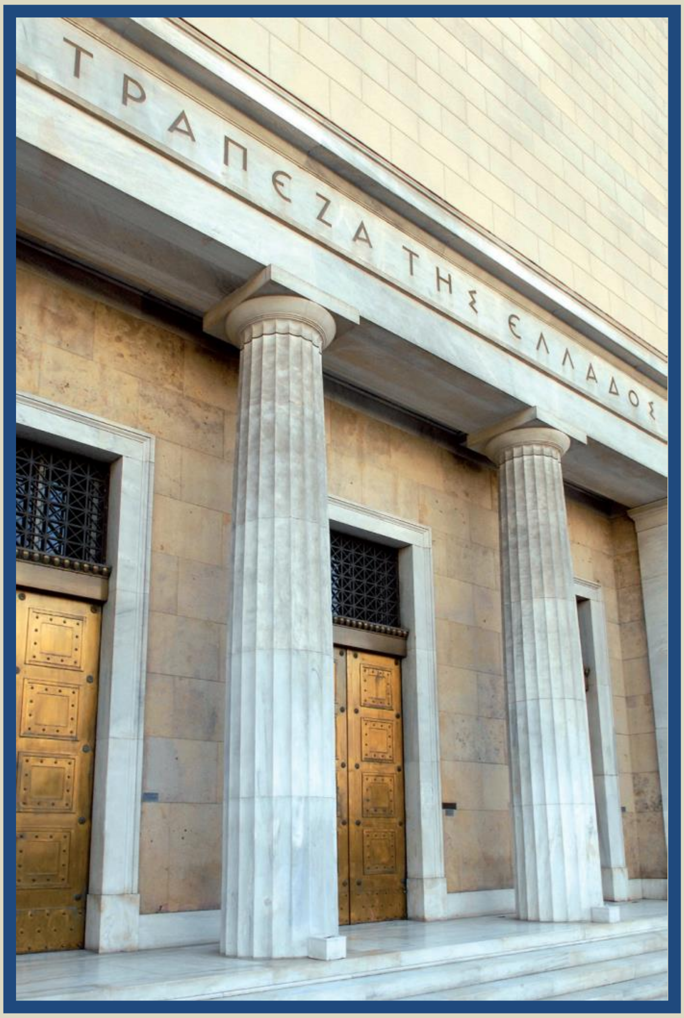
FINANCIAL STABILITY REVIEW



April
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BANK OF GREECE
EUROSYSTEM

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TABLE OF CONTENTS

I. EXECUTIVE SUMMARY

Risks to financial stability declined in the second half of 2023, but remain elevated. Monetary policy tightening was instrumental to achieving a sustained disinflationary path. Having peaked at 10.6% in October 2022, the inflation rate in the euro area stood at 2.4% in March 2024. In 2023, economic activity in the euro area slowed down significantly. Uncertainty remains extremely high at the global level, driven by adverse geopolitical developments and political uncertainty due to the upcoming elections in Europe and the US. Moreover, high interest rates have a dampening effect on economic activity, increasing the risk of persistently weak economic growth in the near future. They also affect the capacity of firms and households to repay existing loans, as well as the demand for new loans. At the same time, high valuations in money and capital markets accentuate the risk of a sharp repricing of assets, while concerns about the continued downward path of commercial real estate prices globally linger on.

In 2023, the Greek economy recorded a satisfactory growth rate. Real gross domestic product (GDP) growth stood at 2.0% in 2023, with a positive contribution from both domestic demand and net exports. The overachievement of the fiscal targets and the management of public debt reduction helped enhance the overall state of the Greek economy and, therefore, financial stability. Continued economic growth was conducive to a further – albeit milder – improvement in the labour market in 2023, with the unemployment rate declining to 11.1%, from 12.4% in 2022. Inflation, as measured by the Harmonised Index of Consumer Prices (HICP), fell markedly in 2023 to 4.2%, mainly on the back of substantial energy price drops (13.4%). However, HICP excluding energy grew at a fast rate, reflecting upward pressures on food prices, as well as on the prices of non-energy industrial goods and services, thus affecting business operating costs and household disposable income.

Greek banks are in a better position than in the past to withstand potential shocks. In 2023, liquidity, asset quality, profitability and capital adequacy of the banking sector improved. The improvement in the banking sector's fundamentals and prudential indicators, coupled with Greece's upgrade to investment grade,[1] have created favourable conditions for the implementation of the Hellenic Financial Stability Fund's (HFSF)[2] strategy to divest its stakes in significant Greek banks. More specifically, in the fourth quarter of 2023 and the first quarter of 2024, the HFSF carried out four consecutive transactions[3] involving the sale of its stakes in the share capital of significant institutions (Sis), thus signaling the recovery of investor confidence in the banking sector and the latter's return to normality.

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[1] On 19 April 2024, Standard & Poor's upgraded the outlook of the Greek economy to positive from stable, paving the way for a further upgrade in Greece's credit rating within the next 24 months.

