FINANCIAL STABILITY REPORT



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NOVEMBER 2024

The data underlying the charts and tables presented in this Report can be found at the Banco de Portugal website, with some exceptions for private sources data.



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Executive summary

Risks to financial stability are still linked to adverse economic developments that may result from the current geopolitical tensions. Ongoing military conflicts, increased global protectionism and a slowdown in the world's major economies can affect the Portuguese economic activity. The resurgence of public debt pressures in European countries and the possibility of further inflationary shocks limiting monetary policy easing are also risk elements. At national level, an expansionary fiscal stance under the new model of European fiscal rules and possible delays in the implementation of the RRP could constrain economic growth and debt developments.

In the last half of the year, despite some signs of slowdown, the Portuguese economy maintained a downward trend in vulnerabilities, which is in line with the progress made in recent years. The adjustment process has been structural and was interrupted only in the most acute period of the pandemic. The central macroeconomic framework for 2025 and 2026, of growth close to potential and price stability, is consistent with this process continuing. Economic activity in Portugal is expected to grow in the period 2024-26, at a pace close to potential and above that projected for the euro area. Inflation is expected to stabilise at 2% in 2025–26, in line with the euro area.

One of the dimensions of structural adjustment is the significant reduction in indebtedness. The **general government** debt ratio decreased by around 35 percentage points (p.p.) between 2014 and 2023, when it reached 97.9% of GDP. Despite converging towards the euro area average, this ratio remains high. Its protracted reduction will contribute to improving the Republic's rating and lower risk premia in the cost of financing, benefiting the various sectors of the economy.

Starting from levels significantly above the European average, the indebtedness ratios of **households and firms** are now below the EU benchmark. At the end of the first half of 2024, the household indebtedness ratio reached 82% of disposable income, 2.6 p.p. below its end-2023 level and almost 50 p.p. below its 2009 peak. In turn, the corporate indebtedness ratio decreased by 2 p.p. in the first half of this year, to 76% of GDP, bringing the cumulative reduction to 50 p.p. from 2012, when the indicator peaked.

Risks to **firms** are associated with greater economic slowdown in the euro area, potentially worsened by higher energy and production costs and supply chain disruptions. Despite the stabilisation in operating profitability, the maintenance of still high interest rates weighs on firms' debt servicing capacity, particularly in the most vulnerable sectors. However, the share of firms identified as financially vulnerable (i.e. where EBITDA is less than twice the amount of interest expenses) is projected to decline in 2024 and 2025, to around 12% and 8% respectively, compared with 14% in 2023. The improvement in firms' financial position in recent years will play a role in mitigating these risks.

For **households**, the main risks are associated with developments leading to income losses, such as rising unemployment or interest rates. However, these factors are not part of the central scenario of developments in the Portuguese economy. The savings rate is also projected to increase, strengthening its resilience to shocks. Despite the significant rise in inflation and interest rates between 2021 and 2023 credit defaults remained contained. This resilience has benefited from the sustained reduction in the indebtedness ratio and the improvement in the risk profile of borrowers – further strengthened since 2018 by the effects of the macroprudential Recommendation relating to new credit for house purchase and consumer credit – as well as from positive developments in the labour market and disposable income.

The **banking sector** is also exposed to the potential materialisation of adverse economic and financial conditions, given the composition of its balance sheet. The materialisation of such a scenario will tend to result in higher credit risk, with no material impact of market and liquidity risk being expected. Return on assets reached 1.47% in June, but is sensitive to the expected decline in interest rates through net interest income. However, net interest income is expected to remain above the levels seen in the pre-2022 period, also given the change in the financing structure of banks.

Similarly to the rest of the economy, the banking sector has experienced remarkable adjustment in terms of liquidity, asset quality, efficiency and capital. In June the total capital ratio and the Common Equity Tier (CET 1) totalled 20.5% and 17.8% respectively, 0.66 p.p. and 1.4 p.p. higher than in the euro area. Part of this adjustment was observed over a long period of low interest rates, which significantly limited income generation through the interest margin. On average, between 2011 and 2021, the sector's return on equity was -3.1%. In recent years, rising interest rates have made it possible for the sector to achieve higher levels of profitability, used to remunerate shareholders, strengthen its soundness and allow for the investment needed for its future viability.

Against this positive background, the credit quality of bank assets has remained stable. In the case of firms, about half of the loans have been directed towards lower-risk groups. In lending to households, the macroprudential Recommendation has strengthened the resilience of the financial sector and borrowers. It is essential that banks maintain prudent credit standards and conditions that include in their analyses all risk factors that may affect the value of their assets, including the impact of environmental factors, the materiality of which has been increasing.

Despite the favourable central scenario, institutions should be prudent in provisioning and capital conservation, enhancing their resilience and ability to finance the economy in the event of adverse shocks. In October this year, the 4% sectoral systemic risk buffer applied to banks using the internal ratings-based (IRB) approach entered into force, strengthening their resilience to real estate market devaluations. Given the current economic environment, banks' profitability and capitalisation levels, while aiming to enhance the capacity to absorb unexpected losses associated with systemic shocks, the Banco de Portugal proposes to set the countercyclical buffer rate at 0.75% of the amount of risk-weighted credit exposures of the domestic banking sector to the non-financial private sector.

The remarkable progress in the financial position of the resident sectors since the sovereign debt crisis should not be seen as an excuse for complacency but rather as an achievement to be preserved, requiring determination in a sustained reduction of vulnerabilities, in particular in the face of climate and technological challenges. The international situation has reminded us that significant shocks may occur at any time and that timely preparation is decisive to mitigate them.

Financial Stability outlook

1 Vulnerabilities, risks and macroprudential policy

2 Banking system

1 Vulnerabilities, risks and macroprudential policy

1.1 Main risks and vulnerabilities

The economic performance of the Portuguese economy is above that of the euro area and close to its potential. However, it is exposed to external factors, including global geopolitical tensions. Its impact materialises in the short term, largely via international trade flows, on prices or directly on economic activity. Amid an increasing fragmentation of the global economy, such impact tends to persist.

The slowdown of the Chinese economy, the resurgence of concerns about the creditworthiness of sovereign issuers and possible inflationary shocks affecting the protracted easing of monetary policy tightening of the main economies are other risk elements. The materialisation of some of these factors will impact the global economy and thus the Portuguese economy, affecting the value of financial and non-financial assets, investment and financing conditions at international level.

A scenario of adverse economic developments at national and international level, in particular if associated with a tightening and/or protraction of monetary policy, could affect negatively demand and **real estate** prices. Nevertheless, these effects will tend to be small, particularly in the residential segment, in the face of supply shortages in the Portuguese market, which has contributed to a significant and protracted rise in prices.

Over the past few years, the different sectors of the economy have significantly adjusted their financial positions, fostering their resilience to shocks. Particularly noteworthy is the reduction in indebtedness for the total economy, reflected in the international investment position, and the indebtedness ratios of general government, firms and households.

The improvement of the budgetary situation in recent years and the sustained reduction in the public debt ratio, as reflected in the corresponding appreciation of the Republic's rating and risk premia in the cost of financing, have been reflected in a reduction in **General-Government**-related risks in the short term. However, public indebtedness is high and thus vulnerable to volatility in international financial markets. Developments in the cost of debt are constrained by global uncertainty, with consequences for the conduct of monetary policy and, at domestic level, by the expansionary fiscal policy stance and the impact of the gradual reduction in the Eurosystem's asset purchases. Long debt maturity and the ECB's stabilising role through the TPI are factors mitigating these risks.

Risks to **firms** are largely associated with more disruptive geopolitical developments and a further slowdown in economic activity in the euro area. The potential impact may be associated with higher energy and other production costs and/or supply chain disruptions. The maintenance of interest rates at high levels will continue to challenge firms' debt servicing capacity, particularly in the most vulnerable sectors. The improvement in firms' financial position in recent years, in terms of solvency and liquidity, will continue to help mitigate these risks. Based on the central projection scenario of the Portuguese economy, the share of firms identified as financially vulnerable by 2025 is estimated to decrease.

Households maintained a sustained reduction in the indebtedness ratio, in line with the trend that started in 2010. Since 2018, the risk profile of new borrowers has also benefitted from the macroprudential recommendation relating to new credit for house purchase and consumer credit.

Despite the significant rise in inflation and interest rates between 2021 and 2023, which limited their debt servicing capacity, credit defaults remained contained. Strong labour market and real disposable income developments, as well as loan renegotiations and government support measures contributed to this result. The main risks are associated with economic developments leading to income losses, such as unemployment or rising interest rates. An increase in the sector's saving rate should help foster its resilience to shocks.

The **non-bank financial sector** has become less important in Portugal over the past few years, with its weight in GDP being clearly lower than in the euro area. In addition, its interlinkages with the banking sector has also been reduced, with cross-exposures generally accounting for a very limited share of each sector's assets/liabilities. Unlike the banking sector, the sector concentrates its exposures on non-resident counterparties, making it particularly sensitive to developments in the international financial markets. The liquidity and leverage of Portuguese investment funds compare favourably with the euro area. For the insurance sector, solvency and liquidity levels ensure resilience and room to absorb adverse developments.

In the first half of 2024, **banks** continued to improve their profitability, which contributed to rising capital ratios. These already reached historically high levels, similar to those in the euro area. The sector's liquidity remained robust and asset credit quality remained stable at a historically high level.

The concentration of exposures to the real estate sector is mitigated by the limited share of mortgage loans with a loan-to-value (LTV) ratio above 80%, limiting banks' potential losses resulting from a fall in residential real estate prices. In addition, the sectoral systemic risk buffer (SyRB) of 4%, effective since October, strengthens institutions' resilience to the materialisation of risks impacting households and residential real estate prices. Despite the materiality of exposure to public debt, the weight of the component accounted for at amortised cost mitigates the impact of market price changes on the balance sheet value of securities, making it less sensitive to changes in interest rates, also contributing to the sector's stability.

With this background – positive overall for banking –, there has been no deterioration in the credit quality of bank assets. For transactions with households, the macroprudential recommendation promotes the portfolio's resilience to shocks. In the case of firms, most loans have been directed to lower-risk firms.

Despite the central scenario being benign, it is important that institutions are prudent in provisioning and capital conservation, promoting their own resilience and funding to the economy in the face of potentially adverse shocks. In this framework, given the current economic environment, banks' profitability and capitalisation levels, whilst aiming to enhance the banks' capacity to address systemic shocks, the Banco de Portugal proposes to set the countercyclical buffer rate at 0.75% of the total amount of risk-weighted credit exposures of the domestic banking sector to the non-financial private sector from 1 January 2026 onwards. This buffer emerged in a phase when cyclical systemic risk was considered neutral.

Other cross-cutting structural aspects remain critical to financial stability, such as those related to climate change and digitalisation. Climate change poses transition risks to the financial system, related to the devaluation of assets in fossil fuel-intensive sectors and physical risks, associated with direct damage from extreme weather events of greater frequency and severity. In the case of digitalisation, in addition to the investments needed to convert productive structures and update IT systems, there are increasing risks related to cyber risk and concentration on providers of critical systems.

1.2 Macroeconomic and market environment

Macroeconomic environment

The central projection scenario of the Portuguese economy for 2024–26 points to the maintenance of convergence towards European income levels and inflation consistent with price stability (Table I.1.1). The economy's resilience to recent shocks reflects the reduction of macroeconomic imbalances and other structural weaknesses. In particular, declining private, public and external debt ratios involved less vulnerability to rising interest rates. The labour market has been robust and flexible.

	September/October 24 June 2024							
	2023	2024(p)	2025(p)	2026(p)	2023	2024(p)	2025(p)	2026(p)
Euro area								
GDP	0.5	0.8	1.3	1.5	0.6	0.9	1.4	1.6
Inflation (HICP)	5.4	2.5	2.2	1.9	5.4	2.5	2.2	1.9
Portugal								
GDP	2.5	1.6	2.1	2.2	2.3	2.0	2.3	2.2
Inflation (HICP)	5.3	2.6	2.0	2.0	5.3	2.5	2.1	2.0
Unemployment rate (% labour force)	6.5	6.4	6.4	6.4	6.5	6.5	6.6	6.6
Current plus capital account (% of GDP)	1.9	4.2	4.1	4.0	2.7	4.4	4.4	4.5

Table I.1.1 • Macroeconomic projections 2024-26 | Annual rate of change, per cent (except where indicated)

Sources: ECB (September 2024 macroeconomic projections) and Banco de Portugal (October 2024 Economic Bulletin). | Note: p – projection.

After slowing down in 2024, economic activity in Portugal will recover in 2025–26, maintaining convergence with the euro area. In 2024, activity growth is supported by private consumption and exports. An acceleration in 2025–26 reflects a better outlook for investment, with easing financial conditions, an improvement in overall outlook and a stimulus from European funds. Investment in housing is also projected to recover gradually, supported by declining interest rates, disposable income growth and buoyant migration flows. Exports are expected to continue to make an important contribution to growth over the projection horizon, albeit lower than in 2023, reflecting the normalisation of overall consumption patterns. Tourism, despite slowing down, will continue to grow above total exports. For the euro area, the ECB projects real GDP growth in the euro area to return to rates close to historical averages over the medium term, supported by increasing real incomes, strengthening foreign demand and the fading of the dampening effects from monetary policy.

The resident sectors' indebtedness will continue to decline. Real household disposable income is expected to increase in the three-year period, albeit more significantly in 2024, owing to the favourable labour market situation and fiscal measures. Over the projection horizon, the saving rate is expected to remain at historically high levels, reflecting higher interest rates than in the previous decade and a cautious behaviour of households. The labour market will continue to evolve favourably, with increases in employment and real wages, and the unemployment rate will remain low. Net lending of the Portuguese economy is expected to increase to an average of 4.1% of GDP in 2024–26, allowing for a further reduction in the resident sectors' indebtedness.

Price growth will stabilise at 2% in 2025–26. Against a background of decelerating wage costs and moderate external pressures, average annual inflation in Portugal is expected to be around

2% in 2025 and 2026. For the euro area, inflation is also projected to decline and to stand around the target in 2025, reflecting expectations of gradually diminishing cost pressures.

Risks to these projections are balanced. For activity, risks of a downward revision remain, which are related to international geopolitical tensions and timely fulfilment of the Recovery and Resilience Plan targets. By contrast, private consumption may increase more than expected in response to projected growth in household income. For inflation, lagged effects of monetary policy are more marked in the short term generate downside risks, counterbalanced by possible shocks to international commodity prices and global supply chains, as well as by greater buoyancy in wages.

An economic downturn in Europe and China, amid increasing geopolitical risks and protectionist policies, will bring more uncertainty in the conduct of economic and monetary policy. The persistence and possibility of heightened geopolitical tensions, together with increased international tensions through tariff hikes and protectionist policies, may have an impact on international trade, leading to inflationary pressures affecting economic activity internationally. At European level, there is increasing difficulty in balancing stable government solutions and compliance with European good governance rules, which tends to be intensified in an international transition framework. This transition is significant at various levels: geopolitical, international trade, military expenditure, climate transition.

Reflecting an improvement in the inflation outlook, central banks in major advanced economies have been easing monetary policy and initiated the interest rate decreasing process this year.

The ECB began to decrease interest rates in June. Since then, the deposit facility rate, which is currently the ECB's main key interest rate, has been reduced by 75 b.p. to 3.25%, and the interest rates on the main refinancing operations and the marginal lending facility have been reduced by 110 b.p., to 3.40% and 3.65% respectively. As a result of the entry into force of the new monetary policy implementation framework, the spread between the main refinancing operations rate and the deposit facility narrowed from 50 b.p. to 15 b.p. Liquidity conditions in the euro area remain abundant despite maturing targeted longer-term refinancing operations (TLTRO-III) and the gradual reduction of portfolios for asset purchase programmes.¹ In Portugal, excess liquidity has grown since November 2023, contrary to the downward trend observed at Eurosystem level.

The availability in the market of securities eligible under the Eurosystem's purchase programmes has been increasing, but no significant impact on the prices of these assets is expected. Adopting measures, such as reducing reinvestments in the PEPP, following new debt issues, enabled an increase in High Quality Liquid Assets (HQLA) in the market, notably sovereign debt securities, which have thus been increasingly maintained on banks' balance sheets. The gradual and predictable nature, albeit retaining flexibility, of reducing excess liquidity in the euro area is expected to minimise impacts on asset prices. Furthermore, the 2022 Transmission Protection Instrument (TPI) remains part of the range of instruments available to the ECB's Governing Council to ensure that the monetary policy stance is transmitted smoothly across all euro area countries. In the United States, the Federal Reserve began to decrease interest rates in September owing to reduced upside risks to inflation and rising downside risks to the labour market. On 7 November, already after the results of the presidential elections, the key interest rate was further reduced to the target range of 4.5%-4.75%.

If inflation remains under control, the cycle of declining monetary policy rates and the normalisation of central banks' balance sheets in the major advanced economies are expected to continue. Especially for the euro area and the United States, the reduction in the size of the balance

¹ For further details, see Banco de Portugal, The Eurosystem's asset purchase programmes.

sheet is expected to continue over the remainder of 2024 and 2025. Nevertheless, risks to inflation developments remain amid possible protectionist policies and fiscal expansion in the United States or the materialisation of other geopolitical risks that may call into question the magnitude of the projected cycle of monetary policy easing.

Financial markets environment

Since the summer, international financial markets have shown resilience to pronounced, albeit short-lived volatility spikes.

Until recently, expectations of interest rate decreases in the main economic blocks have strengthened, leading to a decline in interbank rates. In the euro area, from June 2024 onwards, as the -easing interest rates cycle began, the ECB strengthened the expectations of further declines amid a deterioration in economic data and a more pronounced disinflationary process. According to market indicators, in early November, three-month EURIBOR futures pointed to a convergence of the key interest rate to around 2% from mid-2025 onwards (Chart I.1.1).

The sovereign debt market has responded to expectations of decreases in policy interest rates (Chart I.1.2). In the United States, where sovereign debt yields were in line with expectations of declining official interest rates, yields rose from October onwards amid the upward revision of the Fed funds' terminal interest rate, reflecting some positive macroeconomic data releases and fears of a deterioration in the fiscal situation following the election results. In the euro area, from late October onwards, there was some impact from this movement by the US Treasuries, despite intensified expectations regarding the cycle of declining interest rates. From June 2024 onwards, the spreads of the ten-year yields against Germany narrowed in most jurisdictions, with French debt spread widening amid political and fiscal instability. The positive performance of Portuguese sovereign debt, whose yield spread against Germany narrowed in this period.





Chart I.1.2 • Yields on 10-year sovereign debt



Sources: Refinitiv and Banco de Portugal calculations. | Note: Latest observation: 7 November 2024.

Source: Refinitiv. | Note: Latest observation: 7 November 2024.

Financing costs of euro area firms and banks in capital markets have benefited from the downward trend in key interest rates (Chart I.1.3). Interbank interest rates have been declining, but risk premia (spreads) for corporates and banks have been maintained. In a context of high macroeconomic uncertainty, the maintenance of the assets swap spreads on corporate and bank bonds may indicate some risk underestimation. Given high rollover needs in the euro area market over the next two years, negative macroeconomic surprises could raise costs, in particular for the high yield segment.

In the equity market, behaviour was not homogeneous across economic blocs, with particular emphasis on significant valuations in the United States (Chart I.1.4). Since early June 2024, US stock indices have appreciated, despite the significant market tensions experienced in early August. Similarly, the Chinese index, which was losing profitability, has had an important boost since October, reflecting the government's announcement of stimulus packages. In Japan, despite volatility spikes, the stock market index recovered to June levels. But in the euro area, although the indices have posted gains since the beginning of the year, they did not appreciate from end-May. Significant valuations in the US market have been associated with tech firms, in particular those related to artificial intelligence, and have been further driven by the election results. In an environment of macroeconomic and geopolitical uncertainty, this significant valuation raises doubts about its sustainability.

Chart I.1.3 • Three-month EURIBOR and asset swap spreads on corporate and bank bonds in the euro area



Chart I.1.4 • Equity market indices of Portugal, Europe, USA, Japan and China | Points



Source: Refinitiv. | Note: Latest observation: 7 November 2024.

Periods of volatility in international financial markets have become more frequent, related to changes in expectations regarding monetary policy stance, political uncertainty and the outlook for technology firms, in particular those related to artificial intelligence. The episode of greatest volatility occurred in early August, triggered by worse-than-expected data from the US labour market, amplified by strong derivative positions and reinforced by the unexpected rise in interest rates in Japan, which led to a reversal of carry-trades financed with Japanese yen and significant losses in the Asian market. Other episodes of significant volatility in the US stock indices have been related to the performance of tech firms. Political uncertainty has also had an impact, in particular on the fixed income market, as was the case with the French sovereign debt.

Despite the resilience shown in the most recent shocks, the risk of sudden adjustments in the value of financial assets remains significant. So far volatility spikes and corrections in the value of assets have been quickly reversed in equity markets, which may fuel an increased risk appetite by investors. The worsening of the macroeconomic scenario, due to the materialisation of geopolitical risks, greater fragmentation of the global economy through protectionist policies, a further slowdown in the Chinese economy, a resurgence of concerns about the creditworthiness of sovereign issuers or other inflationary shocks, may constrain the expected easing of the monetary policy of major economies. To the extent that it could impact financial asset prices and financing conditions, investors and issuers must adopt appropriate mitigation strategies to safeguard financial stability.

Source: Refinitiv. | Notes: Stock indices with a base value of 100 on 31 December 2023. Latest observation: 7 November 2024.

1.3 Sectoral risk analysis

1.3.1 General government

Risks associated with the performance and financial position of Portugal's general government have been diminishing over the past decade but remain in place. The positive performance is evident in Portuguese sovereign debt yield spreads in relation to sovereign debt in other euro area countries. Nevertheless, public indebtedness remains high, exposing the cost of financing public debt to potential bouts of volatility in international financial markets. However, there are also mitigating factors, such as the maturity of the debt securities portfolio and the stabilising role of the ECB, particularly via its TPI.

The Portuguese public debt ratio followed a marked downward path from 2015 until the end of 2023, interrupted only by the impact of the COVID-19 pandemic. Standing at 132.5% in 2014, the public debt ratio narrowed to 97.9% in 2023 (Chart I.1.5). The 13.3 p.p. decrease from 2022 was due to a reduction in nominal debt, which contributed 3.6 p.p., while GDP growth contributed 9.7 p.p. In the third quarter of 2024, public debt stood at 97.4% of GDP, down by 8.9 p.p. from the same quarter of the previous year.

The sustained reduction in public debt is very important for the Portuguese economy, strengthening Portugal's credibility with international financial markets. Currently, Portugal is rated 'A' by the four main financial rating agencies, reflecting a significant improvement in the country's perceived creditworthiness. This upgrade is particularly important in a context of limited economic growth in Europe and concerns about the public finances of other euro area economies, with a positive impact on the relative performance of Portuguese sovereign debt yields (Section 1.2).

Should non-negative fiscal balances persist, the public debt ratio is expected to continue its downward path in the coming years, helping to mitigate the country's vulnerability to adverse shocks and improve external financing conditions. According to the International Monetary Fund (IMF) projections released in October 2024, further reductions in this ratio are expected over the coming years, to levels below the euro area average from 2026 onwards (Chart I.1.6).



The cost of new Portuguese public debt issuance decreased slightly in 2024, from 3.5% in 2023 to 3.4% in June 2024 (Chart I.1.7). This was mainly due to financing through Treasury bonds, which offset the increase in the cost of Treasury bill issues. In 2024 the weighted average rate of Treasury bill tenders ranged from 2.8% to 3.8%, compared with 2.4% and 3.5% in 2023. In 2024 a new ten-year Treasury bond line was issued, with a 3% coupon rate, below that of Treasury bonds redeemed in 2023–24, contributing to a reduction in the average cost over the medium term.

The impact of rising interest expenditure on total financing costs is expected to be limited.

Despite the increase in the cost of new issuance in 2023 and 2024 compared to 2022, it is worth noting the large amount issued at fixed rates and the average residual maturity of the stock of debt, which stood at 7.6 years in August 2024. Around 20% of the existing debt stock at the end of September will mature by the end of 2026 (Table I.1.2).

	2024	2025	2026	After 2026
Stock of debt maturing	6.4	21.4	17.6	191.1
Treasury bills	4.0	5.1	0.0	0.0
Official loans	0.0	1.5	5.0	49.0
Other medium and long-term debt	2.4	14.7	12.6	142.1
Weight in total stock of debt (%)	2.7	9.0	7.4	80.8
Weight in 2023 GDP (%)	2.4	8.0	6.6	71.5

Table I.1.2 Schedule of Portuguese public debt redemptions EUR billions

Source: Portuguese Treasury and Debt Management Agency. | Note: Calculations based on the stock as at end-September 2024.

At the end of June 2024, the Eurosystem held 29% of Portuguese sovereign debt stock, compared with 32% in December 2023 (Chart I.1.8). The decrease observed in the first half of 2024 was accompanied by an increase among non-residents and, to a lesser extent, banks. The continued gradual reduction of the Eurosystem's balance sheet underlines the importance of maintaining competitive market access conditions. The gradual, predictable and flexible nature of the phasingout of purchase programmes has proven essential for the market to absorb additional debt amounts. The TPI helps to ensure that the monetary policy stance is transmitted smoothly across all euro area countries.

Chart I.1.7 • Cost and maturity of Portuguese public debt



Sources: Banco de Portugal, Portuguese Treasury and Debt Management Sources: ECB, Banco de Portugal and Portuguese Treasury and Debt Agency and Statistics Portugal. | Notes: The implicit average cost of the debt Management Agency . | Note: End-of-period data. stock corresponds to the ratio of interest expenditure to average debt stock. The cost of debt issued in each period is weighted by amount and maturity and includes Treasury bills, Treasury bonds, floating rate Treasury bonds and medium-term notes issued in the corresponding year. The average maturity of issued medium and long-term debt domain includes Treasury bonds and medium-term notes issued in the corresponding year.

Chart I.1.8 • Structure of Portuguese public debt holders | Per cent



Macroeconomic and geopolitical uncertainty, with consequences for the conduct of monetary policy, poses a risk to the debt servicing cost. It is therefore important that the sustained reduction in the public debt ratio, a key element underpinning financial stability, proceeds. To this end, the pressure to increase net public expenditure should be framed from an inter-temporal sustainability perspective and in line with the recently revised EU fiscal rules.

1.3.2 Non-financial corporations

The financial situation of firms continued to be robust in June 2024, despite the moderation in activity and higher financing costs than those observed until 2022.

The capitalisation of NFCs continued to increase in the first half of 2024, albeit at a slower pace than in the same period of 2023. In recent guarters, the increase in equity has been mainly driven by retained earnings. The importance of capital in the funding structure of Portuguese NFCs has been increasing compared to the run-up to the sovereign debt crisis, and this trend was not interrupted by the pandemic crisis. Firms' capital ratio increased by 13.9 p.p. between June 2009 and June 2024 across all sectors of activity, although structural differences persist (Chart I.1.9).





Source: Banco de Portugal. | Notes: The capital ratio measures the percentage of firms' assets financed by equity. A higher capital ratio hints at an increase in corporate capitalisation. The dotted line corresponds to total NFCs. The quarterly ratio corresponds to the value obtained for the year ending in the quarter. Latest observation: June 2024 (quarterly economic and financial indicators in the Central Balance Sheet Database).

In terms of financing structure developments, small and medium-sized enterprises (SMEs) stand out, following a lower capital share in 2009. In this segment, the share of capital in asset financing rose by 19.0 p.p. between June 2009 and June 2024, compared with an increase of 6.5 p.p. for large enterprises. Conversely, in the same period there was a decrease in the share of obtained funding and debt to suppliers in the SME balance sheet by 12.2 p.p. and 3.9 p.p. respectively (Chart I.1.10).



Chart I.1.10 • NFCs' financing structure, by size | As a percentage of assets

Source: Banco de Portugal. | Note: Figures may not add up to 100 due to rounding.

