affect the employment and incomes, and impair the debt servicing capacity.

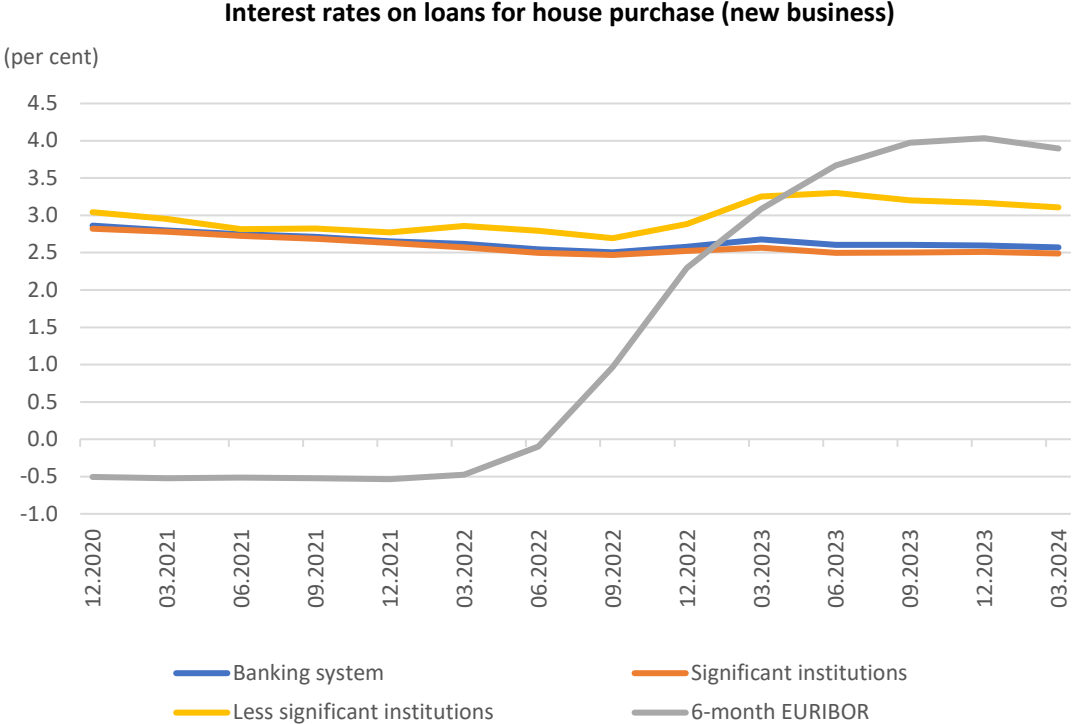


Source: National Statistical Institute



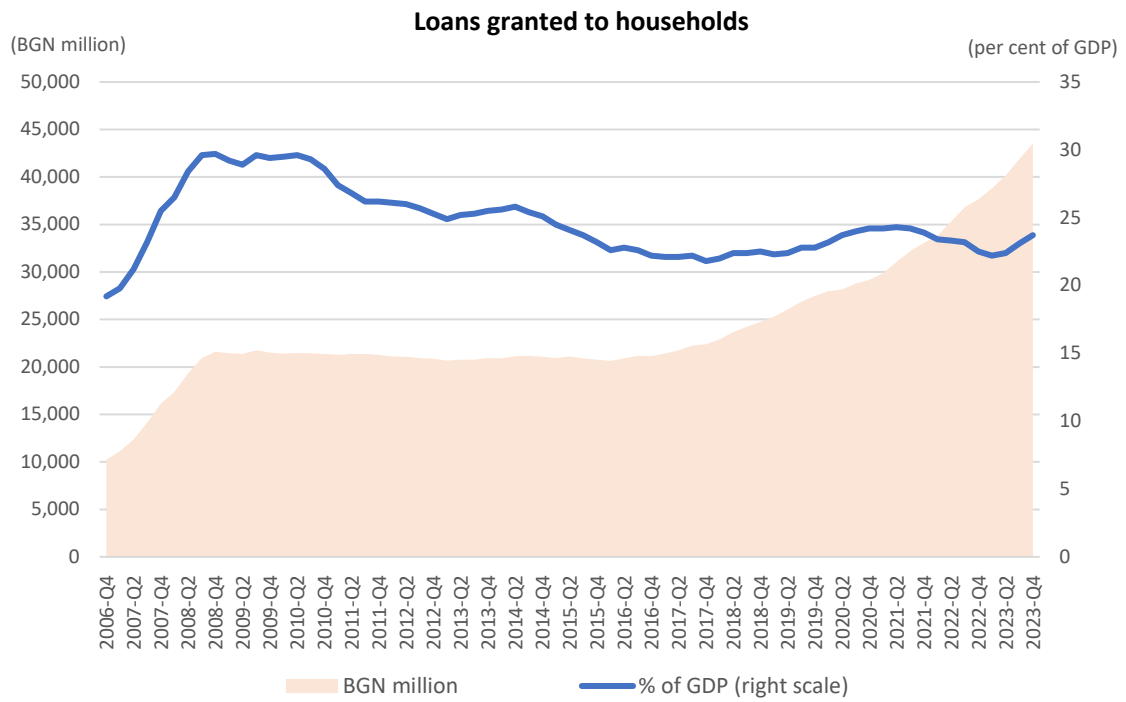
Source: National Statistical Institute

During the current interest rate cycle, the transmission of the euro area monetary policy tightening has been relatively muted and slow, in particular in the segment of households. For the purpose of pricing loans for house purchase, the predominant part of credit institutions use reference indices based on banking system’s data on deposit interest rates, which remain low against the background of ample liquidity in the banking sector.