[2] It should be noted that, under the legal framework governing the HFSF, its term is set to expire at the end of 2025. Therefore, the divestment target has been upgraded and considered to be of equal importance to the HFSF's role in maintaining the stability of the Greek banking sector to the benefit of the public interest.

[3] In more detail, in the fourth quarter of 2023 the HFSF carried out three divestment transactions, selling its entire stakes in Eurobank Ergasias Services and Holdings S.A. and Alpha Services and Holdings S.A., as well as a 22% stake in the capital of National Bank of Greece S.A. In the first quarter of 2024, it also sold its entire 27% stake in Piraeus Bank, closing the current divestment cycle. It should be noted that the HFSF maintains an 18.39% stake in National Bank of Greece S.A. and a 72.54% stake in Attica Bank.

The liquidity and funding conditions of the Greek banking sector improved further. The balance of residents' deposits in Greece rose by 3.8% year-on-year and stood at EUR 201.6 billion in December 2023. This development greatly contributed to maintaining high levels of liquidity in Greek banking groups, despite the repayment part of the liquidity they had raised through targeted longer-term refinancing operations (TLTRO III). At the same time, despite the high interest rate environment, the return to investment grade in the second half of 2023 contributed to a further decline in sovereign and bank bond yields and facilitated the access of Greek banks to capital markets.

In 2023, the process of cleaning up credit institutions' balance sheets continued. The total stock of non-performing loans (NPLs) stood at EUR 9.9 billion, down by 25% or EUR 3.3 billion compared to December 2022. The ratio of NPLs to total loans for the banking sector declined further to 6.6% in 2023, from 8.7% in 2022. The corresponding indicator for SIs fell below 5%,[4] thus shortening its distance from the European average. However, the net inflow of new NPLs in 2023, despite significant reclassifications of NPLs as performing, is a source of concern. For less significant institutions (LSIs), the NPL ratio remained particularly high, standing at 37.6% in 2023, down by 8 percentage points from December 2022, mainly due to some of these banks' credit growth.

Greek banking groups' core profitability improved significantly. In 2023, Greek banking groups posted profits, after tax and discontinued operations, amounting to EUR 3.8 billion, compared with profits of EUR 3.4 billion in 2022. Higher net interest income contributed positively, as a result of the key ECB interest rate hikes, while a negative impact came from a large decline in income from financial operations and other revenue. In more detail, in 2023 the operating income of Greek banks increased by 9.1% compared to 2022. In particular, income from core banking activities (i.e. net interest and commission income) grew substantially by 41.7%. The significant fall in income from financial operations in 2023 is due to the fact that such income in 2022 included non-recurring gains from transactions in Greek government bonds and profits from derivatives and hedging instruments. Moreover, the decline in other revenue is explained by the fact that the 2022 results included non-recurring income from the carve-out and sale of the payment-acquiring business by all four significant institutions. At the same time, operating and credit risk costs remained unchanged. As a result, banking groups posted solid profits after tax and discontinued operations, and their Return on Assets (RoA) and Return on Equity (RoE) ratios stood at 1.2% and 12.0%, respectively.

The capital adequacy of Greek banking groups strengthened considerably. The increase in prudential own funds, mainly as a result of internal capital generation on the back of core profitability, but also through the issuance of capital instruments, more than offset a rise in risk-weighted assets. In particular, the Common Equity Tier 1 ratio (CET1 ratio) on a consolidated basis rose to 15.5% in December 2023, from 14.5% in December 2022, and the Total Capital Ratio (TCR) to 18.7%, from 17.5%, respectively, bringing the CET1 ratio closer to the European

[4] It should be noted that this ratio is below 5% in three of the four significant institutions.

average (15.7% in September 2023), while the TCR (19.7% in December 2023) still falls short of the European average.[5] However, the quality of Greek banks' prudential own capital remains low, as in December 2023 deferred tax credits (DTCs) amounted to EUR 12.9 billion, representing 44% of total prudential own funds (down from 52% in December 2022). Moreover, deferred tax assets (DTAs) of EUR 2.6 billion are included in Greek banking groups' prudential own funds, accounting for around 9% of their total prudential own funds.