The decreasing role of financing obtained by NFCs over the past 15 years has been driven almost entirely by developments in bank lending, which accounted for 10% in June 2024, down from 19% in June 2009. Securities market financing is especially important for large enterprises (7.8% in June 2024), as seen throughout the entire period. Intragroup financing is relevant for both types of firms (Chart I.1.11).





Source: Banco de Portugal.

Portuguese firms' debt-to-GDP ratio narrowed further in the first half of 2024, to stand at 76% in June this year. Since 2021, this ratio has been below that of the euro area and the differential between both has widened, reaching 6.0 p.p. at the end of 2023 (Chart I.1.12). In recent years, the increase in nominal GDP has been instrumental in reducing the indebtedness ratio of NFCs, both in Portugal and the euro area. In Portugal, in the first half of 2024, this effect was only slightly offset by an increase in obtained funding. In the second quarter, the amount of short and long-term debt securities issued by NFCs, largely held by resident banks, outpaced the reduction in bank loans in the first quarter of the year.

There was also a decrease in the ratio of indebtedness net of deposits to 50% at the end of the first half of 2024, compared with 58% in the euro area in December 2023. NFC deposits increased by 2.5% in the first half of 2024, and their amount remained 45% higher than in 2019.

In 2024, firms' operating profitability stabilised after the upward path of the last decade, interrupted only by the COVID-19 pandemic. In June 2024 it stood at 9.5%, down from 9.8% in September 2023. Developments were heterogeneous across sectors of activity, with an increase from the previous year in the construction sector (0.8 p.p.) and a decrease in industry (-0.9 p.p.) (Chart I.1.13).

The pass-through of rising market interest rates to the financing costs of NFCs was swift, given the predominance of variable interest rates and the relatively short refinancing maturities. The cost of obtained funding rose from 4.5% at the end of 2023 to 4.9% in the year ending in June 2024, with this implicit cost dropping to its lowest level in the year ending in March 2022 (2.7%). At the same time, the aggregate financing expenses coverage by EBITDA was 6.9 in the year ending in June 2024, down by 0.6 from December 2023. Developments were heterogeneous across sectors of activity, most notably with a decrease in industry (-1.4) and trade (-0.6). In turn, reflecting the improvement in operating profitability, in the case of construction it increased by 0.3 (Chart I.1.14).

Chart I.1.12 • Developments in the indebtedness ratio and in the indebtedness ratio net of deposits⁽¹⁾ | As a percentage of GDP



Chart I.1.13 • Operating profitability on assets (EBITDA) | Per cent



Source: Banco de Portugal. | Notes: Consolidated figures. (1) The ratio of indebtedness net of deposits corresponds to the ratio of NFC total debt less deposits to GDP.

Source: Banco de Portugal. | Notes: Average operating profitability on assets is defined as the ratio of EBITDA to average assets for the period. EBITDA is an acronym for earnings before interest, taxes, depreciation and amortisation. Latest observation: June 2024 (quarterly economic and financial indicators in the Central Balance Sheet Database).

However, lower interest rates in 2024 should contribute to a moderation in the increase in the cost of financing. The average interest rate on new bank loans edged down to 5.4% in June 2024, from 5.7% in December 2023 (with a further 0.4 p.p. decrease between June and September 2024) (Section 2 – *Banking System*).



Chart I.1.14 • Cost of obtained funding and coverage by EBITDA, by sector of activity

Source: Banco de Portugal. | Notes: (1) The costs of obtained funding include costs associated with bank loans, debt securities and other loans. (2) The financing expenses coverage ratio corresponds to the number of times the EBITDA covers such costs. The quarterly ratio corresponds to the value obtained for the year ending in the quarter. Other services include services except trade and transport and storage. Industry includes mining and quarrying as well as manufacturing. Latest observation: June 2024 (quarterly economic and financial indicators in the Central Balance Sheet Database).

In the year ending in June 2024, firms' return on equity fell by 0.7 p.p., given the increase in financing costs, the slowdown in activity and an increase in equity. For 2023, available information is more granular, making it possible to gauge the contribution of each component of the ratio. The increase in return excluding financing expenses was, on average, higher than the negative contribution from the increase in interest expenses. However, the impact of capital accumulation unwound this effect, resulting in a decline in the ratio. These developments were heterogeneous across sectors of activity (Chart I.1.15).

The reduction in firms' financial vulnerability has been accompanied by increased resilience to shocks which their activity has been subject to since 2019. Despite the significant rise in interest rates in 2022 and 2023, there was no increase in bank credit defaults (Section 2.3). Following similar developments in the cost of financing for State-guaranteed loans granted during the COVID-19 pandemic, the materialisation of credit risk in firms that made use of these loans is similar to other firms (Box 1). In turn, the number of insolvencies declared in the first half of 2024 (1,049) was below the average observed in 2018–19 (1,117). However, in the case of manufacturing, as well as of accommodation and food services, it exceeded the 2018-19 average. In the case of manufacturing, this is the highest figure since 2015, similarly to the first half of 2020. These sectors are among those most affected by the increase in energy and raw materials costs in 2022 and the pandemic crisis in 2020 (Box 4 – *Financial Stability Report*, June 2022, Chart I.1.16).





Source: Banco de Portugal. | Notes: ROE – return on equity. Return on equity is calculated as the ratio of net income to equity. The left-hand panel data refers to data for private firms, excluding the agriculture, forestry and fishing sector. In this panel, the quarterly ratio corresponds to the value obtained for the year ending in the quarter. Latest observation: June 2024 (quarterly economic and financial indicators in the Central Balance Sheet Database). The right-hand panel data considers a universe of firms including public and private firms (also comprising the agriculture, forestry and fishing sector). (1) The breakdown by ROE contributions considers net income for the period excluding financing expenses and, separately, firms' financing expenses. (2) The data needed to break down ROE contributions is available on an annual basis from the annual information from the Central Balance Sheet Database available in BP*stat* and, as such, developments are presented for 2023, instead of for the first half of 2024.





Source: Statistics Portugal. | Note: Latest observation: second quarter of 2024.

Higher financing costs and lower economic momentum in relevant trading partners in the euro area continue to put pressure on business activity, increasing credit risk heterogeneously. However, in the central macroeconomic scenario for the Portuguese economy, the share of firms identified as financially vulnerable in 2024 and 2025 is estimated to decrease. The share of financially vulnerable firms, i.e. where EBITDA is less than twice the amount of interest expenses, is projected to decline in 2024 and 2025, to around 12% and 8% respectively, compared with 14% in 2023. These developments reflect the expected downward path of market interest rates, leading to a reduction in firms' cost of financing amid persistent economic growth. While these developments are broadly based across most sectors of activity, the reduction in vulnerability in construction and real estate activities is expected to materialise only in 2025.

Firms' investment rate decreased slightly in the year ending in June 2024 (-0.5 p.p.), which may be accounted for by the level of financing costs and the background of uncertainty. However, when measured as investment in real assets in relation to gross value added, the investment rate still exceeds that of 2019 (+1.4 p.p.), as opposed to that seen in the euro area (3.1 p.p.). According to its October 2024 issue of the *Economic Bulletin*, the Banco de Portugal foresees a reduction in the contribution of corporate GFCF to GDP (-0.3 p.p.). However, in 2025 and 2026 forecasts are moving towards a recovery in investment, reflecting an easing of financing conditions, the implementation of the RRP and a better outlook for international economic growth.

More disruptive geopolitical developments and a further slowdown in euro area activity pose the highest risk to NFCs' activity. In particular, energy costs and other production costs and/or supply chain disruptions may have a significant impact. According to market expectations, interest rates will decline, but converge towards levels above those observed until 2022, constraining firms' debt servicing capacity. However, the current financial position of firms, in terms of solvency and liquidity, will play a role in mitigating these risks.

1.3.3 Households

The strong Portuguese labour market continues to underpin household disposable income growth. In the first half of 2024, nominal disposable income grew by 9.6% year on year (6.3% in the first half of 2023), reflecting a 6.6 p.p. contribution from compensation of employees and, to a lesser extent, other income (Chart 1.1.17). In the year as a whole, real disposable income is expected to grow by 6.6% (6.5% in the first half of 2024) due to lower inflation, favourable employment and wage situation, higher pensions and other transfers, and cuts in personal income tax. In 2025 and 2026, real disposable income is expected to grow at a slower pace (1.9% on average), given the expected moderation in the wage share and the fading effects of fiscal measures (*Economic Bulletin*, October 2024, Banco de Portugal). According to Statistics Portugal's Qualitative Consumer Survey, in June 2024 the confidence indicator proceeded with the increase seen in recent months, reaching its highest value since February 2022.



Chart I.1.17 • Changes in household nominal disposable income and contributions | Per cent and percentage points

After a sharp increase during the pandemic (12.0% in 2020), the household saving rate declined in 2022 to levels close to its pre-pandemic period, only to recover in 2023 (Table I.1.3). In the first half of 2024 the household saving rate amounted to 9.7% and is projected to reach 11.5% by the end of the year. Savings were mostly allocated to currency and deposits and to investment in real assets (6.3% and 5.2% of disposable income respectively). Over the first half of 2024, there was a slight disinvestment in savings certificates, at 0.8% of disposable income, and a stabilisation of investment in insurance, pension and guarantee schemes.

Table I.1.3 Saving rate, sources and uses of funds by households | As a percentage of disposable income

	2020	2021	2022	2023	24 H1
Saving rate	12.0	10.9	7.3	8.0	9.7
Assets	14.4	14.2	10.8	7.2	12.9
Investment in real assets ^(a)	5.4	5.8	5.9	5.4	5.2
Balance of capital transfers	-0.4	-0.4	-0.4	-0.4	-0.4
Net acquisition of financial assets	9.3	8.8	5.3	2.1	8.1
o.w. Currency and deposits with resident banks	8.3	6.9	5.7	-1.2	6.3
o.w. Savings/Treasury certificates	0.5	0.3	2.7	5.7	-0.8
o.w. Shares and other equity	0.1	4.1	-2.9	1.3	2.5
o.w. Insurance, pension and guarantee schemes	-1.4	-0.5	-0.6	-2.2	0.0
o.w. Other	1.8	-2.1	0.4	-1.4	0.1
Liabilities	2.3	3.3	3.4	-0.8	3.1
Financial debt ^(b)	1.5	3.3	2.8	0.1	2.1
Other financial liabilities ^(c)	0.7	-0.1	0.7	-0.9	1.1

Sources: Banco de Portugal and Statistics Portugal. | Notes: Consolidated figures in nominal terms. The last column corresponds to the six-month figure. (a) Corresponds to the sum of gross fixed capital formation, changes in inventories, acquisitions net of disposals of valuables and acquisitions net of disposals of non-produced non-financial assets. (b) Corresponds to the sum of loans and debt securities. (c) Other financial liabilities include liabilities associated with all financial instruments, as defined in national financial accounts, except loans and debt securities (financial debt). It also includes the statistical discrepancy between the balances of net lending/net borrowing in the capital account and in the financial account.

Sources: Banco de Portugal and Statistics Portugal. | Note: (a) Net of transfers in kind.

The household indebtedness ratio continued its downward trend observed over the past decade and a half. In June 2024, household indebtedness accounted for 82.3% of disposable income (83.2% on a non-consolidated basis), with a 2.6 p.p. drop from the end of 2023, standing below the euro area average (87.0%) (Chart I.1.18), as has been the case since 2019. The present figure is close to that observed in 2001. Recent developments reflect the significant increase in disposable income amid moderate growth in lending to households (Section 2.2).

In Portugal, the share of loans for house purchase in household disposable income is also below the euro area average. At the end of the second quarter of 2024, loans for house purchase accounted for 53.8% of household disposable income in Portugal, down by 2.7 p.p. from the end of 2023. The euro area average (56.8%) also decreased by 2.9 p.p. from December 2023 (Chart I.1.19).



Sources: Banco de Portugal and Eurostat (Banco de Portugal calculations). | Notes: Non-consolidated figures for total debt. For disposable income, figures unadjusted for the balance of social transfers in kind are considered. The shaded area corresponds to the range between the third and the first quartiles of the distribution for a set of euro area countries (Belgium, Germany, Ireland, Spain, France, Italy, Netherlands, Austria, Portugal, Slovenia and Finland).

Loans for house purchase accounted for 77.3% of bank loans to households in June 2024. Consumer credit accounted for 16.6%, credit for other purposes 4.8% and loans to sole proprietors 1.3%.

After a marked rise over the past three years, the average interest rate on the stock of loans for house purchase decreased in 2024. This interest rate reached 4.6% in the second quarter of 2024, 0.1 p.p. lower than at the end of 2023 (Chart I.1.20). This development is due to a general reduction in EURIBOR rates, as the bulk of the stock of loans for house purchase (around 70%) corresponds to variable-rate agreements (Section 2.2). In the euro area, the share of variable-rate agreements is 15%, meaning that the average interest rate on the stock of loans for house purchase continued its upward trend in the second quarter of 2024, edging up by 0.1 p.p. to 2.5%.

The reduction in short-term interest rates and in the inflation rate, combined with a strong labour market, help to contain the default rate of households. Market expectations point to the continued gradual reduction in EURIBOR rates until the end of 2025, with a slight increase throughout 2026 and 2027 (Chart I.1.1, Section 1.2). The decline in EURIBOR rates until the end of 2025 to around 2% across maturities should continue to be reflected in a reduction in instalments on EURIBOR-linked credit agreements for house purchase for all maturities and, combined with the expected increase in income, in an improvement in the debt servicing capacity of households. Despite some lag, this downward trend will also benefit borrowers with mixed-rate loans (new,

transferred or renegotiated) as the interest rate was fixed for relatively short periods, typically of up to two years (Section 2.2).





Source: ECB (Banco de Portugal calculations). | Notes: The shaded area corresponds to the range between the 10th and 90th percentiles of the distribution for a set of euro area countries (Belgium, Germany, Ireland, Spain, France, Italy, Netherlands, Austria, Portugal, Slovenia and Finland). Latest observation: June 2024.

The lower debt servicing burden of loans for house purchase contributed to the 2.2 p.p. decline in the average loan service-to-income ratio (LSTI) between December 2023 and June 2024, to 23.7%. Considering as a baseline the stock of loans for house purchase in June 2024, the expected developments in EURIBOR rates until December 2025 were considered in order to quantify the impact on the debt servicing of these loans. For each agreement, income was projected for 2024 and 2025, based on the growth rate of average compensation per employee (October 2024 issue of the *Economic Bulletin*). Reflecting the expected favourable developments in income and the decline in EURIBOR rates, the share of agreements with an LSTI of 30% or less is estimated to increase from 74.2% in June 2024 to 77.3% in December 2024 (85% in December 2025), and the share of the stock with an LSTI of over 50% is estimated to drop from 5.5% in June 2024 to 5% in December 2024 (3.3% in December 2025). For loans in the 1st income quintile, this share is estimated to stand at 37.4% in December 2024 (27.8% in December 2025). Loans in this quintile accounted, however, for only 7% of the stock of loans for house purchase in June 2024 (Table I.1.4).

				LSTI class	s		Averag	e amount	Memo	items:
		<=20 %]20%; 30%]]30%; 40%]]40%; 50%]	>50 %	Debt	Agreed	Share in the stock	No. of agree ments
1 st	Jun 23	5.9	14.8	22.5	19.4	37.4	46,068	69,434	6.7	82,753
quintile	Dec 23	4.5	11.7	20.7	20.3	42.9	44,991	69,348	7.2	111,694
	Jun 24	5.8	14.7	23.1	19.3	37.1	44,663	69,568	6.9	112,791
	Dec 24	6.4	16.4	22.7	17.1	37.4	46,433			
	Dec 25	10.1	23.6	23.7	14.8	27.8	44,651			
2 nd	Jun 23	14.5	29.4	26.1	15.3	14.7	56,771	77,986	14.0	141,746
quintile	Dec 23	11.2	26.1	26.6	17.7	18.4	56,393	78,428	14.2	174,635
	Jun 24	14.8	30.2	27.5	14.9	12.7	55,778	77,563	13.6	176,514
	Dec 24	18.1	33.3	26.5	12.5	9.6	54,999			
	Dec 25	28.3	38.1	21.2	7.1	5.2	53,209			
3 rd	Jun 23	30.3	35.1	21.4	8.2	4.9	64,338	87,260	18.4	163,502
quintile	Dec 23	24.6	33.3	24.5	11.0	6.7	64,886	87,983	18.4	196,777
	Jun 24	29.8	36.2	22.6	7.4	3.9	65,052	87,333	18.3	204,712
	Dec 24	35.0	37.2	19.4	5.5	2.9	64,189			
	Dec 25	48.9	35.4	11.7	2.6	1.4	62,201			
4 th	Jun 23	48.7	32.4	13.2	3.7	1.9	72,690	96,174	20.3	160,207
quintile	Dec 23	40.0	34.5	17.2	5.6	2.8	74,726	98473	20.4	189,599
	Jun 24	45.6	35.6	14.0	3.3	1.5	75,755	98,588	20.9	200,655
	Dec 24	51.4	33.7	11.3	2.5	1.1	74,793			
	Dec 25	66.2	26.3	5.8	1.1	0.6	72,574			
5 th	Jun 23	78.3	15.8	4.4	1.0	0.5	94,515	124,320	40.6	246,356
quintile	Dec 23	71.3	19.5	6.7	1.7	0.8	98,471	128,911	39.8	280,242
	Jun 24	74.9	18.3	5.3	1.0	0.5	99,940	129,766	40.3	292,578
	Dec 24	78.1	16.5	4.2	0.8	0.4	98,609			
	Dec 25	85.6	11.7	2.1	0.4	0.2	95,568			
Total	Jun 23	49.7	24.6	13.6	6.1	6.0	72,125	97,037	100.0	794,564
	Dec 23	43.0	25.4	16.0	7.8	7.8	72,832	98,171	100.0	952,947
	Jun 24	47.6	26.6	14.5	5.8	5.5	73,579	98,419	100.0	987,250
	Dec 24	51.2	26.1	12.8	4.8	5.0	72,773			
	Dec 25	61.5	23.5	8.8	2.9	3.3	70,487			

Table I.1.4 • Stock of loans for house purchase by LSTI class and income quintile | Per cent

Sources: Banco de Portugal and Statistics Portugal. | Notes: The LSTI corresponds to the ratio of the instalment of the loan for house purchase to the borrowers' average monthly income (annual income divided by 12 months). It excludes agreements linked to exceptions to the DSTI ratio limit provided for in the macroprudential Recommendation. The sources of information on income are Instruction of the Banco de Portugal No 33/2018 and the Central Credit Register. It considers only 77% of the stock of loans for house purchase. Developments in individual income over the borrowers' life cycle have not been taken into account. Updated income between the latest update date and what is expected to be in force by 2025 for each agreement, based on the growth rate of the average compensation per employee (indicated in the macroeconomic projections released in the October 2024 issue of the *Economic Bulletin*).

1.3.4 Residential and commercial real estate market

Domestic loans to households secured by real estate accounted for 24.6% of the Portuguese banking sector's assets in June 2024, while the stock of loans to construction stood at 8.7% of total bank loans to NFCs (compared with 23% in 2009). The weight of these items warrants careful monitoring of developments in the real estate market and in the risks and vulnerabilities to which it may expose the financial system.

Residential real estate market

As transactions recovered in 2024, house prices continued to rise. House prices rose by 7.4% in the first half of the year, year on year, after increasing by 8.2% in 2023 (Chart I.1.21). The number of transactions in dwellings increased by 3% year on year, following a 19% fall in 2023. Transactions in existing dwellings accounted for 80% of the total.

In the euro area, the residential real estate market shows signs of a rebound, with prices growing by 0.5% in the first half of 2024, following a 1.1% contraction in 2023 (Chart I.1.22). Some countries with price falls in 2023 posted less marked price decreases (Germany, France or Austria) or price increases (the Netherlands and Slovakia) in the first half of the year. Developments in the number of transactions also tended towards a smaller decline or a recovery.

Chart I.1.21 • Price index and number of transactions in dwellings | Per cent



Chart I.1.22 • Price index and number of transactions in dwellings in the euro area | Per cent



Source: Statistics Portugal.

Source: Eurostat. | Notes: The chart includes only euro area countries for which comparable information on house prices and transactions is available (Belgium, Ireland, Spain, France, Netherlands, Austria, Slovenia and Finland). Each point in the chart corresponds to one country.

In Portugal, despite some heterogeneity, the increase in prices and rents was broadly based across the main regions. In the second quarter of 2024, the median housing value reached €1,736 per square metre, corresponding to 6.6% year-on-year growth (Table I.1.5). In regions with the highest median value (Lisboa, Porto and Algarve) year-on-year growth was below the national average. The rental market was also buoyant, with rent growth outpacing selling price growth.

According to the survey of residential real estate agents and promoters,² activity in the first half of 2024 was subdued, with expectations for house sales and demand being more favourable for the second half of 2024. The expectation of a rebound in sales is accompanied by an expectation that residential real estate prices will continue to rise. Survey responses may be reflecting recent

² Portuguese Housing Market Survey – Confidencial Imobiliário.

interest rate developments and recent government measures, which are likely to lead to an increase in demand for housing, with a possible impact on prices.

	Selling price €/m²	Year-on-year rate of change in median price/m²			Y-o-y. numl trans n	r.c. in per of actio is	Rent €/m²	Year-on-year rate of change in median rent/m ²				Y-o-y.r.c. in number of rental agreements			
	2024 Q2	2021	2022	2023	2024 Q1	2024 Q2	2024 Q1	2024 Q2	2024 Q2	2022	2023	2024 Q1	2024 Q2	2024 Q1	2024 Q2
Portugal	1,736	8.9	14.8	8.6	5.0	6.6	-4.1	10.4	8.1	8.3	10.6	10.7	11.1	3.5	6.9
Norte	1,512	8.2	13.4	8.8	6.8	8.8	0.1	14.2	7.0	7.7	11.7	11.1	12.5	4.4	8.8
Porto MA	1,957	10.5	17.7	11.6	6.9	8.6	-0.4	17.7	8.9	9.8	12.1	11.2	13.0	4.2	9.2
Porto	3,031	7.6	13.2	11.6	10.9	6.1			12.9	13.2	18.0	5.4	7.5	3.0	6.0
Centro	1,027	3.4	9.7	4.1	-0.2	7.9	2.1	13.9	5.6	7.4	13.9	8.7	9.8	4.4	11.0
Lisboa MA	2,801	8.1	14.2	11.6	4.3	1.4	-5.1	10.7	13.0	11.6	12.7	9.6	9.7	2.5	5.7
Lisboa	4,367	3.8	9.4	7.8	2.1	2.2			16.0	15.5	18.0	4.7	5.1	1.9	9.6
Alentejo	841	3.0	7.5	1.6	3.1	3.2	-7.2	14.5	5.4	9.9	10.9	11.2	16.1	2.7	-6.0
Algarve	2,735	9.1	18.7	11.4	2.2	5.9	- 25.2	-3.7	9.5	9.3	10.8	12.6	14.0	11.0	4.4
AAR	1,209	2.5	16.5	6.5	0.7	11.4	-1.3	12.4	4.8	9.0	9.1	9.5	-2.8	7.6	-13.9
MAR	2,080	10.1	11.2	19.8	20.6	8.6	- 22.5	5.2	8.3	16.7	14.7	8.9	27.6	-2.8	23.5
Memo item: Year-on- year rate of change in the price index		9.4	12.6	8.2	7	7.8									

 Table I.1.5
 Median price and rent per square metre, by region
 In euro and per cent

Source: Statistics Portugal. | Notes: Median price – median value of sales per m² of dwellings. Median rent – median value per m² of new rental agreements for dwellings. Developments in the median price per square metre may differ from developments captured by the house price index, which, among other methodological differences, controls for changes in the characteristics/quality of the property traded. Porto MA: Porto Metropolitan Area; Lisboa MA: Lisboa Metropolitan Area; AAR: Azores Autonomous Region; MAR: Madeira Autonomous Region.

The shortage of housing supply contributes to higher residential real estate prices. The current shortage of housing supply in Portugal is due to low construction activity and the completion of new dwellings during the years following the great financial crisis, which restricted housing stock growth. In the past eight years (between 2015 and 2023) less than half the number of new dwellings were built than in the preceding eight years (from 2007 to 2014). In a recent paper, Lourenço et al. (2024)³ conclude that in recent years housing supply in Portugal has been unable to counterbalance the upward pressure on prices associated with demand factors. Portugal is among the countries in Europe with the fewest building permits for new dwellings (Chart I.1.23). Between 2013 and 2022, 17 dwellings per thousand inhabitants were licensed in Portugal, compared to 60 in France and 34 in Germany. Countries with a greater number of new housing permits, such as Finland, Cyprus, France and Sweden, show more moderate house price growth.

³ Lourenço, R. F., Moura, A. S., and Rodrigues, P. M M. (2024). "Mercado de Habitação em Portugal e Espanha: Fundamentos, Sobrevalorização e Choques", *Banco de Portugal Economic Studies*, 10, No 4 (2024): 79-108.

Chart I.1.23 • House prices and new dwellings



Source: Confidencial Imobiliário.

After a sharp decline between 2007 and 2014, the number of household dwellings built per year has been slowly increasing. In the first half of 2024, the number of new concluded dwellings increased by 3%, while licensing fell by 8%, countering the growth path observed since 2016 (Chart I.1.24). The survey of obstacles to construction activity points to labour shortages, a lack of materials and the difficulty in obtaining building permits as the main constraints on construction activity. The share of firms that report difficulties in obtaining credit and dealing with interest rate levels has remained contained. Labour shortages and the lack of materials are reflected in high construction costs, which pass through to the price of new dwellings. Between December 2019 and December 2023 construction costs rose by 25% (cumulative inflation in this period was 15%), and over 2024 the cost of materials stabilised although labour costs continued to rise (8.5% year-on-year rate of change in September – Chart I.1.25).



Source: Statistics Portugal. | Note: Household dwellings in new buildings. Source: Statistics Portugal.

Supply shortages coexist with the small size of the rental market and a high number of secondary and vacant dwellings. In 2021, 922 thousand dwellings were rented, corresponding to 15% of the bousing stock. A significant number of countries have a share of more than 30% of

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to 15% of the housing stock. A significant number of countries have a share of more than 30% of the rental market. In addition, 31% of the Portuguese housing stock is not permanently occupied,

with 19% being secondary dwellings and 12% vacant dwellings. The share of vacant dwellings is among the highest in the euro area, compared to 14% in Spain, 8% in France, 7% in Ireland and 3% in the Netherlands (Housing Europe Observatory).

In 2022 the housing stock was comprised of 6 million dwellings, but part of this stock may not be in line with current demand characteristics. The less buoyant construction activity over the past decade has been reflected in ageing dwellings. Between 2011 and 2021 the number of dwellings in need of repair increased, with one-third of dwellings in 2021 located in buildings in need of repair. The rehabilitation of the housing stock, although intensified in recent years, is low (The housing stock - analysis and evolution: 2011-2021, Statistics Portugal). In turn, the increase in the number of households in recent years (9% between 2011 and 2023) has exceeded population growth (0.8%), putting additional pressure on demand. Households are currently smaller on average and therefore have different needs regarding housing characteristics.

In the recent past, the participation of non-resident buyers in the residential real estate market has increased. In the first half of 2024, non-resident residential real estate buyers accounted for 6% of the number of transactions and 10% of the amount, slightly lower than in recent years. The average purchase value of a dwelling for non-resident buyers (€345 thousand) remained above the average value for residents (€190 thousand). Among non-residents, there is also a difference in the average value of purchases between buyers with tax residence in the European Union (€280 thousand) and buyers from other countries (€408 thousand). In turn, the foreign population residing in Portugal has grown significantly, offsetting negative natural balances and contributing to the growth of total population, with an impact on house prices (Box 2). Demand from foreigners with higher purchasing power, and thus in higher segments, with possible contagion effects on other segments, has been boosted by a number of measures. As a first step, the most notable was the Golden Visa regime (Pereira dos Santos and Strohmaier, 2024), which granted residence rights to foreign buyers of a dwelling for €500 thousand or more. In turn, in recent years, tax benefits for non-habitual residents (in force since 2009) have been highlighted as a factor of attractiveness. According to the Court of Auditors' 'Opinion on the General State Account for 2023', the number of registered non-habitual residents reached 115 thousand in 2023.