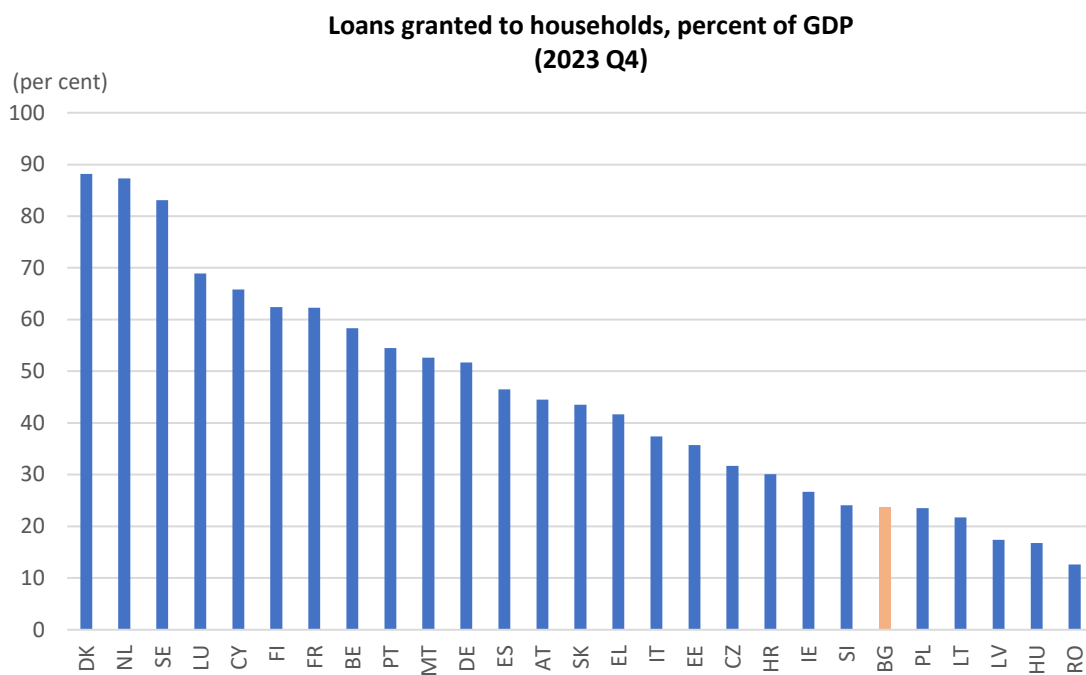


Source: BNB and ECB

Despite the elevated level of activity on the credit market, the household sector in Bulgaria is characterised by relatively low indebtedness. As of the end of 2023, the total loans granted to households (including by non-banking lenders) stood at 23.7% of GDP (among the lowest levels of the ratio “Loans to households/GDP” in the EU).



Source: BNB



Source: Eurostat

Implemented BNB measures with regard to the amount of the minimum reserve requirements

In view of the elevated credit growth, strong consumer demand and the significant inflationary pressure, on 26 April 2023 the BNB Governing Council took a decision to increase the ratio of minimum reserve requirements in two steps. Effective from 1 June 2023, the percentage of the minimum required reserves on funds attracted by banks from non-residents was raised from 5% to 10%; in effect from 1 July 2023 the percentage of the minimum required reserves on the funds attracted by banks from residents and from non-residents was raised from 10% to 12%. The decision is aimed at tightening the domestic monetary conditions through absorption of part of the excess liquidity in the banking system, thus reducing the banks' lending capacity and facilitating a faster and stronger pass-through of the raised interest rates in the euro area to the domestic interest rates.

Summary

The longstanding BNB supervisory policy, aimed at consistent accumulation and preservation of buffers, has resulted in resilience in terms of liquidity, capital, efficiency and asset quality of the banking system. No structural systemic risk has been observed either with respect to the current levels of banks' lending standards (as evident from the weighted average values of the key indicators), or with respect to household indebtedness, which remains low and accompanied by favourable developments in incomes. There is elevated credit growth, which the BNB monitors regularly based on wide range of regulatory, macroeconomic and other indicators. At the current stage, in view of the presented analysis and in the context of the high level of banks' capital buffers, liquidity and profitability, the hypothesis for "overheating" in the segment of residential real estate lending is not justified. The resilience of the banking system to potential shocks remains adequate, and the BNB will continue implementing active macroprudential policy with all instruments within the Law on Credit Institutions, including measures that address banks' lending activity, if necessary.