Loans granted to foreign (resident and non-resident) citizens have increased recently. Between December 2022 and June 2024, the share of foreign citizens in the stock of housing loans increased from 6.9% to 8.2%. The increase in the foreign resident population and demand for housing by non-residents have contributed to this growth. On aggregate, this effect also seems to be driven by a change in the demand profile, particularly with higher demand for owner-occupied and permanent housing by working-age foreigners and lower age groups. In 2023 and the first half of 2024, 18% of new loans for house purchase (excluding renegotiations and credit transfers) were granted to foreign citizens.

There are ongoing signs of overvaluation in the Portuguese residential market. In the first half of 2024, statistical indicators remained above the values taken as a benchmark to signal potential episodes of overvaluation. The ratio of the house price index to household income was 24% above its long-term average while the price-to-rent ratio stood 28% above that average (Chart I.1.26). The real house price index is also above its long-term trend, at 15% (Chart I.1.27).





Source: OECD. | Notes: (a) Developments in rents reflect the index of actual rents paid by prime residence tenants (COICOP 04.1) included in the calculation of the Consumer Price Index. Overvaluation periods are considered to be those in which standard ratios exceed the 100 threshold. Latest observation: 2024 Q2.





Source: OECD (Banco de Portugal calculations). | Notes: Long-term trend obtained using the HP filter. Overvaluation periods are those in which the index is 10% above its long-term trend. Latest observation: 2024 Q2.

Likewise, two models based on macroeconomic determinants continue to point to some overvaluation in the market (Chart I.1.28). However, these model-based estimates should be interpreted with special care due to methodological limitations and consequent uncertainty associated with the results. Moreover, the estimates might not appropriately capture the participation of non-residents in the market and the role played by tourism in determining housing supply and demand. Both have been key factors to price developments over the past few years. The limited supply of new dwellings and the similarly limited stock of dwellings available in the market mitigate the impact on prices if demand wanes.





Sources: ECB and OECD (Banco de Portugal calculations). | Notes: Overvaluation and undervaluation periods correspond to situations in which at least two models out of three identify an imbalance in house prices. For further details on this methodology, see the Special Issue entitled "Housing price assessment methodologies applied to Portugal" in the December 2019 issue of the Banco de Portugal's *Financial Stability Report*. Latest observation: 2024 Q2.

Higher interest rates, following a period of tighter monetary policy that started in mid-2022, contributed to a reduction in the share of credit in total transactions in dwellings, reaching values close to those observed during the sovereign debt crisis. In the first half of 2024, new loans for house purchase (excluding transfers) accounted for 35% of the amount of transactions

in dwellings, below the average over the period 2018-23 (Chart 1.1.29). Since 2016, house prices have almost doubled, while the stock of loans for house purchase has grown moderately, by 5%.



Chart I.1.29 • Transactions in dwellings financed with recourse to credit | Per cent

Sources: Banco de Portugal and Statistics Portugal. | Notes: Information available up to December 2014 does not make it possible to isolate new loans associated with renegotiations. However, these loans are estimated to account for a residual share of the total volume of new business and therefore have no impact on the historical comparison presented. In turn, nor is it possible to isolate the impact of credit transfers between banks up to 2019. Latest observation: 2024 Q2.

Commercial real estate market

In the first half of 2024, the commercial real estate market remained resilient, in line with developments in 2023. The shortage of quality supply has been identified by market participants as the main factor supporting the increase in value of commercial real estate. According to JLL and Cushman & Wakefield, the retail segment remained attractive and still accounts for a significant share of investment in commercial real estate. In contrast to the euro area, the office segment in Portugal was particularly resilient. The size of the industrial and logistics segment in Portugal is significantly smaller compared to the largest euro area economies, but has grown the most in recent years, with a successive increase in the value of real estate assets. Finally, there is sustained growth and price resilience in the accommodation segment, linked to the momentum and favourable outlook for the tourism sector.

In the first half of 2024, the share of investors assessing commercial real estate as being expensive or very expensive decreased slightly from 2023.⁴ Less than one-third of investors considers that the commercial real estate market is in a contractionary phase. In some euro area countries, following a price correction in 2023, the share of investors assessing commercial real estate as being expensive or very expensive or that the market is contracting has also declined.

Investment in the commercial real estate market totalled €675 million in the first half of 2024, an 18% fall compared with the same period one year earlier. Investment in the Portuguese commercial real estate market continued to be dominated by non-resident investors, mostly institutional investors, which accounted for 70% of the total amount invested in the first half of the year (over 80% between 2014 and 2023). This renders the market more sensitive to international developments. The market is also characterised by a concentration of amounts invested in a relatively limited number of very high-value real estate assets.

⁴ Global Commercial Property Monitor, Royal Institution of Chartered Surveyors.

The evidence does not indicate an increase in risks and vulnerabilities in the commercial real estate market in Portugal, which remain low. The banking sector's exposure to commercial real estate is contained and diversified (Section 2.4 *Concentration*) and capital requirements for this type of credit are higher than those for credit secured by residential real estate. In addition, risks related to the activity of real estate investment funds are low (Section 1.3.5 *Non-banking financial sector*). These factors contribute to adverse developments in this market having a small impact on the stability of the financial system.

1.3.5 Non-banking financial sector

In June 2024, the financial assets of the Portuguese non-bank financial sector accounted for 87% of GDP, remaining stable from 2023, which compares with 370% in the euro area. These financial intermediaries include investment funds (11%), insurance corporations and pension funds (26%) and other intermediaries and financial auxiliaries (50%) (Chart I.1.30). The diversity of activities performed, differences in each country's financial architecture and context specificities, among other factors, result in rather heterogeneous size and composition of the non-bank financial sector across euro area countries. In Portugal, this sector's interlinkages with the other institutional sectors, financial and non-financial, are limited and have decreased over the last decade (Box 3).



Chart I.1.30 • Relative size of financial subsectors (in Portugal and the euro area) and their interlinkages (in Portugal)

Sources: ECB and Banco de Portugal. | Notes: Non-consolidated figures. The following were considered in the calculation of financial assets: deposits, debt securities, loans, shares and other investment fund units and listed shares.

The dispersion of assets and liabilities by non-resident counterparties limits contagion effects, should risks materialise in the non-bank financial sector. In Portugal, a large share of the non-bank financial sector's financial assets corresponds to liabilities of non-resident counterparties (40%), mainly in the case of collective investment undertakings (investment funds, insurance corporations and pension funds). As regards borrowing, the main counterparty sector also corresponds to non-resident entities (35%).

However, there are still strong interlinkages with other resident sectors. In particular, the non-bank financial sector's role in financing non-financial corporations, chiefly by captive financial

auxiliary institutions and lenders, is noteworthy, reflecting relations between economic groups. Likewise, households hold investment fund shares and claims on pension funds.

Investment funds

In the first half of 2024, subscriptions net of write-offs of investment fund shares were negative (-€64.3 million). Positive net subscriptions of securities investment funds (SIFs) did not offset the negative flows in real estate investment funds (REIFs). However, due to positive changes in value and volume of assets under management, the stock of shares/units increased by €985.8 million.

In particular, the value of non-financial (real estate) assets under management rose by 2.3%. These assets are exclusively concentrated in funds whose predominant investment strategy is real estate (REIFs), accounting for 86% of their portfolios in June 2024. In the first half of the year, new REIFs were also launched. SIFs, which hold 58% of investment funds' total assets, can be equity, bond or mixed funds, presenting a more diverse asset structure. In this period, SEIFs particular emphasis can be placed on the increase in the value of shares and other equity (Charts I.1.31 and I.1.32).



Chart I.1.31 • Investment fund assets, by investment strategy and instrument (June 2024)

Currency and deposits Debt securities Loans Equity Investment fund shares Other financial assets Non-financial assets Source: Banco de Portugal.



Chart I.1.32 • Investment fund assets – change in position, transactions and other changes in value and price in the first half of 2024 | Million of euros

Source: Banco de Portugal. 'OCVP' refers to other changes in value and price; including appreciation/depreciation, reclassifications and other changes in volume not explained by transactions.

In Portugal, in June 2024, closed-ended REIFs accounted for 69% of shares/units issued by REIFs, thereby mitigating liquidity risk. The likelihood of this risk materialising increases when the redemption frequency of shares/units permitted by the fund management policy exceeds the period required for portfolio assets to be sold without incurring significant loss. Due to the illiquidity of real estate assets this risk is higher in REIFs, especially in open-ended funds that typically offer daily liquidity to investors at market value. In turn, closed-ended REIFs are less sensitive to changes in market conditions, given that they issue a fixed number of shares/units that are not tradable continuously. Note also that REIF managers have set redemption fees relatively discouraging of a massive withdrawal of capital.

Maintaining a portfolio of liquid assets helps to mitigate liquidity risk. For Portugal, in June 2024 currency and deposits in the asset portfolio of investment funds accounted for 9.2% of the total, compared with 5.9% in the euro area. Also, in this context and over the same period, assets in the form of currency and deposits amounted to 11.0% of total assets of open-ended REIFs, exceeding the average for investment funds (9.2%).

High levels of leverage increase the materialisation of losses stemming, among other factors, from sales of assets made under unfavourable conditions to address the redemption of shares/units. Leverage can arise from financing the fund's activity through debt or, synthetically, by taking negative/passive positions in the derivatives market. In June 2024, loans and securities issued accounted for 4.5% of total assets in investment funds, while financial derivatives accounted for a negligible amount. In the euro area, the equivalent ratio, including derivatives and other liabilities, is 8%.

Half of the investment fund shares/units issued in Portugal are held by households, accounting for 3.8% of their total financial assets (Chart I.1.33). The materialisation of losses in this sector would therefore hit households' investments negatively. Investment in shares/units by households is concentrated in SIFs, of which they hold 62% of shares/units issued. The diverse investment strategy adopted by this type of fund, including in shares/units issued by non-resident investment funds, acts as a mitigating factor for loss materialisation. In addition, the maturity of debt held by SIFs remained at historically low levels during the first half of 2024, thus reducing the responsiveness of these portfolios' value to changes in market interest rates. In turn, shares/units issued by REIFs are mostly held by non-residents (37%) and financial sector entities (21%).



Chart I.1.33 • Holders of investment fund shares/units, by investment strategy (June 2024) | EUR billions

Source: Banco de Portugal. | Notes: Key: NFCs: non-financial corporations; GG: General government; Hous.: Households; RW: Rest of the world; FS: Financial sector.
Insurance corporations and pension funds

In the first half of 2024, the downward trend in life insurance was interrupted, and it rose by 19.5% from the first half of 2023. As the interest rate regime normalises, the life insurance business model has been realigned towards more traditional formats, leading to a significant increase in guaranteed-return products (31.9% compared with the first half of 2023), to the detriment of unit linked products, where risks rest with the policyholder (-1.5% y-o-y). As regards amounts paid, including redemptions, there was a year-on-year decline of 3.3%.

In the non-life segment, there was an overall increase in production of 11.1%, year on year, across core business segments, namely sickness (18.5%), motor vehicles (11.4%), work-related accidents (9.8%), and fire and other damage (6.1%). The delinquency rate rose by 1.2 p.p. compared with the first half of 2023, with heterogenous developments across core business segments.

The amount of contributions paid to pension funds grew by 48.6% (y-o-y. r. c.), driven by extraordinary contributions to a number of funds and increased subscriptions of funds that finance retirement plans. Benefits paid also increased compared to the same period one year earlier (5.4%).

Total financial assets of the insurance sector and pension funds rose by 1.1% in the first half of 2024. Financial assets of the insurance sector increased by 1.5%, while in the case of pension funds the increase was 0.1%. In terms of transactions, there was a reduction in deposits and an increase in long-term debt securities and investment fund shares/units issued by non-residents. Among changes in volume and price, the valuation of shares and other equity stood out.

The share of government bonds in the investment portfolios of insurance corporations and pension funds has decreased. Despite still accounting for the largest share of the assets of insurance corporations (34.4%), in the case of pension funds, investment fund shares/units are now the weightiest asset (38.9%) (Chart I.1.34).





Source: Insurance and Pension Funds Supervisory Authority.

The lower market interest rates will tend to lead to the partial unwinding of the favourable impacts of the increase in discount rates observed in 2023. Given that in these sectors the duration of liabilities is longer than that of assets in the portfolio, all else being equal, and for the same decrease in interest rates, the increase in liabilities exceeds the valuation of assets.

In terms of market risk, the predominance of sovereign securities in investment portfolios minimises any losses stemming from investors' risk-averse behaviour. Exposures to private debt and securities investment funds are the main channels of exposure to this risk.

According to the Portuguese Insurance and Pension Funds Supervisory Authority, the consolidated solvency levels of the insurance sector provide some room to absorb the impact of adverse developments, also associated with a liquidity risk profile that tends to be contained. This stems from the high levels of asset liquidity in investment portfolios, the limited use of financial derivative instruments (and underlying margin exposure), and developments in the life insurance business model in a higher interest rate environment than before 2022. In the case of non-life insurance, there is also the use of risk management and transfer practices, such as reinsurance.

1.3.6 Other risks and challenges for financial stability

Cybersecurity threats remain a high risk to financial stability worldwide, as they can disrupt critical operations, compromise sensitive data and undermine public confidence. The complex geopolitical situation, the continuous digital transition of the sector, as well as successive technological innovations, notably Artificial Intelligence, help to exacerbate the systemic and disruptive potential of a possible cyber incident. Authorities such as the IMF or the European Union Agency for Cybersecurity (ENISA) have reported an increasing number of incidents and associated losses. In Portugal, the National Cybersecurity Centre recorded about two thousand incidents in 2023, of which 10% affected domestic banking, nearly three times more than those experienced four years earlier. Recent update flaws in widely used software systems and attacks on public digital services illustrate the disruptive potential and the need for a proactive stance on institutions' digital operational resilience.

In terms of the domestic banking system, the operational cyber resilience test conducted by the Banco de Portugal in 2024 improved the understanding and ability to assess this sector's cyber resilience (Box 4). This exercise was key in fostering awareness of the systemic potential of cyber risk, by effectively assessing how institutions are impacted by a severe incident and their ability to respond to and recover from it. It also helped to pinpoint individual and systemwide vulnerabilities, and actions to mitigate them. In addition, the Banking Industry Forum on Cybersecurity and Operational Resilience (FICRO in the Portuguese acronym) contributes to the operational resilience of the banking sector, in particular with two working groups operating under its framework: TIBER-PT, which conducts advanced cybersecurity tests, and CIISI-PT, which promotes information sharing.

Across the financial sector, regulatory developments and cooperation initiatives with supervision authorities have also contributed to more robust cyber resilience. The ongoing transposition of the Directive on measures for a high common level of cybersecurity across the Union (NIS2) into national law, as well as efforts undertaken by institutions to comply with the Digital Operational Resilience Act (DORA), directly applicable from 17 January 2025, contribute to a system more prepared and robust against cyber risk.

Climate change is also becoming increasingly important among the current risks and challenges facing the financial system. Institutions must consolidate their efforts, resources and skills to ensure the organic integration of climate-related and environmental factors into the different dimensions of their activity, enabling them to assess and mitigate their short, medium and long-term impacts on the various "traditional" prudential risks (e.g. credit, market, liquidity).

Developments in the prudential regulatory framework applicable to credit institutions are crucial to that indispensable change (e.g. implementation of sustainability disclosure standards for SMEs), with recent changes being implemented through the CRD6 and CRR3, published on

19 June 2024. In this regulatory framework, and aiming at sound risk management, institutions must test their resilience to the long-term impacts of ESG factors, starting with climate factors, applying credible scenarios developed by international organisations. The EBA is developing guidelines for credit institutions as part of its climate stress scenario analysis, as well as the content of (transition) plans under the CRD and indicators and methodologies for identifying, managing and mitigating climate-related financial risks. These guidelines are expected to be published over the coming years.

It has become increasingly important to identify areas where the environmental "credentials" of the institution and/or of the products marketed can be challenged and to adopt transparent, consistent practices based on sound sustainability and regulatory compliance policies, taking into account the marketing of retail financial products with sustainable characteristics and the growing provision of sustainability information in line with regulatory developments. Likewise, reputational and litigation risks associated with alleged greenwashing practices, which are particularly evident in asset management, must also be incorporated by institutions into their risk management policies and procedures. These risks can become a material factor, with negative consequences not only for institutions and for financial stability, but also for their customers. This topic was the discussed in the EBA Final Report (EBA/REP/2024/09) published in June 2024 at the request of the European Commission to the three ESAs.

These dimensions are all the more important amid insufficient insurance loss coverage stemming from the materialisation of climate risks (climate insurance protection gap). In a context where natural disasters tend to be more frequent and intense, this gap hampers the recovery in economic activity and increases losses in the value of real estate of households and firms provided as collateral in credit operations and can thus have material impacts on credit institutions and financial stability.

Also in terms of climate transition and given the need for substantial private and public investment, challenges related to the adequacy of the institutional architecture of the European Union remain relevant. In this context, note that the Eurogroup's Action Plan was approved in May 2024. The Plan aims to provide a decisive push towards the materialisation of a Capital Markets Union (CMU). In October, the Eurogroup continued to monitor the priority areas for policy action and concrete initiatives to pursue this plan, including on how capital markets could be developed to support small and medium-sized enterprises in the EU, as well as on the key role that the European Investment Bank (EIB) could play towards this objective. The conclusions of the "Draghi Report", presented in September 2024, which will certainly feed into the European Commission's work on a new plan for Europe's sustainable prosperity and competitiveness, bring to the fore the crucial role of the CMU in promoting sustainable economic growth and the financial stability of the European Union. The report also states that completing the Banking Union is complementary to progressing towards the Capital Markets Union and is key to enabling banks with cross-border operations to be "country blind" in terms of risk.

Turning to the **prevention of money laundering and terrorist financing (ML/TF)**, the Banco de Portugal has finalised its Report on Public Consultation No 10/2023 and publication of Instruction No 8/2024 of 5 June 2015, which sets out the items of information to be reported annually to the Banco de Portugal by the financial entities subject to its AML/CFT supervision. In terms of on-site supervision, a cycle of inspections was launched to assess the ML/TF prevention control environment of seven payment institutions. In turn, as regards off-site supervision, work continued on the three enhanced supervisory actions to continuously monitor a limited set of supervisory measures issued on highly critical AML/CTF topics. Also noteworthy was the work conducted by the workstream specifically created under the aegis of the Banco de Portugal's Forum on the Prevention of Money Laundering and Terrorist Financing ('ML/TF Forum') to draw up a document of "Best Practice on ML/TF control mechanisms in the context of digital fraud", to strengthen the empowerment of supervised entities in this matter. Finally, also worth mentioning is the preparation of the second meeting of the ML/TF Forum in December 2024.

Macroprudential policy 1.4

Developments in the financial cycle are currently characterised by the lack of signs of a buildup or materialisation of cyclical systemic risk, with the risk environment remaining neutral. In the first quarter of the year, there was a slight decline in the domestic cyclical systemic risk indicator (Chart I.1.35), as a result of a narrowing of the current account deficit, a contraction in credit granted to non-financial corporations (NFCs) and households, and GDP growth. Conversely, house price growth continues to exert pressure to increase cyclical systemic risk, although the magnitude of this contribution has declined compared with previous years.

The potential impact of extreme events arising from the materialisation of cyclical risk on economic growth eased compared with the same period a year earlier. According to the Growth-at-Risk (GaR) model, the materialisation of extreme events (with a probability of up to 10%) would imply a year-on-year rate of change in GDP of less than 0.06% (Chart I.1.36), resulting in a stagnation in economic activity growth.





Sources: ECB and BIS (Banco de Portugal calculations). | Notes: The domestic systemic risk indicator (d-SRI), developed by Lang et al. (2019), is an aggregate indicator aimed at identifying the accumulation of cyclical imbalances created in the domestic non-financial private sector. For a detailed description of the d-SRI for Portugal, see Financial Stability Report, lune 2019.





Sources: ECB, Banco de Portugal and Statistics Portugal (Banco de Portugal calculations). | Notes: Growth-at-Risk (GaR) is the estimate of the 10th percentile of the distribution of the year-on-year rate of change in GDP for Portugal over a one-year projection horizon, based on information available from the first quarter of 1991 to the quarter of the projection. The template includes GDP, CLIFS and the d-SRI as explanatory variables. Contributions are presented in percentage points.

The COVID-19 pandemic illustrated the importance for macroprudential authorities to ensure that the financial system has sufficient resilience to face unexpected losses. During this period, several European macroprudential authorities released buffers, in part or in full, to support the flow of credit to the economy. Aiming to strengthen resilience early on in the financial cycle following the COVID-19 pandemic, 15 European Economic Area (EEA) countries implemented a positive countercyclical capital buffer (CCyB) rate in the phase of the financial cycle where risks are considered neutral.⁵

Considering the current economic context and the macroeconomic scenario, as well as the current levels of profitability and capitalisation of the banking sector, the Banco de Portugal proposes to apply a new CCyB rate of 0.75% at the current phase when cyclical systemic risk is at a level considered neutral (i.e. not in a phase of excessive accumulation or materialisation of

⁵ Czechia, Denmark, Estonia, Ireland, Greece, Spain, Cyprus, Latvia, Lithuania, Hungary, Netherlands, Norway, Poland, Slovenia and Sweden.

cyclical systemic risk). Should cyclical systemic risk materialise in the future, the Banco de Portugal will release the countercyclical capital buffer, in full or in part, depending on the materiality of the shock. In the same vein, the buffer rate may increase in the future if justified by the accumulation of risks (Special issue "The countercyclical buffer in a neutral risk environment in Portugal").

The 4% sectoral systemic risk buffer (sSyRB) has been in place since 1 October 2024. It applies to the portfolio of loans to households secured by residential real estate for banks using the internal ratings-based (IRB) approach. It aims to increase the resilience of credit institutions in view of a possible materialisation of systemic risk in the residential real estate market in Portugal, to which the banking system is materially exposed.

The increase in releasable capital buffers (CCyB buffer and (s)SyRB buffer) at the start of the financial cycle will allow institutions to better absorb losses resulting from unexpected systemic shocks, without significantly constraining lending, and mitigate potential negative effects on economic activity. By introducing a CCyB rate of 0.75%, Portugal ranks close to a number of euro area countries as regards releasable capital buffers (Chart I.1.37). In terms of impact on the financial system, the sSyRB accounts for approximately 0.26% of the banking system's total risk-weighted assets (RWAs), taking as a reference June 2024.⁶



Chart I.1.37 • Total releasable buffers for a set of euro area countries | Per cent

Sources: Banco de Portugal (based on information collected from other macroprudential authorities) and European Systemic Risk Board (ESRB). | Notes: Including all announced buffers that have not yet entered into force. For Portugal, the CCyB is planned to enter into force on 1 January 2026 and, for Spain, on 1 January 2026. As for Latvia, the CCyB rate of 0.5% will apply from 18 December 2024 and then increase to 1% from 18 June 2025 (for calculation purposes, the 1% rate was considered). For Greece, the CCyB rate of 0.25% will apply from 1 October 2025 and should then increase until it reaches its target rate of 0.5%.

The Banco de Portugal continues to foster the adoption of prudent credit standards. The Recommendation of the Banco de Portugal on new credit agreements for consumers (the "Recommendation") establishes, among other things, an upper limit of 50% for borrowers' debt-service-to-income ratio, considering a future increase in interest rates, as well as a an upper limit of 90% for the ratio of the amount of the loan for the purchase of own and permanent residence to the minimum between the property's purchase price and appraisal value (loan-to-value – LTV). These limits aim to promote the adoption of prudent lending standards, thus contributing to

⁶ The reference date used is June 2024 for all credit institutions to which this sectoral buffer applies, with the exception of one, for which data are available for the March 2024 period.

strengthening the resilience of borrowers and institutions against risks arising, for example, from possible increases in interest rates, falling real estate prices or negative changes in income.

In the first half of 2024, institutions continued to broadly comply with the guidelines set out in the Recommendation. The share of credit granted to high-risk borrowers remained at very low levels. Of the total amount associated with new loans for house purchase and consumer credit, 92% was granted to borrowers with a DSTI ratio of 50% or less (Chart I.1.38). All credit granted during this period recorded an LTV of 90% or less, with the LTV for 66% of new agreements being less than or equal to 80% (Chart I.1.39). These figures may have been affected by borrowers aged 35 or less postponing loan agreements until the entry into force of the Municipal Real Estate Transfer tax and stamp duty exemptions, according to information reported by credit institutions (Chart I.1.40).

Chart I.1.38 • Distribution of new credit for house purchase and new consumer credit by DSTI ratio | Per cent



Source: Banco de Portugal. | Note: Based on information reported by a sample of 13 institutions that accounted for around 91% of the household credit market in 2023. The DSTI ratio was calculated assuming shocks on the interest rate and on the borrower's income, as provided for in the Recommendation.

Chart I.1.40 • Age distribution of mortgage credit for own and permanent residence | Per cent



Chart I.1.39 • Distribution of new credit for house purchase by LTV ratio | Per cent



Source: Banco de Portugal. | Note: Information reported by a sample of nine institutions that accounted for around 97% of the housing credit market in 2023.

Chart I.1.41 • Distribution of the actual DSTI ratio for new loans to households | Per cent



Source: Banco de Portugal. | Note: The lower and upper ends correspond to the $10^{\rm th}$ percentile and the $90^{\rm th}$ percentile, while the bottom and top of the boxes correspond to the $25^{\rm th}$ and $75^{\rm th}$ percentiles.

The average actual DSTI (calculated without the interest rate shock) decreased slightly to 26.3%,

decrease may be related to the current low number of variable rate loans on new agreements, which account for 15% of the total (compared to 80% with a mixed rate and 5% with a fixed rate) in the first half of 2024, as opposed to 90% of the agreements concluded in 2022, in the period before the interest rate rise.

The publication of Decree-Law No 44/2024 of 10 July 2024 laid down the conditions under which the State may provide personal guarantees to credit institutions, with a view to enabling loans for the purchase of own and permanent residence to young people aged 35 or less up to the full transaction value. Housing loans granted by institutions above 90% of the transaction value interfere with the limit set in the Recommendation (and will require close monitoring by the Banco de Portugal, which will act, where necessary, to mitigate the impact of excessive risk accumulation undermining financial stability).

The government guarantee may contribute to increasing household debt and credit risk in a scenario where the borrower's income and factors influencing market interest rates remain constant. Moreover, given the limited and unresponsive supply of the Portuguese housing market, a significant increase in demand may lead to a rise in house prices. In this context, the Banco de Portugal informed the institutions (Circular Letter No CC/2024/0000032, published on 15 October 2024) on how it will monitor housing loans granted using the government guarantee and on its expectations concerning the rationale behind deviations from the Recommendation and on prudential aspects.

The Recommendation and the limits set therein remain unchanged and are expected to continue to be followed by the institutions. Thus, in the light of the 'comply or explain' procedure, institutions exceeding the limits (e.g. LTV, DSTI, maximum maturity) or that do not comply with the regular payment requirement laid down therein should justify it from a prudential and risk assessment perspective. This justification always applies to each of the agreements where those limits are not respected.

The Banco de Portugal monitors the materiality of these loans and their risk profile both at the time the loan was granted and over time. It therefore assesses the extent to which loans covered by the guarantee translate into an increased risk for the institutions' portfolios and the banking system as a whole. If, in the context of this assessment, there is a significant increase in risk in credit institutions' portfolios, the Banco de Portugal may act at the macroprudential level, using the instruments it has at its disposal to mitigate or reduce the risks identified.

Finally, it is important to mention the reflection made at international level on the challenges to macroprudential policy arising from cyber risks. These challenges stem from the fact that these risks are systemic, i.e. they can spread quickly across the financial system and the wider economy. Thus, the European Systemic Risk Board (ESRB) and the European Central Bank (ECB) have been involved in establishing an operational framework to mitigate this type of risk.⁷ Box 4 analyses the results of the stress test conducted by the Banco de Portugal to assess the resilience and responsiveness of the banking system to a major cyber incident.

2 Banking system

The positive developments that have been consolidated in recent years in the Portuguese banking system reflect the deleveraging process of the sector over the past fifteen years as well as recent favourable cyclical factors such as the rapid rise in interest rates in 2022 and 2023 and growth of the Portuguese economy above its potential. In the first half of 2024, banks continued to operate in an environment characterised by robust liquidity, stable asset credit quality and increasing levels of profitability with a positive impact on capital ratios.

Return on assets continued to rise to historically high levels, standing at 1.47% in June 2024. These developments continued to benefit from net interest income growth, despite the slowdown owing to the significant rise in interest rates on household deposits. In the coming half-years, net interest income is expected to decline, given the reduction in interbank market interest rates since the end of last year and the prevalence of variable-rate loans. However, net interest income is expected to remain above the levels observed in the period of very low interest rates. The higher share of loans for house purchase with fixed or mixed interest rates granted in recent years and the reliance on hedging interest rate risk through financial derivatives will help mitigate the impact on net interest income. The increase in the return on assets was also supported by the reduction in credit impairments, standing at record lows, reflecting benign labour market prospects and expectations of further interest rate rate reductions.

The total assets of the Portuguese banking system increased by 4.4% in the first half of 2024, mainly due to an expansion in the debt securities portfolio. This portfolio mainly consists of government debt (68%), a component that has increased significantly in recent years and accounts for 17% of total assets (+1.5 p.p.) compared with December 2023). Recent developments in this portfolio reflect the sector's robust liquidity position, which translates into an increasingly lower loan-to-deposit ratio (75%), supported by an increase in customer deposits and contained developments in loans for house purchase and corporate loans. Banks also continue to be significantly exposed to real estate (34%), mostly in the form of loans to households secured by real estate. The sectoral systemic risk buffer introduced by Banco de Portugal and the low share of loans to households secured by real estate with a loan-to-value (LTV) ratio of more than 80% contribute to banks' resilience against potential adverse developments in the residential real estate market.

Indicators on asset credit quality remained stable, with new defaults remaining contained. The gross non-performing loans (NPLs) ratio decreased marginally to 2.6% in June 2024. The ratio of stage 2 loans decreased to 10% (-0.7 p.p. than in December 2023), with the decline being broadly based across the main segments. These developments have benefited from a benign macroeconomic environment and, in terms of loans for house purchase, from the government-introduced measures to support debtors. The ongoing transition to lower interest rates should contribute to reducing borrowers' credit risk, with some stage 2 loans moving back to stage 1.

Total own funds of the Portuguese banking sector continued to increase through organic generation of capital. The sustained increase in the sector's solvency levels has allowed them to converge towards the euro area average, with Common Equity Tier 1 capital more prominent in Portugal (CET1).

The 75 basis point (b.p.) decrease in ECB interest rates so far and the expectation of further reductions in the near future reduce the degree of monetary policy tightening and alter the banks' lending and borrowing environment. Banks should prioritise taking advantage of the positive

phase of the business cycle to prudently build up impairments and conserve capital, so as to safeguard their resilience and funding to the economy in the face of potential adverse shocks.

Considering the current economic context and the macroeconomic scenario, as well as the current levels of profitability and capitalisation of the banking sector, the Banco de Portugal implemented a sectoral systemic risk buffer in October 2024 and proposed to apply a CCyB rate of 0.75% at the current stage where cyclical systemic risk is considered neutral (i.e. it is not in a phase of excessive accumulation or materialisation of cyclical systemic risk). If cyclical systemic risk materialises, the Banco de Portugal will release the countercyclical capital buffer in full or in part, depending on the materiality of the shock (see the Special Issue "The countercyclical capital buffer in a risk-neutral environment in Portugal").

2.1 Profitability

In the first half of 2024, return on assets (ROA) increased by 0.31 p.p. compared with the same period in 2023, standing at 1.47%. The dispersion among institutions in the banking system remained broadly unchanged, with increases in the 10th and 90th percentiles of this indicator's distribution (Table I.2.1).

Table I.2.1 Profitability Contributions to change in ROA

	2021	2022	2023	2023 H1	2024 H1
ROA	0.46	0.69	1.28	1.16	1.47
10 th percentile	0.03	0.14	0.85	0.69	0.95
90 th percentile	0.77	1.21	1.88	1.70	1.98
Contributions to y-o-y change in ROA					
Net interest income	-0.01	0.32	1.04	1.01	0.31
Net fees and commissions	0.05	0.05	-0.01	0.00	0.02
Income from financial operations	0.13	-0.05	0.04	-0.00	-0.10
Operating costs	0.01	-0.12	-0.04	-0.11	-0.08
Net provisions and impairments	0.32	0.13	-0.24	-0.34	0.26
o.w. Credit impairments	0.40	0.02	-0.09	-0.18	0.20
Taxes on profit for the year	-0.09	-0.04	-0.24	-0.15	-0.09
Other results	0.06	-0.03	-0.00	0.00	0.03
Recurring operating income	0.05	0.25	0.98	0.90	0.25
Average assets	0.00	-0.02	0.03	0.02	-0.04

Source: Banco de Portugal. | Notes: 'Return on assets' (ROA) is defined as the net result as a percentage of average assets. 'Other results' includes other recurring operating income, negative goodwill, appropriation of income from subsidiaries, joint ventures and associates, income from non-current assets held for sale and not qualifying as discontinued operations, increase or decrease in the fund for general banking risks, results from contractual changes/renegotiations of cash flows, profit or loss of discontinued operations before tax. 'Recurring operating income' corresponds to net interest income plus net fees and commissions minus operating costs.

Developments in ROA reflected the positive contribution of net interest income (0.31 p.p.) and of net provisions and impairments (0.26 p.p.). The net interest income contribution was lower than in the first half of 2023. This contrasts with the contribution made by net provisions and impairments, turning from negative to positive through a reduction in credit impairments. Conversely, income from financial operations (-0.10 p.p.) and operating costs (-0.08 p.p.) made a negative contribution to change in ROA. The contribution from income from financial operations is largely explained by the base effect of an institution's recognition of gains on the sale of a subsidiary in the first half of 2023. The contributions of net interest income and operating costs were reflected in recurring operating income, with net fees and commissions having a residual contribution (0.02 p.p.). This aggregate incorporates the typically more stable components of income and contributed 0.25 p.p. to the change in ROA, in line with that recorded in 2022.

The more moderate growth in net interest income as a percentage of average assets reflected the significant rise in interest paid, mainly as a result of higher interest rates on household deposits. In the first half of 2024, the interest income component continued to increase, underpinned by developments in interest on loans to customers (Table I.2.2) that benefited from the interbank market interest rate pass-through observed in 2023. The debt securities portfolio, in particular securities issued by general government, also made positive interest income contributions. Regarding interest paid, the main contribution was associated with households' deposits, also reflecting their weight in the financing of the banking system, and to a lesser extent, the contributions of non-financial corporations' (NFCs) deposits and the contributions of securities issued.

	2021	2022	2023	2023 H1	2024 H1
Net interest income	1.42	1.65	2.80	2.58	2.78
Debt securities	0.27	0.35	0.61	0.55	0.75
o.w. General government	0.15	0.22	0.33	0.31	0.43
o.w. Non-financial corporations	0.08	0.08	0.16	0.14	0.18
Loans	1.29	1.58	2.97	2.69	3.21
o.w. Non-financial corporations	0.53	0.60	1.07	0.98	1.14
o.w. Households	0.67	0.83	1.62	1.45	1.73
Other assets	0.00	0.03	0.27	0.24	0.32
Deposits	-0.03	-0.17	-0.81	-0.63	-1.27
o.w. Non-financial corporations	-0.02	-0.06	-0.12	-0.10	-0.19
o.w. Households	-0.05	-0.09	-0.36	-0.23	-0.74
Debt securities issued	-0.07	-0.10	-0.17	-0.15	-0.22
Other liabilities	-0.04	-0.03	-0.05	-0.05	-0.05

Table I.2.2 • Net interest income | As a percentage of average assets

Source: Banco de Portugal.

The difference between interest rates on loans and deposits agreements with the nonfinancial private sector (NFPS) narrowed for both stock and new business in the first half of 2024 (Chart I.2.1). The decrease in new business reflected an increase in the average interest rate on new deposits that surpassed the increase in the average interest rate on new loans. Developments in the interest rate on new deposit operations resulted in an increase in the average interest rate on stocks, which was accompanied by a slight decrease in the average interest rate on the stock of loans to the NFPS. Despite the decrease observed in this period, the difference between the interest rates on stocks of loans and time deposits remained higher in Portugal than in the euro area (by 2.6 p.p.).

The cost-to-core-income ratio narrowed, despite higher operating costs. This ratio decreased by 1.48 p.p. year on year to 39.9% due to the aforementioned increase in net interest income (Chart I.2.2). The increase in operating costs originated from staff costs and, to a lesser extent, from other administrative expenses. The weight of these items remained, however, relatively stable, standing at 0.78% (a change of 0.01 p.p.) and 0.47% (a change of 0.01 p.p.) in average assets respectively.

The cost of risk decreased by 0.34 p.p. to 0.12%, reaching historically low levels (Chart I.2.2). These developments largely reflected a decline in the flow of credit impairments, which may indicate an improvement in banks' perception of their customers' credit risk, reflecting a benign outlook for economic activity and the labour market and expectations of further reductions in market interest rates.

Chart I.2.1 • Rate differentials between NFPS loans and deposits | Percentage points



Chart I.2.2 • Cost-to-core-income and loan loss charge | Per cent



Sources: ECB and Banco de Portugal. | Notes: The non-financial private sector includes NFCs and households. The series refers to the reporting on an individual basis of the other monetary financial institutions resident in Portugal. New business includes average annual rates weighted by their respective amounts. (a) Difference between the interest rates on loans and on time deposits.



In the first half of 2024, the Portuguese banking system's ROA was 0.76 p.p. higher than the euro area average (Table I.2.3), with particular emphasis on the higher contribution of net interest income and a sharper decrease in provisions and impairments. The difference in developments in net interest income between Portugal and the euro area mainly reflects a higher increase, in Portugal, in the difference between the interest rates applied to credit granted and to deposits in the NFPS (Chart I.2.1). Variable interest rates associated with most loans for house purchase in Portugal rose more sharply and exceeded interest rates applied in the euro area, where variable rate financing is less significant. Deposit interest rates in the euro area have increased more strongly than in Portugal.

2024 111	% of avera	age assets	Contribution t	ο Δ ROA (y-o-y)
2024 HT	РТ	EA	PT	EA
Net interest income	2.78	1.43	0.31	0.12
Net fees and commissions	0.73	0.68	0.02	0.05
Income from financial operations	0.05	0.18	-0.10	0.00
Operating costs	-1.40	-1.27	-0.08	-0.09
Net provisions and impairments	-0.28	-0.18	0.26	-0.02
Taxes on profit for the year	-0.54	-0.23	-0.09	-0.02
Other results	0.12	0.11	0.03	0.02
ROA	1.47	0.71	0.31	0.03
Memorandum items: Average assets	-	-	-0.04	-0.03

Table 1.2.3 Profitability – International comparison | As a percentage of average assets

Sources: ECB and Banco de Portugal. | Notes: Annualised figures. PT corresponds to Portugal and EA to the euro area.

Amid the declining interest rates, the profitability of the Portuguese banking system is expected to decrease, reflecting a lower contribution from net interest income. However, this contribution should remain relevant. Amid an easing of the monetary policy framework, the reduction in interbank market interest rates should contribute to a gradual decline in the difference between lending and deposit interest rates, as a result of a distinct speed of pass-through to these components. In addition, the spread between those interest rates is expected to remain above the levels observed prior to 2022, while also mitigating the negative impact on net interest income. In addition, the adjustment that banks have made since the 2008 financial crisis, by increasing the share of customer deposits in their funding and reducing liabilities represented by securities, contributes to a lower cost of funding, resulting in higher net interest income. In the special issue "Interest rate risk in the banking book", the parallel interest rate reduction exercise (200 b.p.) signals a reduction in net interest income in most banks in the Portuguese banking system, although it remained above the levels observed in the period of very low interest rates for the total banking system. Hedging interest rate risk through financial derivatives, in the current context where there is a higher share of loans for house purchase with fixed or mixed interest rates, may also contribute to mitigating the impact of lower interest rates on net interest income.

2.2 Credit standards

Loans to households

In June 2024, the adjusted annual rate of change in the stock of bank loans to households was 1.2%, having been on an increasing trend since the beginning of the year (Chart I.2.3). This development was driven by the continued growth in the stock of consumer loans (6.7% in June 2024), as well as the recovery in the stock of loans for house purchase (0.1% in June 2024). Alongside the recovery in new loans for house purchase, developments in the stock of loans continued to reflect a volume of early repayments above that observed before the interest rates hikes began.





Source: Banco de Portugal. | Notes: Annual rates of change are calculated on the basis of end-of-month stock changes in bank loans, adjusted for changes not defined as transactions, namely, reclassifications, write-offs and exchange rate and price revaluations. ARCs are also adjusted for securitisation and loan transfers. Latest observation: June 2024.

The half-yearly flow of new loans for house purchase (excluding renegotiations) has recorded year-on-year increases since December 2023 (Chart I.2.4). The growth trend in recent months in new loans for house purchase was observed in most other European countries. Portugal recorded the second highest year-on-year rate of change in the first half of 2024 (Chart I.2.5). Credit transfers between institutions, however, continued to represent a significant share in total new business. Between January and June 2024, transfers totalled €2.1 billion, up 54% from the same period a year earlier, albeit showing a downward trend since March 2024. In June 2024, these accounted for 23% of new loans for house purchase (excluding renegotiations) and 37% of early repayments in full. In the first half of the year, excluding these operations, new loans for house purchase grew by 20% year on year.



Source: Banco de Portugal. | Notes: The annual rates of change in Chart I.2.5 are not adjusted for securitisation and loan transfers, owing to unavailability of information for euro area countries. These operations have been residual in Portugal recently, so the rate of change and the adjusted rate of change are very close. Latest observation: June 2024.

Early repayments of loans for house purchase totalled €6.1 billion in the first half of 2024, 8.8% more than in same period a year earlier, and accounted for 0.9% of the stock of loans for house purchase in June 2024. After losing some relevance in 2023, early repayments in full recovered in comparison with partial repayments over the past year, thereby increasing their share to 88% of total repayments in June 2024, 7 p.p. higher than in June 2023. Partial early repayment reduces borrowers' debt level and service and, consequently, the impact that future changes in interest rates may have on debt service, as well as life insurance costs, helping to reduce households' financial vulnerability. Early repayments in full, in addition to situations where borrowers simply settle the debt without any new associated credit, also include situations of residential real estate exchange and the transfer of loans to other institutions. In the latter, the positive impact on household vulnerability will be more limited.

Developments in interest rates on new loans for house purchase reflected the overall reduction in Euribor rates. In June 2024, the average interest rate (annualised agreed rate – AAR) on new loans for house purchase fell by 0.4 p.p. compared with the same month a year earlier, standing at 3.7%, which was similar to the euro area average. On the other hand, the average annual percentage rate of charge (APRC) which includes other charges such as loan-related fees, insurances required to obtain the credit or taxes associated with the mortgage registration, stood in June 2024 at 6.3%, the same as in June 2023, 2.4 p.p. above the euro area average.

The share of new loans for house purchase with a fixed or mixed interest rate in the total amount of new loans has increased slightly since the beginning of 2024, after the significant increase observed in 2023. In January 2024, the amount of these operations represented around 71% of the total amount of loans for house purchase granted in that month, while in June 2024 that proportion reached 77% (Chart I.2.6). The increase in the share of these operations since the second half of 2023, which include credit transfers, has been reflected in an increase in the share of fixed or mixed rate loans in the total stock of loans for house purchase, from 13% in June 2023 to 30% in June 2024 (Chart I.2.6).



Chart I.2.6 • Monthly flow of new loans and stock of housing loans by type of interest rate | Per cent

Source: Banco de Portugal. | Notes: The 'mixed rate' classification is based on the date the agreement is signed, from which a fixed rate period is in force that differs from one agreement to another. The share of the mixed rate stock may include agreements that are already within the variable rate period or close to the end of the fixed rate period.

According to the Bank Lending Survey (BLS), credit standards for loans for house purchase to households remained broadly unchanged throughout the first half of the year, while consumer credit standards became tighter (Chart I.2.7). Institutions also reported a slight decrease in demand for loans for house purchase compared with the previous half-year. In the euro area, banks reported a slight easing of credit standards throughout the first half of 2024 for housing and tighter standards for consumption. In the October 2024 BLS, regarding the third quarter of 2024, Portuguese banks reported a slight increase in demand for loans for house purchase – which is expected to continue into the last quarter of 2024, due to expectations of lower key interest rates and the government's recent measures to support house purchase by young people –, as well as a continued tightening of their credit standards.

Comparing the first six months of 2024 with the same period a year earlier, the amount of new consumer loans increased by around 9%, which contributed to increasing the adjusted annual rate of change in the stock of consumer credit since the beginning of the year, reaching 6.7% in June 2024 (Chart 1.2.3). The average interest rate and APRC on consumer loans increased by 0.8 p.p. and 1.1 p.p. respectively in September 2024, compared with the same month a year earlier, standing at 8.8% and 11.2% respectively, compared to 7.7% and 8.5% in the euro area. The spread has increased relative to the corresponding rates on loans for house purchase, which has been ongoing since November 2023, confirming the increasing tightening of consumer credit standards. In contrast to loans for house purchase, most of these agreements have a fixed interest rate. As at June 2024, variable interest rate agreements accounted for only 8.0% of consumer credit stock.

Chart I.2.7 • Supply and demand for housing loans | Diffusion index



Sources: ECB and Banco de Portugal. | Notes: Credit supply corresponds to credit standards reported by banks. An increase (decrease) in the diffusion index means an increase (decrease) in restrictiveness by institutions and an increase (decrease) in demand in the credit segment. The last observation for each variable corresponds to the institutions' expectations for the fourth quarter of 2024 (dashed part).

Lending to non-financial corporations

In the first half of 2024, the annual rate of change in the stock of loans to firms remained negative, albeit gradually increasing. The annual rate of change in the stock of loans granted by resident banks was -0.5% in June 2024, compared with a change of -1.1% at the end of 2023. There was some heterogeneity across sectors: some still recorded negative but more moderate rates, such as industry (-7.3% in June 2024) and accommodation and food services (-2.6%). The construction, real estate activities and professional and administrative activities continued to grow (1.9%, 3.8% and 5.4% respectively). By firm size, loans continued to decline for small and medium-sized enterprises, while micro-enterprises continued to grow (5.4%). In turn, loans to large enterprises recovered slightly (0.6%) (Table 1.2.4).

Table I.2.4 Annual rate of change in loans to NFCs | Per cent

	Stock % Jun 24	Dec 19	Dec 20	Dec 21	Dec 22	Jun 23	Dec 23	Jun 24
Euro area		2.6	6.5	3.8	5.5	2.5	-0.1	0.2
Portugal		0.4	9.7	4.2	0.6	-2.6	-1.1	-0.5
Micro-enterprises	30	5.4	13.6	7.3	5.7	2.3	4.0	5.4
Small enterprises	25	-1.0	14.5	5.1	-2.2	-3.8	-3.7	-3.9
Medium-sized enterprises	24	-1.0	7.1	2.0	-1.9	-4.8	-5.7	-6.0
Large enterprises	19	-4.2	3.4	2.6	1.7	-5.2	-1.9	0.6
Industry	19	0.2	11.2	10.1	2.0	-6.1	-9.1	-7.3
Trade	19	2.9	10.8	5.2	5.5	1.5	-0.3	-0.9
Transportation and storage	7	-8.0	2.5	-0.2	-2.1	-1.6	-2.5	-5.2
Accommodation and food services	9	4.8	25.5	7.8	-6.7	-7.3	-4.5	-2.6
Construction	9	-6.4	4.9	0.1	-0.2	-1.5	1.9	1.9
Real estate activities	13	8.3	3.7	0.4	6.3	5.5	2.3	3.8
Professional and administrative activities	7	0.9	9.8	11.3	2.3	1.6	3.3	5.4
Portugal ^(a)		1.1	10.0	4.5	0.8	-2.5	-1.0	-0.2

Source: Banco de Portugal. | Notes: Annual rates of change are calculated on the basis of end-of-month stock changes in resident banks' loans to resident NFCs, adjusted for changes not defined as transactions, namely, reclassifications, write-offs and exchange rate and price revaluations. Industry, accommodation and food services and trade correspond, respectively, to the following sectors: "Manufacturing and Mining and quarrying", "Accommodation and food service activities" and "Wholesale and retail trade; repair of motor vehicles and motorcycles". The head offices, which are not individualised in the table, accounted for 3% of loans granted to NFCs in December 2024. (a) Series additionally adjusted for loan transfers, which have had a marginal impact in the most recent period.

According to the BLS, negative developments in loan demand moderated in the first half of 2024 relative to 2023, while credit standards remained broadly unchanged. Banks have identified the decline in credit demand becoming more moderate in Portugal since the second half of 2023, in line with developments in the euro area. According to the October 2024 BLS, demand and supply remained unchanged in the third quarter of 2024. Demand is expected to increase and credit standards are expected to stabilise in the fourth quarter of 2024.

The two factors that have contributed most to the fall in credit demand by firms in Portugal since the second half of 2022, have been the general level of interest rates and the decline in financing needs for investment. These contributions became less negative as of the last quarter of 2023. Regarding supply conditions, the most important factors explaining the tightening of credit granting in 2023 were linked to the risks associated with the economic situation and the creditworthiness of borrowers. In the first half of 2024, banks did not report material changes in these factors.

New loans to firms in the lowest credit risk class continued to account for around half of total loans to non-financial corporations granted in the first half of 2024 (Chart I.2.9). The share of loans granted to firms in the intermediate risk and high risk classes have remained relatively stable since 2019.



Sources: ECB and Banco de Portugal. | Notes: Credit supply corresponds to credit standards reported by banks. An increase (decrease) in the diffusion index means an increase (decrease) in restrictiveness by institutions and an increase (decrease) in demand in the credit segment. The last observation for each variable corresponds to the institutions' expectations for the fourth quarter of 2024 (dashed part).

Driven by developments in new business and improved financial indicators that firms have been recording in recent years, the share of the stock of loans to firms in the high credit risk class continues to decline. Despite the adverse economic shocks to firms in recent years, the share of loans associated with low risk firms has continued to increase, accounting for about half of total loans granted to firms. In turn, the share associated with the high risk class decreased from 24% in December 2019 to 16% in June 2024.

The average interest rate on new loans to firms decreased from 5.7% in December 2023 to 5.4% in June 2024, reflecting the reduction in Euribor rates at different maturities and a slight narrowing of spreads (Table I.2.5). The average interest rate on the stock of credit fell slightly from 5.5% in December 2023 to 5.4% in June 2024.

Spreads on new loans reflected risk differentiation over the first half of 2024 and remained higher for high risk firms (Table I.2.5). However, spreads in both low risk and high risk classes became narrower on both new business and stock.

Chart I.2.9 • Loans to NFCs by credit risk class | Per cent



Source: Banco de Portugal. | Notes: Credit risk, as measured by probability of default (PD), is based on credit ratings available in the Banco de Portugal's Internal Credit Assessment System (ICAS). Only firms with risk information available were considered. Credit risk is measured by PD and is divided into three classes: risk 1 (PD \leq 1%), risk 2 (1% < PD \leq 5%) and risk 3 (PD > 5%).

Table I.2.5• Average spread on stock and newloans to NFCs by risk class| Percentage points

	Dec 2021	Dec 2022	Dec 2023	Jun 2024
Stock	2.1	2.0	1.9	1.9
Class 1 (low risk)	1.6	1.6	1.6	1.5
Class 2	2.2	2.1	2.1	2.1
Class 3 (high risk)	2.6	2.5	2.4	2.3
	2021	2022	2023	2024 ^(a)
New business	2.0	1.9	1.8	1.6
Class 1 (low risk)	1.5	1.5	1.5	1.3
Class 2	2.2	2.1	1.9	1.8
Class 3 (high risk)	2.5	2.4	2.2	2.1

Source: Banco de Portugal. | Notes: Spread on variable rate loans. Amountweighted figures. (a) For 2024, the information was cut off at June 2024.

2.3 Credit quality of assets

The gross NPL ratio declined marginally in the first half of 2024, standing at 2.6% in June 2024 (Table I.2.6). The evolution of the ratio reflected a 0.3% reduction in the total NPL stock and 1.3% growth in performing loans (denominator component). The change in the stock of NPLs was the result, on the one hand, of a 3.5% reduction in the NFC segment and, on the other hand, of an increase in the household segments, both for house purchase (+9.3%) and for consumption and other purposes (+1.9%). As for the increase in performing loans, about half was due to cash balances at central banks and other credit institutions and the other half to performing loans from both household segments.

In this context, slight changes were observed in the gross NPL ratios of the main segments of loans to the non-financial private sector, with no significant changes in dispersion across institutions. High interest rates have put pressure on the financing costs of firms and households, affecting the quality of the banking sector's credit portfolio. Nevertheless, the benign macroeconomic environment has allowed flows of new defaults to remain at relatively contained levels.

In loans for house purchase, the gross NPL ratio increased by 0.1 p.p. in the first half of the year, to 1.4%, owing to a flow of new NPLs higher than that of cures (Table I.2.7). The increase in the stock of NPLs in this segment is particularly affected by high market interest rates, which serve as a benchmark rate for loans for house purchase in Portugal, predominantly granted at a variable rate. For loans for consumption and other purposes, the NPL ratio remained at 6.2%, despite the flow of new NPLs net of cures, offset by sales and write-offs of NPLs, as well as an increase in total loans (denominator effect).

In loans to NFCs, the gross NPL ratio decreased by 0.1 p.p. from December 2023, to 4.9%. This change resulted mainly from a decrease in the stock of NPLs, due to sales and write-offs, partially offset by a slightly higher inflow of new NPLs than cures.

The NPL impairment coverage ratio decreased to 55.1%, showing distinct developments for firms and households (Table I.2.6). The decrease in the coverage ratio, along with the reduction in the gross NPL ratio, resulted in the stabilisation of the NPL ratio net of impairments at 1.2%.

In NFCs, the decrease in the stock of NPLs led to a reduction in the respective accumulated impairments, resulting in a 0.8 p.p. increase in the coverage ratio, to 61.5%. These dynamics, in a context of a stable gross value of the loan portfolio to NFCs, prompted a 0.1 p.p. decrease in the NPL ratio net of impairments, to 1.9%.

In households, the coverage ratios of loans for house purchase and loans for consumption and other purposes decreased by 1.0 p.p., to 37.0% and 59.3% respectively. In both cases, the reduction in the ratio was due to an increase in the NPL stock that was higher than in their accumulated impairments, resulting in an increase in NPLs net of impairments. In this context, the net NPL ratio in the housing segment increased by 0.1 p.p., to 0.9%, and remained at 2.5% in the consumption and other purposes segment.

The gross NPL ratio of the Portuguese banking sector was 0.8 p.p. above the euro area average in June 2024. The spread was significantly lower for the net NPL ratio (+0.1 p.p.) owing to the higher level of impairment coverage compared to the euro area average (+12.2 p.p.).

	Dec 19	Dec 20	Dec 21	Dec 22	Dec 23	Jun 24
Gross NPL ratio ^(a)	6.2	4.9	3.7	3.0	2.7	2.6
Non-financial corporations	12.3	9.7	8.1	6.5	5.0	4.9
Households – House purchase	2.4	2.0	1.6	1.1	1.3	1.4
Households – Consumption and other purposes	8.2	8.5	7.5	6.9	6.2	6.2
Other sectors ^(b)	4.8	3.2	1.7	0.9	1.4	1.2
NPL coverage ratio ^(c)	51.5	55.0	52.5	55.5	55.4	55.1
Non-financial corporations	56.5	56.4	53.2	56.0	60.7	61.5
Households – House purchase	26.3	30.6	32.7	40.4	38.0	37.0
Households – Consumption and other purposes	58.8	66.2	64.9	64.1	60.3	59.3
Other sectors ^(b)	46.4	67.7	53.7	48.4	37.4	38.0

Table I.2.6 NPL ratio and NPL impairment coverage ratio Per cent

Source: Banco de Portugal. | Notes: (a) Corresponds to the ratio of gross NPLs to total gross loans. Includes loans and cash balances at central banks and credit institutions, loans to the general government, other financial corporations, non-financial corporations and households. (b) Central banks, general government, credit institutions and other financial corporations. (c) Corresponds to the ratio of the value of impairments for NPLs to gross NPLs.

In the first half of 2024, the stage 2 loan ratio decreased by 0.7 p.p. to 10.0%, following a worsening in 2023 (Table I.2.8). The decline in the ratio was broadly based across the main segments and more pronounced in NFCs and households for house purchase. In these segments, the change in the ratio was almost exclusively due to the decrease in stage 2 loans (numerator effect). However, both NFCs and households (housing and consumption and other purposes) continued to record positive net transfers to stage 2 (i.e. performing loans with a substantial increase in credit risk since recognition), mostly of loans previously recorded as stage 1, offset by regular and extraordinary amortisation. Initially, the transfer of loans from stage 1 to stage 2 reflected an increase in the credit risk of some borrowers stemming from the rapid rise in financing costs in 2023, which was partially reversed by the decline in interest rates during the first half of 2024. Against a background of declining interest rates, in line with the decrease in the inflation

rate, and low unemployment, the credit risk of firms and households is expected to fall, with a reversal of some loans from stage 2 to stage 1.

			Households			
	Total	Non-financial corporations	House purchase	Consumption and other purposes		
Gross NPL ratio, Dec 23 (%)	2.7	5.0	1.3	6.2		
Write-offs (p.p.)	-0.1	-0.1	0.0	-0.3		
NPL sales (p.p.)	-0.1	-0.1	0.0	-0.3		
New NPLs, net of cures (p.p.)	0.1	0.1	0.1	0.8		
Other denominator effects (p.p.)	0.0	0.0	0.0	-0.1		
Gross NPL ratio, Jun 24 (%)	2.6	4.9	1.4	6.2		

Table I.2.7 Gross NPL ratio – contributions to the change Per cent and percentage points

Source: Banco de Portugal. | Notes: NPL sales include securitisations. The "New NPLs, net of cures" item reflects all other NPL inflows and outflows, including inflows of loans as NPLs (net of outflows), amortisations and foreclosures. The "Other denominator effects" item reflects changes in the stock of loans that are not linked to the NPL stock (e.g. net flow of performing loans).

The ratio of forborne loans due to the borrower's financial difficulties decreased by 0.2 p.p. to 2.4% in the first half of 2024 (Table I.2.8). This change stems from a 7.5% decrease in forborne loans.

	Dec 19	Dec 20	Dec 21	Dec 22	Dec 23	Jun 24
Stage 2 loan ratio ^(a)	9.4	11.2	11.6	10.3	10.7	10.0
Non-financial corporations	12.6	18.6	18.7	16.0	13.5	12.5
Households – House purchase	n.d.	7.0	7.9	7.5	9.8	9.2
Households – Consumption and other purposes	n.d.	10.5	10.7	10.8	12.4	12.1
Forborne loan ratio ^(b)	5.2	4.7	3.8	2.7	2.6	2.4
Non-financial corporations	10.3	9.4	7.6	5.6	4.4	4.1
Households – House purchase	2.8	2.7	2.6	1.6	2.3	2.2
Households – Consumption and other purposes	4.3	4.9	4.5	4.0	3.5	3.1

Table I.2.8 • Ratios of stage 2 and forborne loans | Per cent

Source: Banco de Portugal. | Notes: (a) The stage 2 loan ratio is the ratio of total gross stage 2 loans to the total gross value of loans. (b) The forborne loan ratio corresponds to the ratio of total gross forborne loans to total gross loans.

In NFCs, the ratio of forborne loans decreased by 0.3 p.p., as a result of an 8.3% fall in forborne loans, with a -5.3 p.p. contribution from NPLs. Historically, this component is higher than the performing component in this segment, although the relative weights have moved closer in recent years. This resulted from the NPL falling trend in the NFC loan portfolio over the past decade.

In the current environment of declining interest rates, forborne loans for house purchase have decreased by 3.4%, reflecting the reduction of the performing part. This component, which accounts for around 70% of these loans, contributed -4.3 p.p., slightly offset by the +0.9 p.p. contribution from the non-performing component. From the end of 2022 onwards, the significant rise in interest rates led to an increase in forbearing loans for house purchase, mainly in the performing component. This

suggests that the forbearance of variable rate loans has been effective in containing default in this segment.

2.4 Concentration of exposures

In the first half of 2024, the banking system's assets increased by 4.4%, mainly reflecting growth in debt securities, following relative stabilisation in 2023 (Table 1.2.9). The debt securities portfolio became 25% of total assets and is mainly composed of sovereign debt securities (68% of the total portfolio, 17% of assets) and, to a lesser extent, non-financial corporations' debt securities (20% of the total portfolio, 5% of assets). Both components have been increasing in recent years, notably reflecting the sector's situation of robust liquidity.

		D 20	D 24	D 00	D 00	h	Ch :	
cent and perc	entage points							
Table I.2.9 •	Banking system	i's assets, ye	ear-on-yea	ir rate of o	hange an	d contrib	utions	Per

	Dec 20	Dec 21	Dec 22	Dec 23	Jun 24	(Jun 24)
Assets (year-on-year rate of change)	5.5	8.0	-0.5	-0.1	4.4(a)	
Cash balances and loans at central banks	3.2	6.6	-2.3	-0.7	0.5	11.1
Cash balances and loans to credit institutions	-0.1	-0.1	0.4	-0.5	-0.2	2.4
Loans to customers	1.2	2.4	1.4	-0.3	0.5	54.9
Debt securities	1.6	0.1	0.0	1.8	3.6	25.2
Equity instruments	-0.1	-0.1	-0.2	0.0	0.0	1.1
Other	-0.2	-0.8	0.2	-0.3	0.0	5.3

Source: Banco de Portugal. | Notes: "Other" includes cash, tangible assets, intangible assets and other assets. (a) Rate of change and contributions compared with December 2023.

In June 2024, sovereign debt securities at amortised cost continued to represent the main component of the public debt portfolio (74%). While their weight fell in the first half of the year (-6.4 p.p.), the share of sovereign debt securities at amortised cost has increased significantly over the past ten years (9% in 2014). The average duration of this portfolio has declined in recent years and now stands at 4.5 years. Together, these factors mitigate the impact of market changes on the balance sheet value of securities. However, any latent losses accumulated in this portfolio will have to be recognised in case of the sale of these instruments.

The risk of interconnectedness between the sovereign and the banking system through direct exposure to domestic public debt has decreased in recent years. The composition of the public debt portfolio of Portuguese banks maintained the trend of geographical diversification. Based on domestic activity, the June 2024 data point to some stabilisation in the share of Portuguese debt and a reduction in the share of Spanish and Italian debt, offset by an increase in debt of the European Commission and Germany (Table I.2.10).

Despite the increase in overall exposure to the real estate market (0.9% from December 2023), this exposure's weight in the banking system's assets maintained a downward trend, standing at 33.5% in June 2024 (Table I.2.11). Developments in the overall exposure resulted mainly in an increase in loans to households secured by real estate and, to a lesser extent, loans to NFCs in the construction and real estate activities sectors. In terms of composition, loans to

households secured by real estate continue to account for the largest share in banking system's assets (24.6%). In June, 94% of the stock of loans for house purchase had an LTV of 80% or less. The distribution of this ratio suggests that the banking system can accommodate a potential correction in residential real estate prices without incurring large losses (Chart I.2.10).

	Dec 20	Dec 21	Dec 22	Dec 23	Jun 24
Total (% assets) ^(a)	14.6	13.5	13.4	14.1	15.5
Portugal	54.7	47.5	41.7	36.3	36.0
Spain	22.5	24.7	26.1	26.6	23.8
Italy	16.2	15.1	9.6	11.1	9.9
France	1.4	4.0	8.4	8.8	8.5
Ireland	1.7	3.2	3.4	3.3	2.9
Belgium	0.1	1.2	2.8	2.7	2.8
Germany	0.0	-0.3	1.0	2.7	3.6
European Commission	0.0	0.1	1.8	2.6	5.4
Other	3.3	4.5	5.5	5.9	7.1

Table I.2.10 • Sovereign debt securities by geography – domestic activity | As a percentage of total portfolio

Source: Banco de Portugal. | Notes: The series refer to the reporting on an individual basis of the other monetary financial institutions (OMFIs) resident in Portugal. The "other" component is dispersed by other countries and no country weights higher than 2.5%. (a) Percentage of OMFIs assets.

percentage of assets

	Dec 21	Dec 23	Jun 24
Exposure to real estate	34.0	34.6	33.5
Loans to households collateralised by RE	25.1	25.5	24.6
Loans to NFCs of construction and RE activities ^(a)	4.0	4.1	4.0
Loans to NFCs collateralised by RE ^(b)	3.4	3.7	3.6
Real estate funds ^(c)	0.9	0.9	0.9
Real estate assets ^(d)	0.6	0.3	0.3

Source: Banco de Portugal. | Notes: (a) not excluding loans granted to projects unrelated to the real estate sector, such as public works; (b) excluding loans to NFCs in the construction and real estate activities sectors. There was a change in methodology in one of the main institutions when reporting loans to NFCs secured by real estate as of 2023, leading to a break in the series; (c) including loans and mutual funds shares; (d) gross values.

Table I.2.11 • Exposure to real estate | As a Chart I.2.10 • Distribution of the stock of loans for house purchase by LTV – June 2024 | As a percentage of the portfolio



Source: Banco de Portugal. | Notes: Indicator based on granular data at loan level from the Central Credit Register, as a percentage of the portfolio. Whenever the date of the last valuation of the property is prior to 2024 Q1, its current value is estimated using Statistics Portugal Housing Price Index.

The exposure of Portuguese banks to the commercial real estate (CRE) market is limited. In June 2024, loans to firms collateralised by CRE loans totalled €22 billion, 4.8% of the banking system's total assets. CRE loans are concentrated in small and medium-sized enterprises and spread across various sectors of activity. While there is a greater concentration in the real estate sector (firms whose main activity is buying, selling and renting real estate), the accommodation and food services, manufacturing and trade sectors also have a relevant weight. The diverse business nature of firms with loans collateralised by commercial real estate helps mitigate credit risk in this segment. In many cases, the property used to collateralise the loan may be a property held by the firm for its own use/development of its business, and not a real estate asset held from

an investment perspective to generate income by renting or selling (Box 2, May 2024 *Financial Stability Report*, Banco de Portugal).

The possibility of transmitting and amplifying adverse shocks via interconnectedness in the Portuguese financial sector has been falling in recent years (Box 3). In June, the banking sector's exposure to financial sector counterparties stood at 14.3% of banks' assets, broadly unchanged from December 2023, with no material changes by type of counterparty and/or instrument. In the last 10 years, this exposure has decreased by 8 p.p. Exposure to resident banks remains the most relevant (11.3% of assets), followed by exposures to other financial intermediaries (1.9%) and investment funds (1.1%).

2.5 Financing and liquidity

The liquidity framework of the banking system remained robust. In the first half of 2024, the loan-to-deposit ratio decreased by 2.8 p.p., to 75.3% (Table I.1.12). This reflected an increase in customer deposits (4.6%), most notably the taking of time deposits, especially in the household segment, owing to a rising average remuneration on these products. The share of time deposits in total deposits continued to increase, albeit at a lower degree than in 2023 (Chart I.2.11). Customer deposits remain the banking system's main source of funding, corresponding to 73% of total assets (Chart I.2.12).

 Per cent
 Ass

 100
 2
 2
 3
 100

 80
 7
 10
 10
 80

 60
 33
 38
 39
 60

 40
 20
 35
 31
 30

 20
 35
 31
 30
 0

 2019
 2020
 2021
 2022
 2023
 Jun 24

 DD-HH
 DD-NFC
 DD-Other
 TD-HH
 TD-NFC
 TD-Other

Chart I.2.11 • Structure of customer deposits Chart I.2.12 • Structure of financial liabilities | Per cent | As a percentage of total assets



Source: Banco de Portugal. | Notes: DD – demand deposits; TD – time deposits. "Other" includes General government and Other financial corporations.

Source: Banco de Portugal. \mid Note: OCI – other credit institutions; CB – central banks.

Since 2021, the share of funding obtained from the Eurosystem has decreased as banks repaid TLTRO III operations (Chart I.2.12), being a residual value (0.3% of assets) at the end of the first half of the year. At the same time, central bank reserves remain high, warranting significant negative net lending (Table I.1.2). These developments were reflected in the reduction of the asset encumbrance ratio to historically low levels.

Prudential liquidity ratios remained at high levels. Liquidity coverage and net stable funding ratios (LCR and NSFR respectively) stood at levels significantly above the regulatory minimum of 100%. The LCR rose by 18.3 p.p. in the half-year, to 273%, driven by an increase in highly liquid assets (numerator), particularly in public debt instruments. Highly liquid assets remain mostly composed of public debt instruments (53%) and central bank reserves (37%), accounting for 36% of customer deposits. The NSFR increased by 4.5 p.p., to 155%, in June 2024. All banks in the Portuguese banking

system met the regulatory minimum set, with an increase in the 5th percentile ratios in both cases, in the LCR from 23.2 p.p. to 145% and in the NSFR from 2.1 p.p. to 118%.

	Dec 08	Dec 12	Dec 21	Dec 22	Dec 23	Jun 24
Loan-to-deposit ratio	152.9	122.5	81.1	78.2	78.0	75.3
Liquidity coverage ratio (LCR)	n.a.	n.a.	260.0	229.3	254.4	272.7
Net stable funding ratio (NSFR)	n.a.	n.a.	142.9	145.8	150.6	155.0
Highly liquid assets (% customer deposits)	n.a.	n.a.	37.0	31.7	33.8	36.2
Asset encumbrance ratio	n.a.	n.a.	18.1	11.2	9.1	8.1
Eurosystem net lending (% assets)	-1.3	8.7	-4.5	-8.0	-10.2	-10.8

Table I.2.12 • Liquidity and financing indicators | Per cent

Source: Banco de Portugal. | Note: Central banks' net funding is calculated through deposits from central banks net of cash balances and loans to central banks.

In the first half of 2024, some of the main credit institutions in the Portuguese banking system issued instruments eligible for compliance with the minimum requirement for own funds and eligible liabilities (MREL), totalling ≤ 2.4 billion. According to the Bank Lending Survey, most respondent institutions signalled the maintenance or improvement of medium to long-term wholesale funding conditions during this period. All institutions whose transitional period to comply with MREL ended on 1 January 2024 met the final requirement. However, there are institutions for which a longer transitional period has been set, and which continue to build their MREL capacity to meet final targets.

2.6 Capital

The total capital of the Portuguese banking sector increased in the first half of 2024, broadly based across the large institutions, mainly due to the retention of earnings generated in capital buffers (Chart I.2.13 – panel A). Recorded profitability has been particularly relevant for sustaining the organic generation of capital, making it possible to increase voluntary capital buffers that, if they are retained, equip institutions with the ability to accommodate future shocks, notably in less favourable stages of the economic cycle.

The total capital ratio and the Common Equity Tier 1 (CET1) ratio increased by 0.8 p.p. and 0.7 p.p. respectively, to 20.5% and 17.8%, standing at historically high levels (Chart I.2.13 – panel B). In addition to the aforementioned retention of earnings, as reflected in other CET1 changes, developments in the total capital ratio of the banking sector also benefited from the issuance of Additional Tier 1 instruments by a large institution (Chart I.2.13 – panel A). This contributed to an increased dispersion of the total capital ratio, as measured by the difference between the 90th percentile and the 10th percentile. In the same period, the dispersion of the CET1 ratio declined. In June 2024, the total capital ratio was 0.6 p.p. above the euro area average, while the CET1 ratio was 1.4 p.p. higher (Chart I.2.13 – panel B). In addition to more favourable developments in the Portuguese banking system's capital ratios in recent years, the implementation of the Basel III reforms is estimated to have a limited impact in Portugal, in absolute terms and compared with the European Union (Box 5).

The average risk weight, corresponding to the ratio of risk-weighted assets (RWA) to total assets, was 41.8% in June 2024. The 0.9 p.p. decrease from the end of 2023 contributed 0.4 p.p. to the increase in the total capital ratio (Chart I.2.13 – panel A). The reduction in the average risk weight

was accompanied by a lower dispersion across institutions when measured by the difference between the 90th percentile and the 10th percentile and is explained by a higher increase in total assets than in the RWAs. Change in total assets reflects an increase in its lower risk components (-1.4 p.p. contribution), in particular exposure to public debt. Conversely, the increase in risk exposures (+0.5 p.p. contribution), mainly related to credit risk, was mostly due to increased credit exposures to firms.

Despite the reduction in the average risk weight, this indicator remained significantly above the euro area average (35.7%) in June 2024. The euro area median was only slightly lower than that observed for the Portuguese banking sector (41.6%), suggesting that the distribution of average risk weight at European level shows some bias towards lower figures. This seems to be related, namely to the greater prevalence of internal models in the assessment of financial risks for prudential purposes in banks in other European countries.

In the first half of 2024, there was also a 0.2 p.p. increase in the leverage ratio, due to a rise in Tier 1 capital above the increase in total exposure used to calculate the ratio, which stood at 7.5%, above the regulatory minimum of 3%. In June 2024, the leverage ratio of resident institutions in Portugal was 1.4 p.p. above the average of euro area countries.

Chart I.2.13 • Capital ratios | Per cent and percentage points







Source: Banco de Portugal. | Notes: The total capital (C) ratio is the ratio of total capital to risk-weighted assets. The CET1 ratio is the ratio of Common Equity Tier 1 capital to risk-weighted assets.

Box 1 • Credit risk of economic support lines granted during the COVID-19 pandemic

State-guaranteed credit lines provided during the COVID-19 pandemic were an important source of funding for Portuguese firms in a period of severe disruption to economic activity. Together with other measures, most notably employment support measures (layoff) and the credit moratorium to firms, these credit lines mitigated the potential negative effects on liquidity of an abrupt fall in revenues and a tightening in credit standards.

The contractual terms of State-guaranteed loans (SGLs) granted under these lines favoured the liquidity of firms: loans were granted with long maturities and extended principal grace periods, benefiting in some cases from subsequent extensions. The typical maturity of SGLs was six years, which was the upper limit for most of these operations. In addition, linked to these loans were principal grace periods of up to 18 months (in some cases 12 months), contributing to a reduced debt service in the initial period.

SGLs were granted with variable interest rates, which from mid-2022 onwards has led to an increase in related financing costs. Despite favourable pricing conditions when the credit was granted, a subsequent significant interest rate rise, which amounted to 450 basis points in September 2023 compared with March 2020, reinforces the importance of assessing the credit risk of these exposures and the financial situation of the firms benefiting from them.

In June 2024, SGLs granted during the pandemic accounted for 4.6% of the total stock of bank loans to firms, compared with the peak of 12.5% observed in September 2021. Loans were concentrated in manufacturing, trade and accommodation and food services, reflecting the sectoral eligibility conditions of the loans, in addition to the financing needs of firms (Table B1.1). The decline in the share of support lines between September 2021 and June 2024 in the total loans of each of these three sectors was, in relative terms, higher in trade and manufacturing and smaller in accommodation and food services. An increase in the total amount of loans in trade, a higher volume of early repayments in manufacturing and a reduction in the total amount of loans in accommodation and food services contributed to these developments.

SGLs are concentrated in firms in the lower risk class, reflecting access conditions that aimed to ensure that these lines were allocated to viable firms. In June 2024, 60% of the exposure was linked to firms with lower credit risk (Chart B1.1). This share is higher than that of loans without a State guarantee, 46%, a relationship that has persisted since the pandemic period across all sectors of activity. This difference can be explained, inter alia, by the credit standards for granting these lines, which sought to ensure support for economically viable firms in the prepandemic period, taking into account sector of activity and firm size.⁸

⁸ More specifically, the credit lines excluded access to firms that: (i) were in financial difficulty as at December 2019, pursuant to Article 2(18) of Commission Regulation No 651/2014 of 17 June 2014, (ii) had any outstanding credit events with banks or Mutual Guarantee Companies/Banco Português de Fomento and (iii) were in default in payment to the Tax Authority and Social Security.

	Amount of CO EUR m	VID-19 SGLs illions	Share of SGLs in total loans to firms Per cent		
	Sep 21	Jun 24	Sep 21	Jun 24	
Total	9,240	3,260	12.5	4.6	
	Share of each sector in total SGLs Per cent		Share of SGLs in total loans for each sector Per cent		
	Sep 21	Jun 24	Sep 21	Jun 24	
Agriculture	1.9	2.3	5.8	2.5	
Mining and quarrying	1.1	1.0	3.8	1.4	
Manufacturing	33.0	29.8	20.4	7.2	
Construction and real estate activities	8.0	8.4	4.6	1.8	
Trade	22.5	21.8	15.9	5.2	
Transportation and storage	4.7	4.7	8.3	3.3	
Accommodation and food services	14.4	15.8	17.6	8.0	
Telecommunications	1.8	1.7	17.0	5.9	
Professional, technical and administrative activities	7.6	8.7	14.0	5.2	
Other services	5.0	5.9	13.3	6.4	

Table B1.1 • Share of SGLs in total bank loans to firms | Per cent

Source: Banco de Portugal. | Notes: SGLs – COVID-19 State-guaranteed loans. For the analysis carried out in this box, COVID-19 State-guaranteed credit lines correspond to all SGL agreements initiated between March 2020 and December 2021.

The average interest rate linked to SGLs, which initially was below the average interest rate for total loans to firms, began to rise from mid-2022, converging with the total exposure average rate. In September 2021, the average SGL rate was around 1 p.p. lower than that of other exposures, remaining unchanged until mid-2023. Since then, the gap has narrowed, aligning closer to the rates of other loans. The decline in the average spread and the higher share of mixed or fixed rate loans in loans without a State guarantee has contributed to this development. In June 2024, the average interest rate linked to SGLs was 5.2%, compared with 5.3% for other loans, although there is still a more significant differential vis-à-vis the other variable rate loans (Chart B1.2) and some sectoral heterogeneity. The interest rate differential narrowed most notably in construction and real estate activities and telecommunications, where the SGL interest rate surpassed that of other loans in June 2024, and less markedly in accommodation and food services and transportation and storage. Developments in these sectors of activity mainly reflect a reduction in the spread differential for exposure without a State guarantee.

The guarantee fees linked to SGLs have also contributed to the costs incurred by firms with this type of financing. Most of these loans were granted with guarantee fees that increase over the maturity of the loan. In some of these loans, such fees may amount to between 1% and 1.75% in the fourth, fifth and sixth years of the agreement, compared with 0.25% and 0.3% in the first year.⁹ The combined effect of higher interest rates and guarantee fees may lead to increased credit risk for some borrowers. Although an increase in early repayments was observed in SGLs after the interest rate rise, for firms that obtained SGLs the early repayment rate on these loans was lower than that observed for loans without a State guarantee.

⁹ The example of guarantee fees presented here refers to the Economic support line for medium-sized enterprises, small mid caps and mid caps, but is common for other support lines, such as the Economic support line for micro and small enterprises or the COVID-19 economic support line for industry and tourism exporting firms.



Source: Banco de Portugal. | Note: Credit risk, as measured by probability of default (PD), is based on credit ratings available in the Banco de Portugal's In-house Credit Assessment System (ICAS).

AAR on loans to firms | Per cent



Source: Banco de Portugal. | Notes: The dashed lines detail the average annualised agreed rates (AARs) of agreements with variable interest rates. In June 2024, 96% of the loans associated with COVID-19 State-guaranteed credit lines were granted with variable interest rates, compared to 80% for loans without such lines. Data obtained from the Central Credit Register.

The increase in the indebtedness ratio of firms that obtained SGLs was gradually reversed until 2023, with firms' liquidity remaining above that observed before the pandemic (Chart B1.3). On aggregate, the liquidity ratio of firms with SGLs increased sharply during the pandemic period, gradually decreasing in 2022 and 2023. In the latter year, the liquidity ratio remained higher than in the pre-pandemic period (8.8% compared with 7.4% respectively). In contrast, obtaining these loans contributed to an increase in the indebtedness ratio, reversed in the recent period, with pre-pandemic levels being reached in 2023 (27.0% in 2023, compared with 29.1% in 2019). Despite this reduction, the group of firms with SGLs had a lower indebtedness ratio than the other firms until the pandemic, a situation that has not been observed again since the pandemic period. At the same time, the average profitability of firms that obtained these loans decreased more markedly during the pandemic, reflecting the allocation of support lines to more affected sectors of activity, but increased from 2021 onwards, outperforming pre-pandemic profitability in 2023 (11.1% compared to 9.7% in 2019). These trends were observed across all sectors of activity, but the reduction in indebtedness was more contained in accommodation and food services.

A comparison between firms that obtained SGLs and those that did not has important limitations. As previously mentioned, the eligibility criteria promoted the allocation of these loans to firms that were deemed viable prior to the pandemic. Consequently, among the firms that did not receive these loans are those that did not comply with the eligibility criteria and those that, despite meeting the criteria, did not attempt to obtain these loans. This makes a comparison of credit risk with firms of similar characteristics particularly relevant. A possible approach, albeit not entirely free from bias, is to compare with a group of firms that were not in default at the time the loan was granted, which also corresponded to one of the required eligibility criteria.¹⁰

¹⁰ This approach makes it possible to describe differences between developments in the two groups of firms but does not take into account the impact of credit lines on the financial situation of the firm after accessing these loans.

Chart B1.3 • Developments in the liquidity, indebtedness and profitability ratios of firms, based on the use of SGLs | As a percentage of assets



Source: Banco de Portugal. | Notes: The indebtedness ratio is defined as the ratio of financial debt to total assets. The profitability ratio is defined as the ratio of EBITDA to total assets. The liquidity ratio is defined as the ratio of liquidity and bank deposits to total assets. Asset-weighted figures.

Despite the allocation of SGLs prioritising sectors of activity more affected by the pandemic crisis, the materialisation of credit risk in firms that accessed these loans does not differ significantly from that of other firms that were not in default at the onset of the pandemic. Considering only firms without non-performing loans (NPLs) in March 2020, the NPL ratio showed similar developments between firms that accessed SGLs and those that did not, 3.6% and 3.2%, respectively, in June 2024 (Table B1.2), with firms with higher credit risk contributing to a slightly higher NPL ratio in firms with SGLs. In accommodation and food services, the NPL ratio is lower for firms using SGLs compared to the other firms, 2.2% and 8.9% respectively. In turn, in trade, the NPL ratio of firms that obtained these credit lines was higher, 3.1%, compared with 2.4%.

Among firms that accessed SGLs, the NPL ratio associated with SGLs is lower than the NPL ratio for other loans. For firms without NPLs in March 2020 that obtained SGLs, the NPL ratio of SGLs was 2.6%, down from 3.8% for the remaining exposure (Table B1.2). Clauses penalising default on these support lines, such as the increase in spreads and guarantee fees after default has materialised, may be contributing to this result.

	NPL ratio (%), considering only firms without NPLs in March 2020						
		Firms					
	Total exposure	SGL exposure	Non-SGL exposure				
Fotal	3.6	2.6	3.8	3.2			
Agriculture	4.4	1.5	4.6	3.8			
Mining and quarrying	9.3	1.7	9.9	3.1			
Manufacturing	4.3	3.4	4.4	4.9			
Construction and real estate activities	4.4	1.9	4.7	2.7			
Frade	3.1	2.5	3.1	2.4			
Fransportation and storage	2.9	1.7	3.0	1.0			
Accommodation and food services	2.2	2.3	2.2	8.9			
Felecommunications	3.2	1.3	3.5	2.8			
Professional, technical and administrative activities	3.3	2.2	3.5	1.6			
Other services	2.6	1.9	2.7	3.6			

Table B1.2 • NPL ratios in June 2024

Source: Banco de Portugal. | Notes: SGLs – COVID-19 State-guaranteed loans. Data obtained from the Central Credit Register. In June 2024, firms without NPLs in March 2020 accounted for around 75% of total loans.

It may be concluded that the credit risk linked to the exposure of State-guaranteed credit lines is contained, but should continue to be monitored. COVID-19 State-guaranteed credit lines supported firms' financial situation during the pandemic shock, helping to foster their liquidity and debt service mitigation. Their indexation to variable interest rates led to an interest rate rise from mid-2022 onwards, which, together with growth in guarantee fees over the maturity of the loans, likely contributed to an increase in the costs associated with these loans. Credit standards at the time these lines were granted contributed to their allocation to firms with lower credit risk, a characteristic that still remains evident today. The materialisation of credit risk in firms with SGLs is similar to that of firms that did not use these support lines. However, attention should be paid to exposures showing signs of credit deterioration, particularly for firms with NPL exposure.

Box 2 • Regional house prices

The increase in house prices in Portugal has been concentrated in the country's main urban centres and coastal strip, where population is denser, economic activity is more buoyant and tourism is more intense. In less economically buoyant regions where demographic pressure is lower, price growth has been more moderate and/or has only gained momentum more recently. Mixed developments in house prices across regions have been due to demand factors, such as labour market developments (income and unemployment developments), migration flows and other demographic trends, demand by non-residents (also for investment purposes) and tourism activity; and supply factors, such as the production capacity of construction companies, the availability of urban land, rapid licensing and exogenous factors on construction and rehabilitation costs.

Geographical characterisation of house price developments and other relevant variables

After the 2007 financial crisis, house prices in Portugal declined until 2013, when price dynamics reversed. In the past ten years, house prices have risen steadily, with Statistics Portugal's house price index doubling between 2013 and 2023. This index is not broken down by geographical area, but alternative indicators capture heterogeneity in local price developments.

Between 2016 and 2023 the Lisboa and Porto Metropolitan Areas, Alentejo Litoral and Algarve stand out with the strongest growth in the median value of transactions per square metre (Figure B2.1, Panel A). In particular, in the Lisboa municipality the median value per square metre doubled, corresponding to an average annual growth rate of 10.5% (the average annual rate of inflation was 2.3%). In the Porto municipality, the median increased 2.5 times, corresponding to an average annual growth rate of 14.5%. In turn, the Beira Baixa and Alto Alentejo regions posted the lowest growth, of 3.4% and 3.5% respectively.

Price developments over this period were mixed across municipalities in the same region. Differences across municipalities point to contagion phenomena from major urban centres to their outskirts. For instance, in the Lisboa district, following a sharp price increase in the Lisboa municipality, there was also a sharp increase in median values in neighbouring municipalities such as Oeiras, Odivelas and Amadora up to 2019. More recently, between 2020 and 2023, growth was stronger in more peripheral municipalities of the Lisboa district (e.g. Sintra, Alenquer, Mafra and Torres Vedras). These developments are in line with the results of Huget et al. (2022), which, looking at periods of exuberant local house prices, conclude that there are spillover effects from Lisboa to the rest of the district, of different magnitudes and time lags.

One of the main determinants of house price developments in the long run is household disposable income (Álvarez-Román and García-Posada, 2021; Lourenço and Rodrigues, 2017). In the absence of income data per municipality (NUTS II only), unemployment rate data have been analysed (as calculated on the basis of the number of unemployed enrolled at the Institute for Employment and Vocational Training), on the assumption that a higher rate is associated with lower income.¹¹ The average unemployment rate between 2016 and 2023 was higher in the Norte and Alentejo Interior regions and some municipalities of the Algarve, and lower in the Lisboa Metropolitan Area and the western region between Lisboa and Porto (Figure B2.1, Panel B).

Population growth is another relevant determinant of house price developments (Álvarez-Román and García-Posada, 2021; Bischoff, 2012). Between 2016 and 2023 population growth was strongest in the Lisboa and Porto Metropolitan Areas and the Algarve region (Figure B2.1, Panel C).

In recent years, population growth has reflected the significant growth of the foreign population, which has offset negative natural balances. The foreign resident population has more than doubled since 2017, accounting for 10% of the resident population in Portugal at the end of 2023. Net migration has increased consecutively since 2014, reaching around 1.5% of the total population in 2023, compared with a negative natural balance of approximately 0.3%. The foreign population is mostly concentrated in the Lisboa, Oeste, Alentejo Litoral and Algarve regions (Figure B2.1, Panel D). Some municipalities in the Algarve region have a foreign population of over 30% (excluding citizens who have acquired Portuguese citizenship) and some municipalities had annual inflows of more than 5% of the total resident population on an ad hoc basis.

Housing supply developments, including housing starts, have been cited as relevant for price growth. The Lisboa and Porto Metropolitan Area regions have lower housing availability, as measured by the housing stock as a percentage of the resident population, while in the Trás-os-Montes, Beira Interior, Alentejo and Algarve regions housing availability is greater (Figure B2.1, Panel E).

Demand for housing (and urban land) has also been boosted by the highly buoyant tourism sector. In particular, demand for housing for local accommodation has increased markedly since 2015. Between 2015 and 2023, the Algarve region and the Lisboa and Porto municipalities issued the most local accommodation permits (45 thousand, 22 thousand and 15 thousand permits), corresponding to 11%, 7% and 11% of the housing stock respectively (Figure B2.1, Panel F).

¹¹ Between 2010 and 2021, the correlation between the two variables is negative and high (70%) varying across the five macro regions that make up NUTS II (Norte, Centro, Lisboa Metropolitan Area, Alentejo and Algarve).



Panel multivariate analysis of house prices

With a multivariate analysis of house price changes by region it is possible to better isolate the effect of house price determinants. The period considered in this analysis is 2008-23, which includes a period (2010-13) where prices followed a downward trend. The analysis focuses on 111 municipalities on the mainland, for which there is a sufficient number of transactions in dwellings to calculate a country-specific price index for a longer period. The price index is calculated by Confidencial Imobiliário per municipality and district (not available by NUTS III), using information from some of the main real estate intermediation companies in Portugal. In addition to the longer time coverage compared with the information available for the median value (Statistics Portugal) explored above, this is a hedonic price index expressing house prices according to their characteristics (such as the number of rooms, the area and location), controlling for differences in the quality of properties traded over time.

The analysis differs from most studies on house prices in Portugal by using information with a higher geographical breakdown. Municipality data were used to estimate fixed-effect regressions for Portugal, for selected districts and for the remaining municipalities (referred to as the "Rest of the country"), which makes it possible to assess any differentiated effects across regions. For sufficient variability, regressions at district level were estimated only for districts with more than ten municipalities with individual house price indices. In addition to the variables reported, regressions also include: (i) the average interest rate on new loans for house purchase, (ii) a supply indicator – the ratio of concluded dwellings to the housing stock (with geographical variability), and (iii) growth in new housing construction costs (Statistics Portugal). Results for Portugal and selected districts are presented in Table B.1.1.

For Portugal, a higher unemployment rate results in a slowdown in housing demand, easing pressure on prices, as expected (first column of Table B.1.1). The decline in the unemployment rate from 17.2% in 2013 to 6.5% in 2023 is likely to have contributed to higher price growth. In this period, household disposable income increased by 47%.

Higher interest rates help ease pressure on prices. The rise in the debt service burden of loans for house purchase and the increased attractiveness of other financial assets as an investment for savings reduce demand for housing. This economic rationale is corroborated by the negative and significant estimated coefficient.

The increase in housing supply, as measured by the ratio of concluded dwellings to total housing stock, results in lower pressure on house prices, while construction costs have the opposite effect. Econometric analysis also confirms a positive and statistically significant relationship between rising construction costs and house price changes.

Population growth is associated with price growth, as expected. While total population in Portugal decreased by 0.8% between 2011 and 2023, between 2016 and 2023 the resident population increased by 2.9%. The growth of the foreign population and, in particular, positive migration balances contributed to this effect. However, total population growth does not capture changes in the population age structure and socio-demographic trends, which resulted in a decline in the average size of households and an increase in the number of households (Section 1.3.4), higher demand for housing and more marked upward pressure on prices.

Demand related to tourism activities also contributes to growth in house prices, in particular demand for short-term rental property (local accommodation). The coefficient associated with the licensing of new local accommodation units is estimated with a positive and statistically significant sign.

Aggregate results for Portugal are broadly confirmed when the model is estimated for the selected districts, in particular regarding their sign and significance. The high percentage of transactions in dwellings by non-resident and foreign retired/non-active persons in some regions

may result in economic fundamentals not having the same importance. Also, the fact that the time period considered includes a long period of low interest rates and only a very steep upward cycle in 2022 and 2023 seems to be constraining a robust identification of its possible impact. With regard to the effect of tourism activity on house prices in the different districts, the results confirm that the licensing of new local accommodation units has been associated with higher price growth in the districts analysed, being most significant in the Lisboa, Porto, Faro and Setúbal districts, compared to Aveiro and the rest of the country.

Conclusion

This box provides an analysis of the determinants of house price developments at regional level, based on data broken down by municipality.

The increase in house prices in Portugal has been concentrated in the country's main urban centres and coastal strip, where population is denser, economic activity is more buoyant and tourism is more intense. Econometric analysis confirms the expected impact of the main determinants of house prices referred to in the literature, such as the unemployment rate, interest rates, population growth and the construction of new housing. In addition, demand for local accommodation units seems to have been associated with higher house price growth in some regions.

However, the estimates obtained should be interpreted with caution, given the low frequency at which regional information is released. As a future work topic, it would be interesting to assess differentiated impacts of each determinant across the house price distribution, for instance by looking at the different quantiles, and possible contagion effects across municipalities of major urban centres.

	Portugal	Aveiro	Faro	Lisboa	Porto	Setúbal	Rest of the country
Unemployment rate	-1.397***	-1.166***	-0.471	-1.898***	-1.564***	-3.571***	-1.513***
Interest rate on new loans for house purchase	-0.938***	-0.129	-2.739***	-1.243*	-0.668	-1.186***	-0.020
Concluded dwellings/Housing stock	-6.090***	-7.380***	-2.598***	-7.089***	-8.715***	-4.290***	-7.458***
Growth of construction costs	0.707***	0.695***	1.089***	0.611***	0.737***	0.200	0.639***
Population growth	3.253***	5.697***	2.420***	2.684***	0.523	1.220	3.481***
New local accommodation/Housing stock	4.419***	13.240*	4.388***	10.290***	6.529***	7.539***	2.867*
Number of observations	1,776	208	192	256	256	176	688
Number of municipalities	111	13	12	16	16	11	43
Within-R2	0.641	0.723	0.740	0.692	0.671	0.791	0.603

Table B2.2 • Results of panel regressions | Dependent variable - Annual growth rate of houseprices

Source: Statistics Portugal. | Note: Regressions were estimated with robust standard errors. *, ** and *** refer to the level of statistical significance of the coefficients, respectively at 10%, 5% and 1%.

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Box 3 • Dimension, composition and interlinkages of the non-bank financial sector in Portugal

The non-bank financial sector (NBFS) has become more internationally relevant in financing the economy in recent years. In the aftermath of the 2008-09 financial crisis, financial intermediation by non-banks increased, currently representing almost half of global financial assets.¹² At the same time, there has been an increase in diversity in the activities performed and the type of institutions in this sector. These developments have been accompanied by a build-up of vulnerabilities, particularly in the context of low interest rates and ample liquidity. Recent episodes of financial stress, such as those of the Archegos Capital Management or the UK LDI (Liability Driven Investments) funds, have demonstrated the potential of these institutions to propagate and amplify risks to financial stability.

The NBFS broad measure consists of all financial institutions other than central banks, banks or public financial institutions using the European System of Accounts (ESA 2010) as reference. However, given the diversity of functions performed by the institutions covered by this measure, with different business models and regulatory and supervisory frameworks, narrower aggregates are often considered in some analyses. Under the narrower version, some authorities focus on credit intermediation activities. In terms of financial sector sub-sectors, it includes Other Financial Intermediaries (OFIs), Financial Auxiliaries (FAs), Captive Financial Institutions and Money Lenders (CFIMLs), Insurance Corporations (ICs), Pension Funds (PFs) and Investment Funds (IFs), excluding non-money market funds. Although the definition adopted by the European Systemic Risk Board (ESRB) also includes Money Market Funds (MMFs), given their low relevance in Portugal, they are not considered in this Box.

¹² FSB (2023), Global Monitoring Report on Non-Bank Financial intermediation 2023.

Chart B3.1 • Non-bank financial sector developments in Portugal and the euro area | As a percentage of GDP



Source: ECB. | Notes: The sector's dimension is calculated based on total financial assets. For the denominator, the GDP of the year ending in the respective quarter was considered.

Chart B3.2 • Composition of the financial sector in Portugal – June 2024



Sources: ECB and Banco de Portugal. | Notes: Breakdown of institutional sectors according to ESA 2010. In this aggregate, the total financial sector, excluding the central bank, is considered. The composition of the financial sector is based on total financial assets. OMFIs – Other Monetary Financial Institutions.

Contrary to the euro area path in the post-financial crisis period, the NBFS's weight in the Portuguese economy has been declining, accounting for 87% of GDP in the second quarter of 2024 (370% in the euro area) (Chart B3.1). As of this date, the institutions comprising the NBFS accounted for one third of the assets of the Portuguese financial system (excluding the Central Bank), with the CFIMLs and ICs standing out, with 14.6% and 7.6% of total assets respectively (Chart B3.2).

The diversity of activities performed, differences in the financial architecture of each country, and specific fiscal, regulatory and legal characteristics, among other factors, result in a NBFS composition – assessed using the broad measure – that is highly heterogeneous across euro area countries (Chart B3.3). In relative terms, this sector has a contained weight in the Portuguese economy and financial system. In terms of structure, in Portugal, investment funds are less important compared to most euro area countries and CFIMLs weigh significantly in the domestic total, although much less than in Luxembourg, Malta, Cyprus and the Netherlands, for example.



Chart B3.3 • Comparison of the non-bank financial sector in the euro area – June 2024

OFIs, FAs and CFIMLs include a wide variety of financial intermediaries, sharing the fact that they are not allowed to take deposits and can finance themselves by issuing securities and loans. FAs include entities whose business is to facilitate financial intermediation; however, they do not handle the intermediation. This group's heterogeneity is reflected in the variety of instruments on the balance sheet assets, while liabilities are predominantly composed of debt securities and loans.

CFIMLs include holding companies (financial and non-financial holdings and trusts), money lenders (granting credit secured by a pledge over assets) and special purpose entities (SPEs) that raise market funds to fund firms within the group. In aggregate terms, CFIMLs finance themselves through equity instruments and, to a lesser extent, loans, with equity being the main asset. Despite its relevance, this sector's weight in the economy has declined in recent years, from 76% of GDP at the end of 2013 to 38% in the second quarter of 2024.

OFIs' main task is to provide financial intermediation services by borrowing from other financial entities or issuing securities and by lending. Their category is highly diverse, with credit securitisation entities accounting for 2/3 of the sub-sector's total assets. These entities became more relevant in the period before the sovereign debt crisis but have seen a gradual reduction in their assets. OFIs also include central counterparties, firms specialised in lending in specific segments, (factoring, leasing, credit-purchase financing companies, credit cards), investment firms, venture capital and regional development, and mutual guarantee companies. The weight of these institutions in the economy also declined from 32% of GDP at the end of 2013 to 10% in the second quarter of 2024.

Interlinkages

For financial stability purposes, it is important to analyse the interlinkages that this sector establishes with the broader financial system and the various institutional sectors. Through the borrowing and lending positions with other sectors, reflected in financing relationships, typically via debt or equity instruments, these interlinkages strengthen the NBFS's potential to transmit and amplify of shocks within the financial system and the economy.

The sector's financial assets are predominantly concentrated in non-resident counterparties, in particular IFs, ICs and PFs (Chart B3.4). This sector plays a significant role in financing non-financial corporations, in particular through CFIMLs, reflecting relationships between economic groups, as this sub-sector includes financial and non-financial holding companies.

The interlinkage between NBFS institutions and Other Monetary Financial Institutions (OMFIs), an aggregate almost entirely composed of banks, is also limited and has declined in the last decade. While investments in OMFIs are of some materiality for OFIs and FAs, they only accounted for 2% of other OMFIs' liabilities in the second quarter of 2024. In total assets, the exposure of OMFIs to the NBFS is 4.0%, not exceeding 1.3% for any of the sub-sectors.

Likewise, from a perspective of obtaining funds, the main counterparty sector for the NBFS is the Rest of the world, i.e. non-resident entities. There are notable exceptions for IFs, where resident households reach almost 50% of the source of funds, and PFs, whose liabilities are mainly towards resident households.

This analysis considers only direct interlinkages between financial institutions. In addition, there are also indirect interlinkages associated with the exposure of different institutions (sectors) to common risks (counterparty sectors). Similarity in investment strategies, particularly exposure to common assets, is a form of indirect interlinkage that exposes different financial institutions to
the materialisation of the same risks. Combining the two types of interlinkages increases the impact of the underlying risks.

Exposure to Portuguese sovereign debt securities is material in the financial sector in Portugal. This cross-cutting exposure makes the portfolios of all institutions more vulnerable to market risk. For example, a liquidity shock in one of the sub-sectors, which causes a sharp rise in yields with a material impact on market prices may trigger a synchronised devaluation of assets held in portfolio by financial institutions of the various financial sub-sectors in Portugal and may be of a systemic nature.¹³ However, three reasons have led to a decrease in the risks associated with this exposure in recent years. On the one hand, the risk associated with public debt has improved, as reflected in ratings and market rates and their spreads in relation to lower-risk issuers in the euro area. In addition, compared to 2020, the Portuguese financial sector's exposure to debt securities issued by the domestic general government has declined. Moreover, since July 2022 the existence of the Transmission Protection Instrument (TPI) has contributed to containing the fragmentation of debt markets in the euro area.



Chart B3.4 • Interlinkages in the non-bank financial system in Portugal

Source: Banco de Portugal. | Notes: The flows reflect non-consolidated figures in €1 billion with reference to the second quarter of 2024. The following financial instruments were considered to calculate the financial assets: deposits, debt securities, loans, shares and other investment fund units and listed shares. The institutional sectors considered are: Other Monetary Financial Institutions (OMFIs), Central Bank (CB), Investment Funds (IFs), Other Financial Intermediaries (OFIs), Financial Auxiliaries (FAs), Captive Financial Institutions and Money Lenders (CFIMLs), Insurance Corporations (ICs), Pension Funds (PFs), Non-Financial Corporations (NFCs), General Government (GG), Households (Hous) and Rest of the World (ROW).

¹³ See Box 5 of the *Financial Stability Report*, June 2020, Banco de Portugal.

Box 4 • Cyber resilience test: the instrument and experience of the Banco de Portugal

In 2024, the European Central Bank (ECB) conducted a cyber resilience stress test on significant institutions to assess their capacity to respond to and recover from a severe but possible cyber incident. The importance of cyber risk and the need to enhance its assessment within the financial system prompted the Banco de Portugal to conduct a similar exercise, extending the sample to relevant institutions within the Portuguese banking system. In addition, benefiting from the conceptual framework of the European Systemic Risk Board (ESRB), the Banco de Portugal broadened the scope of the exercise to incorporate the systemic dimension.

This Box presents the results of the exercise conducted by the Banco de Portugal.

Digitalisation and cyber risk in the financial system

The financial sector has been disrupted by the emergence of digital firms (fintechs and big techs) offering a wide range of advanced technology-based financial services. These firms emerge as competitors or suppliers of traditional banks, using sophisticated technologies such as blockchain, cloud computing and artificial intelligence. Traditional banks have also benefited from new technologies and information systems that enhance efficiency and enable productivity gains.

These trends, embodied in greater computational capacity and automation, and the ability to access and manage vast amounts of data, enable the provision of more services to consumers at greater speed and lower cost. Initially, the digital transformation of the financial system focused on the migration of banks' activity from physical commercial channels to digital channels – online and mobile banking – and the automation of internal business processes (Box 5, *Financial Stability Report*, December 2021). Today, the transformation allows the exploitation of new technologies to generate a comparative advantage over competitors and increase profitability.

Digital developments have made the financial system more susceptible to cyberattacks, with the potential to hinder the functioning of key economic functions (ESRB, 2020). Such incidents may originate from financial institutions, service providers, or other external entities, such as financial market infrastructures, including payment systems. Given the high interlinkage between institutions and the interdependence of information systems, incidents can rapidly escalate and spread throughout the system. With heightened geopolitical instability, both the frequency and severity of cyberattacks have risen (*Financial Stability Report*, May 2024 and November 2023, and *Global Financial Stability Report*, April 2024), and are considered a significant risk to financial stability by the ESRB and the International Monetary Fund (IMF).

Systemic nature of cyber risk and the perspective of financial regulators

There are several channels through which cyber risk can propagate and amplify within the financial system (Table B4.1). The operational channel arises from the complexity and dependency of information systems on a limited number of suppliers. This implies that the disruption of a critical service (e.g. payment service) may have repercussions for institutions relying on such services (e.g. inability to process transactions). This operational disruption can cause a liquidity problem, which may lead to higher volatility and market stress (financial channel). In addition, a cyber incident affecting the system may lead the public to question the reliability of an institution, potentially transmitting this effect to other institutions within the system (confidence channel).

The systemic nature of cyber risk, reflected in its potential to undermine financial stability, has prompted financial regulators to analyse the suitability of their tools to monitor and mitigate these risks (ESRB, 2022). In this analysis, it is important to distinguish between individual (microprudential) risks, which

arise from vulnerabilities inherent in each bank's business model and its operationalisation, and the system's (macroprudential) risks, which depend on the structure of the financial system, the collective behaviour of institutions or their shared reliance on external institutions.

		Second-order effect		
		Operational	Financial	Confidence
First-order impact	Operational	An institution's suspended transactions prevent the execution of transactions with counterparty institutions (e.g. transfers of funds).	Suspension of new loans due to operational problems results in an opportunity cost for firms that are unable to secure financing and are forced to postpone or waive investments.	Data integrity breaches lead to technical and functional errors in the applications used by customers, generating distrust and deposit transfers to other banks (cyber bank run).
	Financial	The increase in the financing cost and the lack of liquidity prompted the institution to suspend transactions in accordance with the established exceptional procedures.	The lack of liquidity caused by the incident in the affected institutions leads to asset fire sales, which may exacerbate volatility in the respective markets.	The financial losses of a systemically relevant institution, when made public, give rise to a loss of confidence in the system.
	Confidence	The loss of confidence in a systemically relevant institution prompts others to activate emergency procedures, resulting in operational disruptions.	The incident's reputational impact may lead the market to broadly increase the risk premium across all the institutions within the system.	The loss of confidence in the institution affected by the incident spreads to others within the system through fake news, potentially causing bank runs in various institutions in the system.

Table B4.1 Contagion channels in the context of cyber incident – examples

Regulation (EU) 2022/2554 on digital operational resilience for the financial sector (Digital Operational Resilience Act – DORA) applicable in the European Union as of 17 January 2025, aims to provide a harmonised framework of rules to foster digital operational resilience in the financial sector, laying down minimum requirements for the security of network and information systems and establishing an oversight structure for critical third-party information and communication technology service providers. However, these requirements, which focus more on the resilience of individual institutions, should be strengthened by developing a macroprudential oversight framework for systemic cyber risk, including analysis and policy tools to understand, monitor and mitigate these risks.

What are "cyber stress tests" or cyber resilience tests

Operational cyber resilience scenario testing – or simply cyber stress tests – can have a microprudential focus (in the institution) and/or macroprudential focus (in the system), enhancing the analytical tools available to supervisors (ESRB, 2023). These exercises aim to analyse institutions' response and ability to recover from a hypothetical, albeit plausible, severe cyber incident, and to quantify its impacts on individual institutions and on the system as a whole. This assessment makes it possible to identify the institutions' and/or system's greatest vulnerabilities under the set scenario and to develop a plan to mitigate them.

The cyber stress test carried out by the Banco de Portugal

The Banco de Portugal conducted a cyber stress test from 2 April to 29 May 2024 in accordance with its Strategic Plan and the supervisory priorities of the ECB. The cyber stress test followed the

conceptual framework developed by the ESRB (2023) and benefited from the ECB's methodology for conducting the 2024 thematic supervisory cyber resilience stress test.

The cyber stress test adopted the scenario and the questionnaire to institutions developed by the ECB, complementing this methodology with a macroprudential perspective. The exercise covered a representative sample of the Portuguese banking system, including credit institutions with national systemic relevance under the direct supervision of the Banco de Portugal and the ECB.

The scenario consisted of a data integrity breach in each institution's core system, assuming that all its preventive measures failed i.e. all defence mechanisms and safeguards in place failed to prevent the incident.

The institutions' questionnaire assessed the incident's impact and the response and recovery measures of each institution, as well as second-round effects and liaison with other institutions and authorities (Table C4.2). Against this background, the institutions identified the main activities or functions affected by the incident, assessing their impact on the institution and the system, and identified procedures and measures to respond to and recover from the incident. Some aspects assessed were the activation of crisis management plans, their suitability for the scenario, the communication policies, and the mitigation measures in place.

The modules of the questionnaire measuring systemic impact specifically examined common reliance on third-party service providers, sector-wide coordination, and economic impact under the assumption that the incident affected several institutions.

Table B4.2 • Main components of the exercise questionnaire

1. Impact analysis	Impact analysis of the scenario on the institution's ICT systems.
2. Response	Assessment of measures related to response planning, analysis and mitigation.
3. Recovery	Assessment of the recovery plan, expected recovery, and effective recovery.
4. Economic impact	Quantitative information on losses and the impact on key economic functions.
5. Systemic impact	Assessment of interlinkages, contagion, coordination and concentration.
6. Contagion impact	Identical to component 4, but assuming that the incident is systemic.

Sources: European Central Bank's Cyber Resilience Stress Test 2024 and Banco de Portugal's Cyber Resilience Stress Test 2024. | Note: in the last part of the questionnaire, the assumption of systemic impact implies that the institutions assume the incident occurs across all the institutions participating in the exercise.

Main results of the Banco de Portugal's cyber stress test

While opportunities for improvement were identified, the operational resilience of the institutions and of the system as a whole was adequate, complying with good practices and guidance from Portuguese and international authorities. The assessment of banks' response and recovery capacity was considered adequate, contributing to the system's resilience and stability.

The estimated economic impact, measured by the institutions' profitability, was limited. In addition, adequate response and recovery plans were in place, with widespread activation of exceptional procedures and communication with the different stakeholders. However, despite the limited economic impact assessed in this exercise, banks' experience in calculating the impacts of these incidents remains low, partly due to the infrequent occurrence of successful severe cyberattacks.

Each institution's results fed into the 2024 Supervisory Review and Evaluation Process (SREP). The exercise showed that institutions have adequate response and recovery plans in place

but identified opportunities for improvement in each institution's cyber resilience framework, which were flagged by the Banco de Portugal within the microprudential supervisory dialogue. Following the Banco de Portugal's feedback, the institutions are working on implementing the recommendations received.

Furthermore, system-wide measures are being analysed and developed with the Banco de Portugal's involvement and the sector's participation. Coordination and interaction between financial sector institutions and with authorities during a cyber incident are particularly important, as they are key to preserving confidence in the system (ESRB, 2024). To this end, measures to improve coordination in the sector are being assessed, leveraging already existing structures such as the Banking Industry Forum on Cybersecurity and Operational Resilience (*Fórum com a Indústria para a Cibersegurança e Resiliência Operacional* – FICRO), an advisory structure of the Banco de Portugal which brings together representatives of the banking sector, the critical payment service provider and the Portuguese cybersecurity authority.

Implementing these initiatives will provide the system with an increased capacity to absorb the impacts of cyber incidents, avoiding potential disruptions that could be significant and ripple through economic activity.

Conducting the cyber stress test helped to raise participating institutions' awareness of the systemic potential of cyber risks and deepened understanding of the institutions' and the system's cyber resilience, both for the institutions themselves and for the Banco de Portugal. In addition, as a pioneering exercise in Europe, it enabled the Banco de Portugal to gain valuable insights into this type of exercise and to strengthen its analytical toolkit.

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Box 5 • Implementation of Basel III reforms in the European Union

Main changes fostered by the reforms

The Basel III reforms (2017–20) aim at reducing excessive variability in the calculation of capital requirements and increasing the transparency and comparability of banks' capital ratios. These reforms are intended to facilitate the assessment of banks' risk profiles and contribute to enhancing the credibility of capital requirements calculation.

These aims are essentially pursued by strengthening and increasing risk sensitivity in the standardised approaches, limiting the use of internal models by banks and introducing a floor on the total risk exposure amount calculated when using internal models (the so-called 'output floor'). The intention is, however, to ensure that these measures do not lead to a significant increase in capital requirements for the banking system as a whole.

These reforms did not cover the regulatory treatment of sovereign exposures, which remained unchanged, while the Basel Committee on Banking Supervision (BCBS) published a discussion paper on this topic in December 2017.

On 19 June 2024 amendments to the CRR and the CRD implementing the final Basel III reforms (the CRR3, Regulation (EU) 2024/1623 and the CRD6, Directive (EU) 2024/1619 respectively) were published in the Official Journal of the European Union. Most of the provisions therein apply from 1 January 2025 and 11 January 2026 onwards for CRR3 and CRD6 respectively.

The European Union regulatory framework, which is now being amended, will maintain a few differences from Basel standards. The most notable examples include, in the credit risk framework, the supporting factors for the financing of small and medium-sized enterprises and the financing of essential public services. In the credit valuation adjustment (CVA) risk framework, exemptions applicable to specific intragroup transactions with non-financial counterparties and public sector entities will be maintained.

The summary of the main changes to the CRR anticipated to be most relevant to the Portuguese banking system is presented in Table B5.1.

Credit Risk Standardised Approach (SA)	Calculation of exposure at default (EAD): Introduction of a definition of "commitment" applicable to off-balance sheet items; Revision of the classification of off-balance sheet items with the inclusion of a minimum conversion factor of 10%.				
	Reduction in the mechanistic use of external credit ratings: Introduction of a due diligence requirement for institutions to assess the credit risk of an exposure based or supplementing information other than external rating assessments, that possibly lead to an increase in the risk weight (not applicable to sovereign exposures).				
	Break in the links between the banking sector and the sovereign: Restrictions on the use of external ratings assigned to credit institutions that include assumptions of implicit government support.				
	Revision of exposure classes and sub-classes Corporates: differentiated prudential treatment for specialised lending (e.g. project finance); Retail portfolio: specific risk weight of 45% assigned to revolving exposures with a repayment history of at least 12 months				
	Exposure secured by real estate: New loan-to-value (55%) threshold for applying the preferential treatment of residential real estate exposures; Differentiated treatment for income-producing real estate (IPRE) exposures and for land acquisition, development and construction (ADC) exposures.				
	New methodologies for assigning risk weights Exposures to unrated credit institutions subject to different risk weights, based on the assessment of compliance with the applicable prudential requirements.				
	Revision of criteria applicable to real estate valuation and revaluation Prudent and conservative valuation: property value (i) exclude expectations on price increases and (ii) is adjusted when current market values significantly exceed those deemed sustainable over the life of the loan Limitations on the recognition of upward revaluations of collateral depending on historical information.				
Credit Risk Internal Ratings Based Approach (IRB)	Restrictions on the use of IRB methodologies for specific exposures Equity exposures: may only be treated under the SA method; Exposures to large corporates, credit institutions and financial institutions: excluding the possibility of using own estimates for the loss given default (LGD) parameter.				
	Revision of the risk weight formula, regulatory parameters and their input floors Removal of the scaling factor of 1.06 from the risk weight formula; Review of the regulatory LGD parameters (e.g. from 45% to 40% for unsecured exposures); Off-balance sheet exposures: possibility to model credit conversion factors limited to revolving commitments; Introduction of input floors for the probability of default (PD), LGD and EAD parameters.				
Operational risk	Replacement of current approaches for calculating capital requirements with a single new standardis measurement approach (SMA) Capital requirements are calculated based on the institution's business indicator, using the Basel III optic disregard operational loss experience (Internal Loss Multiplier = 1).				
Market risk	Completion of the implementation of the FRTB (Fundamental Review Trading Book) standard initiated with the CRR2 (Regulation (EU) 2019/876) Strengthening of the rules for the definition of the boundary between the trading and banking books, with new restrictions and requirements on the reclassification of portfolios. New FRTB approaches applicable to capital requirement calculations and not only for reporting purposes: In the standardised approach, introduction of a new more risk-sensitive approach; In the internal models approach greater focus on the analysis of the so-called tail risk				
Output floor	Floor on the total amount of risk-weighted assets computed according to internal methodologies The calculation of total risk-weighted exposure amounts by using internal models cannot be less than 72.5% of the aggregation of all capital requirements that would be calculated using solely standardised approaches The output floor is applied at all levels to which other capital requirements are applicable, i.e. on a consolidated basis at the European Union level, but also on a sub-consolidated basis at the level of each Member State and, where applicable, at the individual level.				

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Source: CRR: Regulation (EU) No 575/2013; CRD: Directive 2013/36/EU.

Impact of the adoption of reforms

Based on the information reported as at 31 December 2023, as part of the Basel III monitoring exercise conducted by the European Banking Authority (EBA), the implementation of reforms, as laid down in EU law (Section 1.2 of EBA 2024), is estimated to increase Tier 1 capital requirements by 7.8% for the European sample, not considering the envisaged transitional regimes. This compares with an estimated 1.0% increase in the Portuguese sample.

The figures represent a decrease compared to those computed in the previous exercise as at 31 December 2022 for the EU (9.0%) and the maintenance of the estimated impact for Portugal (Chart B5.1).



Chart B5.1 • Impact of the final Basel III reforms on capital requirements | Per cent

Sources: Banco de Portugal and EBA | Notes: Estimated impact considering the risk categories for all relevant capital requirements and prudential metrics: SA (credit risk requirements – standardised approach), IRB (internal ratings based approach), TIT (securitisation requirements), RO (operational risk requirements), CVA (credit valuation adjustment requirements), RM (market risk requirements), LR (leverage ratio), OF (output floor). The impact estimation measure used corresponds to the 'minimum required capital' (MRC), expressed in terms of Tier 1. The MRC is calculated by multiplying each institution's total risk-weighted assets (RWA) by the sum of Pillar 1 and Pillar 2 requirements (P2R) and the combined buffer requirement.

The estimated impact for the EU average is strongly influenced by the implementation of the new rules for calculating operational risk requirements and mainly by the output floor application.

The estimated impact for the average of the Portuguese sample is essentially driven by changes in capital requirements for the operational and credit risk categories (SA and IRB approaches), albeit in opposite directions.

The impact of operational risk, which is the risk category with the largest estimated rise in capital requirements, results from the new methodology, according to which the requirements calculation depends on the size of the institutions' business. This is translated into a new calculation formula based on a business indicator, now weighted by increasing factors according to its value. This indicator is based on the size of the institution's business calculated with reference to the annual average profit or loss in specific activities over the last three financial years. The increased impact in this risk category in 2023 compared to 2022 is mainly accounted for by the increase in net interest income in 2023 amid the prevailing interest rate environment, one of the key components of this business indicator.

The impact of credit risk points to a possible slight reduction in capital requirements. Under the standardised approach, this reduction reflects the assignment of a more favourable risk weight, lower than the current one, applicable to the residential real estate credit portfolio with an LTV up

to 55%, when under the current rules the LTV threshold is 80%. The Portuguese sample benefits from the fact that 94% of the stock of the portfolio of exposures secured by immovable property corresponds to loans with an LTV below the current threshold (65% have an LTV below 60%). With regard to the IRB approach, the estimated variation is explained by the removal of the scaling factor from the risk weight calculation formula and the reduction of the regulatory LGD parameter for unsecured exposures.

In market risk, the estimated impacts reflect structural changes in the capital requirements calculations framework introduced by the Fundamental Review Trading (FRTB). Indeed, the new, more risk-sensitive standardised approach rests on three pillars: (i) a sensitivities based method developed to calculate changes in the value of financial instruments driven by certain underlying risk factors; (ii) a capital requirement, targeting the credit risk of instruments in the trading portfolio; and (iii) a requirement to capture the residual risk of instruments in the trading portfolio. The presented estimates mainly reflect the results of applying the first pillar, with a focus on the consumption of capital associated with exposures subject to foreign exchange risk capital requirements.

The overall impact estimated for the European average is largely determined by the activation of the output floor, an effect not seen in the Portuguese sample. The output floor activation depends on the average density of the risk-weighted assets (RWA) of institutions using internal models to calculate capital requirements, a metric that can be measured by the ratio of RWAs to the banking sector's total assets. In the Portuguese banking system, this indicator amounted to 41.8% in June 2024 (42.7% in December 2023), i.e. above the euro area average of 35.7% in June 2024 (36.1% in December 2023).

As regards the dispersion of impacts, with reference to 31 December 2023, the situation is different between the European Union and Portugal (Chart C5.2). Indeed, in the EU sample, composed of 152 banking groups, estimates show distinct impacts across different types of institutions (G-SIIs, O-SIIs and other) as well as differentiated business models (Table 1 in EBA 2024). In the Portuguese sample, composed of seven banking groups, all of which identified as O-SIIs, the estimated impacts are more homogeneous.



 ${\bf Chart\ B5.2}\,\,\cdot\,\,{\rm Distribution\ of\ changes\ in\ institutions'\ capital\ requirements\ in\ EU\ and\ PT\ samples\ |\ Per\ cent$

Sources: Banco de Portugal and EBA | Notes: The distribution refers to minimum required capital (MRC), expressed in terms of Tier 1, as described in Chart B5.1. The upper boundaries of the whiskers represent the maximum sample observations and the lower boundaries represent the minimum values. In the central rectangles the bottom line and the top line show the first and the third quartile respectively. The inner line and the cross show the median and the mean respectively.

Transitional provisions

EU legislation incorporates several transitional provisions in the CRR3, allowing the impact of adopting the latest Basel III reforms within the European Union to be deferred in some cases until 2032.

Bearing in mind the characteristics of the Portuguese banking sector, the following aspects are highlighted:

• Reintroduction of the prudential filter created in response to the COVID-19 pandemic:

The adoption of a tighter monetary policy, reflected in rising key interest rates, and the consequent impact on the devaluation of public debt securities held by banks, has led to the reintroduction of a prudential filter that allows institutions to mitigate the impact of the volatility of these value changes on their capital ratios. Thus, until 31 December 2025 institutions are allowed to fully neutralise unrealised gains and losses accumulated since 31 December 2019 associated with public debt securities measured at fair value through other comprehensive income.

Conversion factor for unconditionally cancellable commitments (UCCs):

UCCs (e.g. undrawn credit facilities cancellable at all times by the institution) will generally be subject to capital requirements. Acknowledging the potential negative impact of this change on the availability of this type of facility and, consequently, on corporates' working capital, these commitments may not be subject to capital requirements until 2029, and will be subject subsequently and progressively to the new rules until 2032.

• Exposures secured by real estate:

To allow institutions to adapt to the new real estate valuation and revaluation criteria (Table C5.1), they may continue to use the market value for calculating capital requirements for loans secured by real estate granted up to 1 January 2025. This treatment may apply until 31 December 2027 or until a revaluation of the immovable property is mandatory under the applicable prudential framework, whichever occurs first for each exposure.

• Output floor:

CRR3 sets a five-year period starting in 2025 for the introduction of the output floor, which starts at 50% until it reaches 72.5% in 2030. During this transitional period, the annual increase in the value of risk-weighted assets as a result of the gradual increase in the output floor cannot exceed 25%.

Finally, in the absence of convergence on the implementation timeline for the FRTB across BCBS member jurisdictions, the European Commission considered that an international level playing field was not ensured, and therefore took the initiative¹⁴ to postpone the implementation of the new rules for the market risk framework by one year. With this deferral, institutions will delay the previously mentioned impacts in this risk category until 1 January 2026.

Next steps

Given the forthcoming implementation of these reforms on 1 January 2025, and considering that the new rules entail operational challenges associated with the need for more granular information, as well as potential challenges arising from changes whose impact (quantitative and/or operational) may still not have been measured, institutions should continue to intensify their preparation efforts.

¹⁴ Under the mandate set out in Article 461a of CRR3 a delegated act has been adopted. See Commission Delegated Regulation (EU) 2024/2795 – EN – EUR-Lex

In this respect, for example, institutions using internal models will have to maintain a parallel calculation of capital requirements in line with the standardised approaches as a result of the implementation of output floor rules. In addition, there are developments that require timely preparation by institutions, such as the implementation of the new rules on the revaluation of real estate received as collateral and the need to collect and store information on counterparties that are credit institutions without external credit rating.

This is a regulatory framework incorporating a large amount of level 2 regulatory technical standards (RTS), implementation technical standards (ITS) and also level 3 guidelines. This includes circa 140 mandates assigned to the EBA, particularly in the areas of credit risk, market risk and operational risk. Furthermore, the regulatory framework itself will also be subject to assessment reports (EBA 2023), and it is important that institutions monitor these developments.

References

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European Banking Authority (EBA) 2023, (CRD - CRR).

II Special Issue

Interest Rate Risk in the Banking Book

The countercyclical capital buffer in a risk-neutral environment in Portugal

Interest Rate Risk in the Banking Book¹

Background 1

Recent years have been characterised by an inflationary environment in which central banks have taken decisive action in changing official interest rates to promote price stability. The uncertainty associated with developments in market interest rates and their subsequent impact on banks' financial position has heightened awareness of the importance of managing banks' interest rate risk.

Interest rate risk assessment encompasses all assets and liabilities recognised on the balance sheet, including both the trading book and the banking book. However, the way in which the interest rate risk of these two books is considered at regulatory level differs.

Overall, while banks' trading book assets and liabilities² are subject to minimum prudential capital requirements for market risk, including interest rate risk, the banking book³ is subject to a specific prudential regulatory framework for interest rate risk. This regime is based on a case-by-case assessment by the supervisor and on sensitivity analyses based on specific interest rate change scenarios.

Supervisors have prioritised the assessment of interest rate risk in the banking book (IRRBB). Following regulatory changes in this area, the European Banking Authority (EBA), published a monitoring report earlier this year on the impact of interest rate changes on banks and the evolution of their ability to manage this risk, highlighting areas of focus directed at supervisors and regulators in both the short and medium/long-term.

The regulatory framework governing interest rate risk in the banking book is particularly relevant in the Portuguese context, given the significance of this book in credit institutions' balance sheets, whether in the form of loans or deposits, and the impact that unexpected interest rate shocks may have on the economic value of these instruments and their contribution to net interest income. On the liabilities side, given the relevance of non-maturity deposits, it is crucial to assess the interest rate repricing periods applied by banks when assessing this risk.

Shocks may have very different impacts across banks, depending on the predominant type of interest rate in the loan portfolio (variable, mixed or fixed) and their repricing periods, behavioural maturities estimated by banks for deposits and the presence and nature of any hedging strategies.

The impact of interest rate changes is particularly noticeable on the economic value of fixed rate assets and liabilities. If these assets or liabilities are measured at fair value, fluctuations in their economic value have a direct impact on banks' financial statements and profitability. Any changes in the value of assets measured at amortised cost may also have an impact on profitability if, for liquidity pressures (deposit withdrawals/derivative margin calls), they have to be disposed of, in

¹ Prepared by Bruno Dias and Sílvia Santos.

² All positions in financial instruments and commodities held by an institution either with trading intent or in order to hedge positions held with trading intent.

³ The banking book comprises all financial instruments recognised as an asset, or a liability not included in the trading book.

which case any unrealized losses associated with these assets are recognised in the accounts. These effects can be further exacerbated during periods of heightened turbulence.

In turn, for assets and liabilities remunerated at variable rates or with short maturities, the impact of changes in interest rates is particularly noticeable in net interest income, significantly influencing banks' profitability. This impact becomes even more pronounced, the greater the mismatch between the amounts of assets and liabilities with interest rate repricing periods of less than one year.

The interest rate risk analysis of the banking book presented in this Special issue complements that of the November 2023 *Financial Stability Report* by analysing the main interest rate risk drivers, including a breakdown of impacts and an analysis of average repricing maturities.

An analysis of the evolution of impacts over time, from an economic value of equity perspective, suggests that banks have implemented interest rate risk mitigation strategies over the past year, with the Portuguese banking system no longer having banks classified as outliers under the prevailing regulatory framework. In terms of net interest income, the analysis indicates a nearly universal reduction in a scenario of falling rates. However, the banking system continues to demonstrate robust net interest income levels, exceeding those observed during the low interest rate period.

The historical evolution of the modelling profile of non-maturity deposits, and the consideration of alternative scenarios for the impact analysis, underscores the importance of supplementing interest rate risk assessments with sensitivity analyses of the assumptions employed by banks.

2 Recent regulatory developments

The prudential framework governing interest rate risk in the banking book (IRRBB) sets out rules to discourage banks from taking on excessive exposure to this risk. Banks should assess potential vulnerabilities to unexpected changes in interest rates and prudently manage interest rate risk from both a perspective of an economic value of equity and net interest income.

In the Supervisory Review and Evaluation Process (SREP), supervisors regularly assess the vulnerabilities and risks to which each institution is exposed, by assessing strategies and processes implemented by banks, as well as their capital and liquidity adequacy. This could result in additional capital requirements or other supervisory measures under Pillar 2 if hedging is found to be excessive. However, unlike other risks, the regulatory framework for interest rate risk in the banking book does not set out minimum capital requirements that are widely and automatically applied under Pillar 1.

The assessment of excessive exposure to interest rate risk in the banking book is based on outlier tests that simulate the impact of standardised interest rate change scenarios on the economic value of equity and net interest income.

In terms of economic value of equity, banks assess whether, in light of six shock scenarios affecting short-term and/or medium and long-term interest rates, the reduction in the economic value of equity exceeds 15% of Tier 1 capital. This analysis considers the current value of mismatches between assets and liabilities updated by interest rates resulting from the application of the shock and compares it with the current value of these mismatches using the interest rates of the current yield curve, always assuming a balance sheet where instruments mature on their repricing dates and are not rolled over. There is no direct correspondence between the change in the economic

value of an instrument and the immediate impact that this change in value has on institutions' financial statements.⁴

From a net interest income perspective, under two scenarios, one involving a parallel upward shift of the yield curve and the other of a parallel downward shift, an analysis is conducted to determine whether there is an expected decrease in net interest income of more than 5% of Tier 1. This calculation forecasts interest income and expenses over a one-year horizon, assuming a constant balance sheet where interest rates on instruments are revised on their repricing dates, according to the new yield curve.

Following the entry into force of the Regulatory Technical Standards (Delegated Regulation (EU) 2024/856),⁵ as previously mentioned, the EBA published a monitoring report in early 2024 on the impact of changes in interest rates on banks and developments regarding their ability to manage this risk. This report pinpoints regulatory policy matters that should be subject to greater scrutiny by supervisors and includes initiatives that the EBA intends to pursue in this area in the short and medium/long-term. Among these initiatives is research on indicators that will complement the outlier test in assessing risk from a net interest income perspective, the presentation of an analysis of banks' hedging strategies, and the development of tools to monitor parameters used by banks in modelling behavioural assumptions relevant for determining interest rate repricing periods for certain assets and liabilities.

The Basel Committee on Banking Supervision (BCBS) has maintained interest rate risk as a priority issue. In the wake of the crisis that hit some banks in the US and Switzerland in 2023, the BCBS prioritised further work to better understand the sensitivity of deposits to interest rate risk and announced its intention to explore regulatory policy options in the medium term. Concurrently, following a period of public consultation, the BCBS published an update in July 2024 on the size of the shocks to be used in outlier tests for a range of currencies. These shocks should be updated on a regular basis to reflect changes in interest rate volatility. This update confirmed adjustments in the magnitude of shocks for certain currencies, including EUR interest rates. With an implementation date set by the BCBS for 1 January 2026, the new shocks for the EUR were increased from ± 200 , ± 250 and ± 100 basis points (b.p.) for the parallel shock, in the short term and long term respectively, to ± 225 , ± 350 and ± 200 b.p. However, implementing them in the regulatory technical standards that determine the shock scenarios for supervisory purposes.

3 Characterising interest rate risk in the banking book over time

The three key factors for assessing the impact of an interest rate change are: (i) the period elapsing between the reference date and the date of the next interest rate repricing (repricing period), (ii) the amount associated with each period, and finally, (iii) the change in the interest rate for that period, resulting from the application of the shock. These three factors are key in gauging the sensitivity of the economic value of assets and liabilities to changes in interest rates, as well as the change in interest income and expenses over the projection period of expected net interest income. An instrument-by-instrument analysis may be made. In the same way that longer repricing

⁴ For instance, changes in the economic value of assets and liabilities accounted for at amortised cost that do not reflect credit losses are not recognised in the accounts, except where assets are sold, or liabilities repurchased.

⁵ The technical standards specify the supervisory shock scenarios, the common modelling assumptions, and parametric assumptions that are used to calculate the outlier tests.

periods contribute more significantly to increasing the sensitivity of the economic value of assets and liabilities to interest rate changes, shorter repricing periods contribute to a greater extent to increasing net interest income sensitivity.

Therefore, characterising developments over time in the banking system's balance sheet in terms of the average repricing period for asset and liability instruments provides an insight into the expected impact of certain scenarios, as well as any strategies adopted by banks to mitigate this risk. These include Asset and Liability Management (ALM) and/or hedging through derivatives strategies, by monitoring the trend of matching repricing periods, or changes in average repricing periods per instrument.

Moreover, identifying and understanding the factors that may impact the outcome of assessing the effects of interest rate changes, including assumptions made in determining repricing periods for non-maturity deposits, is key to determining their sensitivity and robustness.

In this context, it is worth noting that the modelling of depositors' behaviour has been addressed at European Union level and by the BCBS. This issue is given specific section in the EBA Guidelines on IRRBB, and the ECB has produced a draft review of interest rate risk exposure at the start of the cycle of interest rate hikes, where behavioural models were subject to targeted analysis. The EBA also has prioritised this issue in the short and medium term in the implementation monitoring framework published earlier this year. As mentioned above, the BCBS is conducting additional work to better understand the sensitivity of deposits to changes in interest rates.

The premise for the analysis presented in this Special issue is regular information reported by banks to supervisors regarding the IRRBB. For December 2023, data reported in the EBA ad-hoc exercise for the five largest banks was used, while for the remaining periods, the IRRBB reporting of Instruction 34/2018 was used. Except for the section relating to sensitivity analyses and impact breakdowns by instrument on economic value and net interest income, focusing on a limited sample of banks, the analysis covers nearly the entire banking system, accounting for 91% of total assets as at December 2023.

3.1 Average repricing period

Between 2019 and 2023, the average repricing period for total assets in the system's banking book stood at two years, slightly below the average period of 2.1 years for liabilities. The proximity between the two average periods is consistent with asset and liabilities management (ALM), which aims to minimise the sensitivity of the economic value of equity to interest rate fluctuations (Chart 1). Despite this apparent balance sheet immunisation, the fact that the average interest rate repricing period for liabilities has been slightly higher than that for assets in recent years has been favourable to banks, given the context of rising interest rates.

As expected, the repricing period for assets is largely determined by the repricing period for loans (1.4 years), accounting for 64% of the overall banking book as at December 2023 and, to a lesser extent, by the debt securities portfolio (24% of the banking book), with an average repricing period of 4.7 years. The repricing period for loans to customers is determined by loans for house purchase, where 80% of the agreements have a variable interest rate and repricing periods of up to one year, as well as by loans to firms, which also have short repricing periods.





Source: Regular reporting on interest rate risk and the EBA ad hoc exercise for euro transactions. | Notes: The average period is the weighted average of the amounts subject to repricing over the corresponding periods measured in years. There is a break in the series in December 23, resulting from methodology changes to the new reporting, in particular a differing reporting for financial derivatives by buckets.

In terms of average repricing periods for funding sources, the heterogeneity observed across categories of financial instruments is largely explained by the type of interest rate prevailing in each category (variable, mixed or fixed) and which, as a trend, has remained stable over time. Term deposits have maintained a low average repricing period close to one semester. For non-maturity deposits, banks consider an average repricing period of 2.7 years, crucial for determining the average repricing period for liabilities, given the weight of this instrument in liabilities. Liabilities represented by securities have an average repricing period of three years, which has been decreasing in recent years. The importance of non-maturity deposits in banks' balance sheets and their discretion in defining the assumptions used to determine their average repricing periods justify a sensitivity analysis of the assumptions used in such modelling.

3.2 Non-maturity deposits modelling profile

Identifying interest rate risk in non-maturity instruments, in particular deposits, whose future cash flows depend on the option given to customers to change the amount deposited at any time, is key to measuring and managing banks' interest rate risk.

According to the EBA Guidelines, banks' modelling should allocate a portion of the stock of nonmaturity deposits to shorter maturities, reflecting changes in interest rates more quickly, the socalled "non-stable deposits." As these deposits have a short repricing period, they have little impact on changes in economic value, as the discount factor for those cash flows has a residual impact. Conversely, these instruments are relevant to determine the impact on net interest income, as they allow interest rate changes to be reflected more rapidly. The tests carried out also consider regulatory or legal limits on repricing rates on non-maturity deposits, which, once certain thresholds are reached (associated, for instance, with the inability to apply negative interest rates), may affect the final impact on net interest income.

Banks should also identify the amounts of stable deposits that do not react to changes in interest rates in the short term, either through volume or remuneration. These deposits should be modelled to identify behavioural maturity, enabling a gauging of their sensitivity to interest rates changes. The longer the behavioural maturity modelled by banks, the greater the benefit of discounting at higher interest rates, benefiting the economic value of equity in rising interest rate scenarios.

Chart 2 shows developments in behavioural modelling of non-maturity deposits by banks in Portugal in recent years. Although, in aggregate terms, there is no clear differentiation in the profile by bucket over the years under review, the first year of the pandemic saw an increase in overnight deposits and a decline in the relevance of maturities of more than five years. In fact, in 2020 banks identified a significant increase in non-stable deposits, accounting for more than a third of total non-maturity deposits. This period coincided with a substantial increase in overall demand deposits in the banking system, and the model results reflected this by allocating a larger share to the non-stable category. In subsequent years, the share of non-stable deposits decreased.



Chart 2 • Amounts in non-maturity deposits by repricing period – December 2019 to December 2023 | As a percentage of total amount

Source: Regular reporting on interest rate risk and the EBA ad hoc exercise for euro transactions.

Given the materiality of non-maturity deposits on the balance sheet and the uncertainty associated with the behavioural modelling of these instruments, banks should ensure that the assumptions used are prudent and updated frequently, especially in periods of greater interest rate volatility. Unexpected changes in competition across banks or the offer of savings products outside the banking system, which could lead to deposit outflows, may limit the overall exposure to interest rate risk and cause the sensitivity of the current value of liabilities to deviate from expectations.

4 Outlier tests

4.1 Economic Value of Equity – EVE

Most adverse scenario

From an economic value of equity perspective, the scenarios likely to have the worst impact on Portuguese banks are, for two-thirds of the institutions, those reflecting interest rate rises (Chart 3). This heightened sensitivity to rising interest rate scenarios is explained by assets with medium-to-long term repricing periods that are not offset by liabilities with the same repricing period, in equivalent amounts. When these assets are discounted at the new highest interest rate, the resulting fall in value is not offset by the change in value of liabilities over these repricing periods.



Chart 3 • Worst case scenario for the impact on the economic value of equity – December 2019 to December 2023 | As a percentage of the number of banks

Source: Regular reporting on interest rate risk and the EBA ad hoc exercise for euro transactions. | Notes: The exercises were based on regulatory scenarios for the immediate shock to the yield curve, which for euro-denominated instruments corresponds to 200 b.p. for parallel shocks (downward and upward) and 250 b.p. for the short-term upward/downward interest rate scenario with convergence to zero in the long term. The increase in the slope is seen as a decrease of 162.5 b.p., which is progressively smaller for longer periods up to a point where an increase is progressively larger up to around 135 b.p. The decrease in the slope is considered an increase of 200 b.p., an increase which is progressively smaller for longer periods up to a point where a decrease is progressively larger to around 90 b.p.

Impact developments and breakdown

To analyse impact developments in parallel downward and upward interest rate scenarios, the impacts calculated in the outlier test exercise by banks in 2022 and 2023 were compared.

At the end of 2023, the absence of any outlier, in terms of changes in the economic value of equity, and the lower dispersion of impact results, compared to the end of 2022, suggest the implementation of risk mitigation strategies by banks in Portugal (Chart 4). In a parallel downward interest rate scenario, the percentage of banks reporting losses in the economic value of equity decreased, and 69% of the banking system, measured in terms of total assets, shows positive impacts (52% in 2022). Moreover, no banks reported losses above the 15% threshold (outliers) in 2023, while in 2022, 5% of the banking system's total assets were classified as outliers. In the reverse scenario of rising interest rates, the share of banks with positive impacts between 2022 and 2023 dropped (from 47% to 31%), and there were no more outlier banks.





Impacts on Economic Value of Equity

Source: Regular reporting on interest rate risk and the EBA ad hoc exercise for euro transactions. | Notes: The outcome of outlier tests are presented for all the institutions in the Portuguese banking system in the form of an empirical distribution using a Gaussian kernel that weighs the institutions by their relative importance in the system, using the amount of Tier 1 capital. The shock considered corresponds to 200 b.p. across the yield curve.

Impact breakdown

The analysis of the outlier test by financial instrument makes it possible to identify instruments where the impact of interest rate changes is most significant and how the use of derivatives may offset this effect on banks' balance sheets. This analysis considers parallel downward and upward interest rate scenarios simulated by banks at the end of 2023, using data from the ad hoc exercise carried out by the EBA. Henceforth, with the entry into force of the new harmonised European reporting format, this analysis will become regular, making it possible to identify over time and in view of successive yield curves for each period, the banks' impact reduction strategies by type of instrument.

It may be concluded that the most relevant instruments for the impact of interest rate shocks on the economic value of equity are debt securities and loans, accounting for 54% and 50% of the change in the economic value of assets in the downward scenario respectively, in assets and non-maturity deposits, accounting for 56% of the change in the economic value of assets in liabilities (Chart 5). As mentioned earlier, this outcome is influenced by banks' assumptions about repricing periods. Furthermore, in a parallel upward scenario, the use of derivatives for interest rate risk hedging is evident in the asset component, whereas this is not the case in a downward scenario.





Source: Ad hoc exercise by the European Banking Authority for significant banks and euro transactions. | Note: The shock considered corresponds to 200 b.p. across the yield curve.

Alternative scenarios

Given that this exercise is conditional on the magnitude of the shocks, two alternative scenarios are also examined for the five largest banks in Portugal considering the international discussion, with December 2023 as the reference point.

The first scenario considers a change in the size of the shock from 200 to 225 b.p. across all periods. Increasing the shock by 25 b.p., i.e. by 13%, the positive impact on the economic value in a downward scenario is amplified, while this is not the case in the upward interest rate scenario. Specifically, in an upward scenario, with the exception of one bank, the impact becomes more negative, ranging from 10% and 12%, compared to the initial shock. In a downward scenario, the impact remains positive and is between 13% and 17% higher than the initial shock. Sensitivity to this shock varies across banks, depending on the highest or lowest share of assets and liabilities with longer repricing periods and thus more sensitive to interest rate changes.

In addition, as mentioned in 3.2 above, these outcomes are conditional on the behavioural assumptions made by each bank for non-maturity deposits. Therefore, a scenario was also considered where non-maturity deposits shift one category to the right, i.e. overnight deposits have a repricing period of up to one month, and consecutively the same applies for deposits with longer repricing periods (Chart 2). In this case, liabilities are refinanced later, meaning that the overall duration of liabilities is extended, resulting in an increase in the impact on the economic value of equity, making it less negative in an upward scenario (due to a reduction in the value of liabilities) and leading to a decrease in the impact on the economic value of equity in a downward scenario (due to an increase in the value of liabilities). For both scenarios, the impact of this change on each bank ranges from 1% to 6% of their Tier 1 capital.

Sensitivity analyses make it possible to conclude that matching the duration of assets and liabilities is key to reducing sensitivity to interest rate changes. Moreover, these analyses make it possible to assess the greater or lesser effect of the assumptions considered in the modelling, in particular for nonmaturity deposits, an issue that has attracted particular attention, given the materiality of its impact.

4.2 Net interest income

Most adverse scenario

Identifying scenarios generating the worst results in net interest income confirms that, for most banks, a parallel rise in interest rates leads to positive impacts, while a downward scenario results in negative impacts (Chart 6). This is because the banking business in Portugal is characterised by a predominance of loans for house purchase with variable rates and loans to firms with short repricing periods. Liabilities are primarily funded by deposits, and their remuneration is not fully adjusted within one year, the horizon of the margin projection exercise, due to their behavioural stability.





Source: Regular reporting on interest rate risk for supervisory purposes and the EBA ad hoc exercise for euro transactions. | Note: The shock considered corresponds to 200 b.p. across the yield curve.

Impact developments and breakdown

Overall, a parallel upward shift in the yield curve has a positive impact on net interest income, while a parallel downward shift has a negative impact on nearly the entire banking system (around 99%, considering total assets).

Notwithstanding an almost broad-based decrease in net interest income in a scenario of falling interest rates and compared to a baseline scenario expected at end-December, banks estimate a decline of around 17% in net interest income across the entire system. It should be emphasised that almost the entire banking system continues to report net interest incomes above those seen in the low interest rate period, including those banks considered outliers by the current definition (48% of the banking system's total assets). Moreover, compared to 2022, there was a slight shift to the right in the impact distribution curve in the parallel downward scenario (Chart 7), which may result from renegotiations and/or more new loans taken out at mixed or fixed rates.

Nevertheless, banks with a net interest income remaining highly sensitive to changes in interest rates, in particular in downward scenarios, should assess their interest rate risk management. It may be necessary to increase, in proportion to total assets, the purchase and holding of fixed rate instruments and/or making greater use of hedging strategies through derivatives that reduce the sensitivity of net interest income to interest rate changes, bringing it below the regulatory threshold of 5%.

In addition to the assumptions made in the outlier test for net interest income, such as the use of a constant balance sheet, it is worth noting that outlier tests on net interest income only assess sensitivity to changes with a risk-free interest rate, and therefore they do not capture certain factors that also affect changes in final interest rates reflected in the remuneration of instruments, such as changes in spreads and mark-ups applied by banks, and therefore in net interest income.





2023 2022 2023 2022 2022 Source: Regular reporting on interest rate risk and the EBA ad hoc exercise for euro transactions. | Notes: The outcome of outlier tests are shown for all institutions in the Portuguese banking system as an empirical distribution using a Gaussian kernel that weighs the institutions by their relative importance

in the system, using the amount of Tier 1 capital. The shock considered corresponds to 200 b.p. across the yield curve.

Impact breakdown

With reference to December 2023, the impact breakdown of a parallel fall in the yield curve on net interest income over one year (Chart 8) shows that the assets contributing the most to reducing the yield curve are loans and transactions with the ECB (60% and 23% respectively), followed by

derivatives and debt securities transactions (9% and 6% respectively). The predominance of these instruments is explained by the short repricing periods of transactions with the central bank and variable interest rate loans. In the case of debt securities issued at fixed interest rates, with residual maturities tending to exceed one year, interest rate shocks do not have a significant impact on net interest income.

Conversely, in a parallel downward shift in the yield curve scenario, there is a positive impact on net interest income through reduced funding costs, in particular term deposit costs, accounting for over 50% of the decrease in liabilities. Although the impact of loans and deposits is key to the effect on net interest income, the hedging component of risk through derivatives also has a significant impact on interest rate risk for some institutions.

There remains a high level of symmetry of the contribution by type of instrument between the upward and downward scenarios of the yield curve. This result suggests that, as at 31 December 2023, the scenario of a fall in interest rates is not significantly influenced by the existence of interest rate floors in certain instruments (e.g. deposit remuneration rates). It also suggests that banks do not anticipate significantly different customer behaviours influencing the timing of estimated repricing in behavioural models, regardless of whether interest rates rise or fall, especially in demand and term deposits, as well as in loan prepayments.





Source: Ad hoc exercise by the European Banking Authority for euro transactions. | Note: The shock considered corresponds to 200 b.p. across the yield curve.

5 Conclusions

The sharp rise in interest rates that began in mid-2022, following a protracted period of low interest rates, has heightened awareness of the importance of interest rate risk analyses in banks' balance sheets. From a regulatory perspective, these analyses are based on outlier tests, conducted under different scenarios, to identify vulnerabilities in institutions and to assess the need for specific supervisory measures for each institution, or the need to set preventive policy measures, should it be concluded that there may be financial stability issues that need to be safeguarded at some point.

The analyses carried out confirm that interest rate rises and falls may have varying effects across banks, depending on the structure of their balance sheets: the portfolio's greater or lower sensitivity to the interest rate risk of its instruments, as well as any mitigation strategies implemented by the banks. The outcome of the outlier tests, from an economic value perspective, shows that there are no longer banks that qualify as outliers under current standards in the Portuguese banking system. In addition, in the expected scenario of falling interest rates, there has been a reduction in the dispersion of results, and an increase in the percentage of banks reporting a positive impact, suggesting that risk mitigation strategies have been successfully implemented by the banks.

Against a background of falling interest rates, the Portuguese banking system anticipated a 17% reduction in net interest income for the system as a whole at the end of 2023, with around 50% of the banking system reporting negative changes in net interest income of more than 5%. However, despite the broad-based decrease in net interest income in a downward scenario, it should be emphasised that the overall banking system still reports a sound net interest income, exceeding that recorded in the low interest rate period. Nevertheless, banks with a net interest income remaining highly sensitive to changes in interest rates, in particular in downward scenarios, should assess their interest rate risk management.

Given the structure of the Portuguese banks' banking book, this analysis confirms that net interest income within the banking system is expected to decline in line with the projected interest rate scenario. However, the results of outlier tests should also be supplemented by sensitivity analyses, in particular regarding the assumptions used for behavioural options. These analyses should be periodically reviewed during times of heightened interest rate volatility, as they significantly influence the results of the overall interest rate risk analyses.

The development of empirical studies analysing impacts on lending by banks most exposed to this risk, in an environment of interest rate changes, will make it possible to calibrate any policy measures, should macroprudential concerns related to this dimension arise at some point in time.

It will also be important to monitor the results of ongoing analyses and studies at international level, and in particular at European level, to understand the lessons learned from the impact of the rapid cycle of interest rate hikes on the banking system.

The countercyclical capital buffer in a risk-neutral environment in Portugal¹

1 Introduction

This Special issue describes the redesign of the countercyclical capital buffer framework in a risk-neutral environment carried out by the Banco de Portugal in 2024. This new framework is rooted in the European experience and based on a conceptualisation of the various phases of the financial cycle. This issue also includes an assessment of the costs and benefits of activating the countercyclical capital buffer, using a dynamic stochastic general equilibrium (DSGE) model calibrated for Portugal.²

The countercyclical capital buffer (CCyB) is one of the macroprudential policy tools that, by ensuring capital is available in institutions, directly helps to enhance the banking system's resilience. This buffer, made up of Common Equity Tier 1 capital, applies to credit institutions' exposures to the domestic non-financial private sector, and its use has been provided for in the EU since 2016. In Portugal, the possibility of using this buffer is provided for in Articles 138-F, 138-G and 138-I of the Legal Framework of Credit Institutions and Financial Companies (RGICSF), supplemented by Recommendation ESRB/2014/1 of the European Systemic Risk Board. When set up, it is expected to correspond to a percentage ranging from 0% to 2.5% of the total amount of exposures and, in duly justified cases, it may exceed 2.5%, above which mandatory recognition by other EU macroprudential authorities is not required.

Originally, the countercyclical capital buffer was expected to be implemented at times of financial cycle expansion and released when cyclical systemic risk materialised. The release of this buffer by the macroprudential authority allows credit institutions to continue performing their financial intermediation function, in particular lending to the non-financial private sector.

Several studies have shown that, in adverse situations, banks with a lower management buffer are more reluctant to lend to the economy and/or choose to reduce average risk weights by reallocating their exposures to lower credit risk assets (Berrospide et al., 2021; Couallier et al., 2022 and Avezum et al., 2023). Therefore, the release of a capital buffer, by increasing the capital headroom above overall capital requirements, enables institutions to maintain an appropriate flow of funding to the economy in a context of materialisation of cyclical systemic risk.

The build-up of releasable buffers has become particularly relevant since the COVID-19 pandemic. This period was characterised by the release of this buffer in some of the countries that implemented it. However, its amounts were still small, which can be explained by several factors. First, the slower economic recovery of the economy and the banking system following the global economic and financial crisis of 2008 led several macroprudential authorities to choose not to activate the countercyclical capital buffer, to avoid negative short-term effects on economic activity. Furthermore, in the period leading up to the COVID-19 pandemic, there was no excessive

¹ Prepared by Diana Lima, Diogo Serra, Duarte Maia and Vítor Oliveira.

² Model developed by Levine et al. (2024) in the context of a Memorandum of Understanding between the Banco de Portugal and the University of Surrey, concluded in 2021.

credit expansion in most euro area countries, including Portugal, which did not trigger the buildup of countercyclical capital buffers.

The unpredictability of adverse shocks emphasises the importance of implementing releasable buffers to ensure that the banking sector can better absorb losses and remain solvent, without disrupting lending to the real economy. The shock of the COVID-19 pandemic was an exogenous event for the financial sector and not directly related to the build-up of macroeconomic and financial imbalances. This confirms that unanticipated events may occur at any phase of the financial cycle (Herrera-Bravo, Pirovano and Scalone, 2024). Releasable buffers enhance loss-absorbing capacity. In fact, in the cases observed, the release of macroprudential buffers helped to mitigate the procyclicality of credit in the aftermath of the COVID-19 shock (Avezum et al., 2024; Couaillier et al., 2024).

Several international institutions, such as the Basel Committee on Banking Supervision (BCBS, 2022), the International Monetary Fund (IMF, 2024) and the Governing Council of the European Central Bank (ECB, 2024), have been supporting the possibility of national authorities setting a positive countercyclical buffer rate at an early phase of the financial cycle, where cyclical systemic risk is not elevated nor materialised. Therefore, the decision to activate the countercyclical buffer has become less dependent on indicators signalling increasing cyclical systemic risk.

The Banco de Portugal has decided to review the methodological framework guiding the activation and release of the countercyclical capital buffer, making it more comprehensive. A quantitative approach had hitherto been adopted in decisions regarding the countercyclical capital buffer, based on monitoring variables indicating the build-up of cyclical systemic risk sources, supplemented by qualitative information where deemed relevant. The methodological change envisages the activation of the countercyclical capital buffer at the phase when cyclical systemic risk is neutral, i.e. neither elevated nor materialised.

Against a background of high profitability and appropriate capitalisation of the banking sector, the Banco de Portugal proposes applying a countercyclical capital buffer rate of 0.75% at the current phase when cyclical systemic risk is considered neutral. A public consultation on the activation of this macroprudential policy instrument was held until 19 November 2024, to raise the countercyclical buffer rate from the current 0% to 0.75%, to be implemented on 1 January 2026. The final decision will be announced on 31 December 2024. If, at some point in the future, cyclical systemic risk materialises and this countercyclical capital buffer is released, the Banco de Portugal will establish an indicative period during which no increase in the countercyclical capital buffer is to be expected, to promote the use of capital during that crisis period.

2 The countercyclical capital buffer in a risk-neutral environment

To build resilience, 15 European Economic Area (EEA) countries implemented a framework for a positive countercyclical buffer rate in a risk-neutral environment of the financial cycle³ in the wake of the COVID-19 pandemic (Figure 1). Despite the divergence between countercyclical buffer rates in these countries, reflecting different calibration methodologies, national specificities

³ Czechia, Denmark, Estonia, Ireland, Greece, Spain, Cyprus, Latvia, Lithuania, Hungary, Netherlands, Norway, Poland, Slovenia and Sweden.

and policymakers' preferences, the rationale for implementing them is widely shared across jurisdictions (Behn et al., 2023). Another nine EEA countries activated the countercyclical capital buffer based on indicators signalling the build-up of cyclical systemic risk.⁴



Figure 1 • Implementation of the countercyclical capital buffer in Europe

EEA countries with a CCyB framework for a neutral phase EEA countries with CCyB but with no framework for a neutral phase

Sources: Banco de Portugal, European Systemic Risk Board and central banks or European macroprudential authorities. | Notes: This includes all announced buffers that have not yet entered into force. In the case of Spain, the buffer will take effect on 1 January 2026. For Latvia, the countercyclical buffer rate of 0.5% will apply as of 18 December 2024 and will subsequently increase to 1% as of 18 June 2025. For Greece, the countercyclical buffer rate of 0.25% will apply as of 1 October 2025, and will then increase until it reaches the target rate of 0.5%.

Distinguishing the four phases of the financial cycle associated with the cyclical systemic risk level is relevant to understand the setting of the countercyclical capital buffer in a riskneutral environment (Figure 2). Phase I, recovery, is part of an environment that follows the release of the countercyclical capital buffer, as cyclical systemic risk is assumed to have materialised. Phase II, characterised by a neutral cyclical systemic risk environment, is considered the right time to initiate the build-up of the countercyclical capital buffer to ensure its possible gradual increase in the event of an intensification of cyclical systemic risk. In phase III, in a high-risk context, the countercyclical buffer rate will be increased to maintain the resilience of the financial sector. Finally, phase IV, known as the recession, encompasses the materialisation of cyclical systemic risk, implying a potential drop in the supply of credit from the financial sector, whereby the countercyclical capital buffer will be fully or partially released depending on the severity of the shock. Thus, the main difference in this new framework is the definition of a positive rate in the

⁴ Belgium, Bulgaria, Germany, France, Croatia, Iceland, Luxembourg, Romania, Slovakia.

neutral phase of the financial cycle (phase II), in contrast to the previous framework where the activation of the countercyclical capital buffer occurred only in the build-up phase (phase III) of cyclical systemic risk.

The four phases identified are stylised in nature and should be considered with caution, as their boundaries are often not clearly defined. The financial cycle may follow a different sequence, i.e. risks may materialise unexpectedly in a neutral environment, moving from phase II to phase IV. Moreover, the intensification of cyclical systemic risk may decline towards the neutral level, from phase III to phase II. Quantitative and qualitative sources related to the macro-financial cycle and cyclical systemic risk may provide contrasting evidence, and policymakers' judgment is needed to properly balance the relevant information.



Figure 2 • The countercyclical capital buffer throughout the financial cycle

Source: Banco de Portugal.

The benefits of increasing the countercyclical capital buffer in a neutral environment largely outweigh costs. A gradual and timely increase in a countercyclical buffer allows for addressing cyclical systemic shocks without significantly restraining lending to the real economy (Buratta, Lima and Maia, 2023). This approach also addresses concerns about the lack of certainty in measuring the signs of a cyclical systemic risk build-up, as well as the transmission and implementation lags associated with the definition of macroprudential policy (Behn et al., 2023). In addition, a gradual increase in a countercyclical capital buffer, in a context of favourable profitability and adequate capitalisation of the banking sector, mitigates the costs to economic activity.

3 The countercyclical buffer: a cost-benefit analysis

To assess the costs and benefits of activating the countercyclical capital buffer, as well as of fully or partially reducing it, during an unanticipated shock, a DSGE model of a small open economy is used, calibrated for Portugal. The stylised model integrates nominal price and wage rigidities, financial frictions, housing supply and a banking sector. There are two types of households, patient

and impatient, which, in equilibrium, either save in the form of deposits or borrow to buy a house respectively. Loans for house purchase are granted at a variable interest rate and have long maturities, in line with lending for house purchase in Portugal. They are also subject to a restriction that limits the amount of the loan to a fraction of the market value of the house to be purchased, i.e. they are subject to a cap on the loan-to-value (LTV) ratio. Banks also lend to firms at variable rates so that they may finance the acquisition of physical capital employed in production. Loans to firms are short-term and not subject to any constraints. As the model includes both loans for house purchase and loans to firms, it allows risk-weighted requirements associated with each type of loan to be differentiated.

Banks obtain their funding through deposits and equity, and their modelling is inspired by Gertler and Karadi (2011). As this is a small open economy, despite price rigidities, monetary policy is exogenous to this economy, i.e. it does not react to changes in domestic inflation. Banks are assumed to face a constraint that caps the degree of leverage, resulting in a spread between interest rates applied to deposits and loans. This constraint requires that the future value of each bank, updated to date, must always be equal to or greater than a certain fraction of its risk-weighted assets. It is also assumed that the prudential regulator, by applying capital measures, is able to act on this fraction of risk-weighted assets by determining that it is composed of a structural and a variable component. The structural component may be understood to be the result of microprudential requirements, such as Pillar 1 and Pillar 2, and structural macroprudential requirements, such as the capital conservation buffer and the other systemically important institutions (O-SIIs) buffer. The variable component, by addressing deviations in total credit from its equilibrium value, mimics a countercyclical buffer, i.e. it corresponds to cyclical macroprudential requirements. Moreover, the model includes a management buffer that is adjustable to the macroeconomic and prudential environment, allowing increases in requirements to be absorbed by the management buffer, with no mandatory increase in capital ratios in the same proportion.

To assess the costs and benefits of activating the countercyclical capital buffer, an exogenous shock to the banking sector is simulated. This takes into account one of the lessons of the pandemic, i.e. that shocks may occur at any phase of the financial cycle and originate from outside the financial sector. The simulation incorporates different phases of the business and financial cycle, where the initial expansion phase and the subsequent contraction phase are due to unanticipated productivity shocks. The expansion phase is driven by a slight increase in productivity, simulating a macroeconomic environment marked by subdued economic growth and a banking system with favourable returns, but with no build-up of financial imbalances, similar to the current phase of the financial cycle in Portugal. The contraction phase is the result of a negative productivity shock in which cyclical systemic risk materialises.

The negative productivity shock is twice the magnitude of the positive shock to reflect the distinction between a neutral cyclical systemic risk environment and a risk materialisation phase, leading to an economic and financial contraction. Both shocks are persistent, returning to their steady state equilibria after four years (Chart 1).

The simulation followed two distinct scenarios. In the baseline scenario, no macroprudential measures are implemented, while in the alternative scenario a countercyclical buffer is implemented and subsequently released. The baseline scenario reflects only the dynamics of the model when productivity deviates, positively or negatively, from its equilibrium in reaction to shocks, meaning capital requirements remain fixed. In the alternative scenario, the countercyclical capital buffer is activated after the positive productivity shock, assuming a buffer rate of 0.75% of the total amount of exposures, as calibrated by the Banco de Portugal. The assumption is that buffer build-up is gradual, with a linear phase-in over four quarters. When a negative productivity shock occurs,

two years after the initial shock and the full implementation of the countercyclical capital buffer, it is immediately released, therefore requirements return to initial equilibrium.

Following a positive productivity shock, credit and profitability increase, pushing up banks' capital ratios in both scenarios. In the scenario where the countercyclical capital buffer is introduced, capital ratios are slightly higher, which include regulatory requirements and the management buffer. This outcome suggests that banks, anticipating their need to gradually comply with the new capital requirement, take advantage of the increasing demand for credit to increase their equity and thus meet the new requirement through internal generation. During the implementation period of the countercyclical capital buffer, total loans increase, with a greater focus on loans to firms, showing greater profitability.

Subsequent to the implementation of a countercyclical capital buffer and prior to its release, a countercyclical capital buffer leads, to some extent, to a reallocation of the loan portfolio in favour of loans for house purchase. In this transition period, as the positive productivity shock fades, total loans decrease in both scenarios. Comparing the scenario with a countercyclical capital buffer to the baseline scenario, differences, although slight, are to be found in the dynamics of loans for house purchase and loans to firms. Loans for house purchase show a slightly downward trend compared to the baseline scenario, whilst loans to firms fall slightly faster than in the baseline scenario.

When the contractionary productivity shock hits the economy, the full and immediate release of the countercyclical capital buffer helps to mitigate the contraction in lending occurring in the baseline scenario and allows for faster economic upturn. Following the release of the countercyclical capital buffer in the period under review, loans for house purchase as well as loans to firms improved, compared to the baseline scenario. The benefits associated with the stabilising effect on total loans, resulting from a smaller contraction in loans for house purchase and loans to firms, are reflected in consumption and GDP growth. In addition, total loans benefits are also reflected in total investment, albeit with a lag. The later recovery of investment in relation to loans is due, on the one hand, to adjustment costs, which introduce some rigidity into recovery. On the other hand, in the model, total investment is determined by investment in physical capital and housing. In this simulation, the latter, mainly responds to housing demand from patient households, whose house purchasing does not depend on borrowing, and therefore react with a lag to fluctuations in economic activity. The full release of the countercyclical capital buffer reduces economic volatility and mitigates the contraction of macroeconomic variables, compared to the baseline scenario where capital requirements are not released.

Chart 1 • Impact of the countercyclical capital buffer in response to productivity shocks (per quarter) | Deviations from steady-state equilibrium

Panel A – Productivity Panel B – Capital requirements Panel C - Total loans Panel D – Loans for house Panel E – Loans to firms purchase Panel F – GDP Panel G – Consumption Panel H – Investment Baseline • ССуВ

Source: Banco de Portugal.

The results show that activating the countercyclical capital buffer during an expansionary phase of the business and financial cycles, together with the existence and use of management buffers, which partly accommodate the increase in capital requirements, reduces costs associated with the increase. In turn, the release of this buffer during an economic downturn has the benefit of mitigating the decrease in the flow of credit, supporting the economy and smoothing the impacts on consumption, investment and GDP growth, thereby mitigating macroeconomic volatility.

4 Conclusion

Since the pandemic crisis, several international institutions have recommended the implementation of a positive countercyclical capital buffer early in the financial cycle, i.e. in a neutral environment. Against this background, the Banco de Portugal has revised the methodological framework underpinning its decisions on this matter, by proposing the application of a countercyclical capital buffer rate of 0.75% in the current phase of the cycle, where cyclical systemic risk is neutral (i.e. it is not elevated nor materialised), and in a context of high profitability and appropriate capitalisation of the banking sector. The countercyclical capital buffer is activated early in the financial cycle, prior to the period of risk accumulation, ensuring a timely build-up of capital to address future cyclical systemic shocks without significantly constraining lending to the economy.

To assess the costs and benefits of activating the countercyclical capital buffer, as well as fully or partially reducing it, in the event of an unanticipated shock, a simulation of an exogenous shock to the banking sector is modelled. The outcome of the simulation exercise shows that in the expansionary phase of the business and financial cycles, the costs of introducing the countercyclical capital buffer decrease as banks pursue their business. The release of the countercyclical capital buffer following a negative productivity shock helps to mitigate the contractionary effect on loans by stimulating economic activity and acting as a stabiliser that reduces economic volatility.

Based on the cost-benefit analysis of the simulation, we conclude that the activation of the countercyclical capital buffer in a risk-neutral environment enhances the resilience of the banking system and acts as a preventive measure to mitigate the negative impact of the materialisation of cyclical systemic risk on the economy.

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