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In the current macroeconomic and financial environment, gradually implementing an appropriate macroprudential policy to avoid the build-up of systemic risks is all the more important. In this context, the Bank of Greece enacted macroprudential borrower-based measures (BBMs) for loans and other credit to natural persons secured by residential real estate located in Greece, effective as of January 2025. In more detail, Executive Committee Act No. 227/1/8.3.2024 introduced a cap on the loan-to-value ratio at origination (LTV-O) of 90% for first-time buyers and 80% for second and subsequent borrowers, as well as a cap on the debt-service-to-income ratio at origination (DSTI-O) of 50% for first-time buyers and 40% for second and subsequent borrowers. In addition, up to 10% of the total number of new loans and other credit can be exempted from the above LTV-O and DSTI-O caps. In parallel, the Bank of Greece conducts a quarterly assessment of the intensity of cyclical systemic risks and the appropriateness of the Countercyclical Capital Buffer (CCyB) rate for Greece and sets or adjusts it, if necessary. In 2023 and in the first two quarters of 2024, this was maintained at 0%, i.e. the lowest possible level. The analysis of the additional indicators examined by the Bank of Greece points to emerging cyclical systemic risks in certain areas, such as residential real estate prices and the current account. Overall, however, it confirms that there is no excessive credit growth and leverage. Finally, the Bank of Greece identified Other Systemically Important Institutions (O-SIIs) in Greece for the year 2023, applying the relevant European Banking Authority (EBA) guidelines, and set the O-SII buffer rate for 2024 at 1.25% for Eurobank Ergasias Services and Holdings S.A. on a consolidated basis and at 1.00% for other O-SIIs.[6] In the medium term, the implementation of appropriate macroprudential policy measures helps create adequate macroprudential space that ensures the stability of the financial system.

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In 2023, insurance undertakings maintained their capital adequacy at a high level. Their profitability was affected by increased payments of insurance claims in the aftermath of storm 'Daniel' and the impact from the implementation of International Financial Reporting Standard 17 Insurance Contracts (IFRS 17).Total gross written premiums grew, both in life and in non-life insurance. Finally, the process of mergers between insurance undertakings continued, increasing the already high concentration in the insurance sector.

[5] Source: Single Supervisory Mechanism (SSM), SSM Supervisory Banking Statistics, Publication of supervisory data (europa.eu).
[6] More specifically, for National Bank of Greece S.A. (on a solo and a consolidated basis), Piraeus Financial Holdings S.A. (on a consolidated basis) and Piraeus Bank S.A. (on a solo basis), Eurobank S.A. (on a solo basis), Alpha Services and Holdings S.A. (on a consolidated basis) and Alpha Bank S.A. (on a solo basis).

The smooth operation of financial market infrastructures, i.e. payment, clearing and settlement systems, contributed positively to the stability of the domestic financial system through the efficient processing of transactions. As regards the electronic means of payment used, 2023 saw a significant increase in the number and value of transactions, as well as a rise in the fraud-to-transaction ratio in terms of number and value of fraud incidents.

In 2023, the total value of exposures managed by credit servicing firms (CSFs)[7] amounted to EUR 88 billion, of which 79% relates to exposures managed by CSFs on behalf of credit acquiring firms[8] and the remaining 21% concerns the management of exposures on behalf of credit institutions. Most of the exposures managed by CSFs on behalf of credit acquiring firms have been assigned to them over the past three years in the context of credit institutions' strategic decisions to reduce their non-performing exposures (NPEs). In light of the performance so far and its importance for an effective management of non-performing private debt, while at the same time putting into use idle productive resources, the management of these exposures by CSFs needs to improve further.

The revised framework on credit servicers and credit purchasers (Law 5072/2023) transposes into Greek law the relevant provisions of Directive (EU) 2021/2167[9] on the authorisation and supervision of CSFs, as well as provisions on the supervision of credit purchasers, by introducing: (a) additional requirements for the establishment and operation of CSFs; (b) communication requirements regarding the transfer of assets by credit and financial institutions and credit purchasers; and (c) a framework for cross-border activities by credit servicers. At the same time, CSFs authorised under Article 1 of Law 4354/2015 (Government Gazette A 176) and carrying out credit servicing activities are subject to reauthorisation by the Bank of Greece (to be concluded by end-June 2024), in order to verify their compliance with the provisions of the new legislative framework.[10]

The activities of Payment Institutions (PIs) and Electronic Money Institutions (EMIs) grew considerably in 2023. The total value of payment transactions carried out by PIs in 2023 stood at EUR 58.2 billion, up by 92% compared to 2022 (EUR 30.3 billion) and about 32 times higher compared to 2021 (EUR 1.8 billion). The total annual value of payment transactions carried out by EMIs stood at EUR 13.7 billion, up by 33% compared to 2022 (EUR 10.3 billion). These developments had a positive impact on the own funds and profitability of PIs and EMIs.

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[7] Exposures include all debt instruments (loans and advances and debt securities), excluding off-balance-sheet exposures and write-offs. It should be noted that Bank of Greece Executive Committee Act 206/1/03.06.2022 modified, inter alia, supervisory data and information to be submitted by CSFs to the Bank of Greece.

[8] Prudential data analysed in the present section may differ from data regularly posted on the Bank of Greece website because of the different perimeter of each data release.

[9] Directive (EU) 2021/2167 of the European Parliament and of the Council of 24 November 2021 on credit servicers and credit purchasers and amending Directives 2008/48/EC and 2014/17/EU.

[10] Following the publication of Law 5072/2023, the Bank of Greece issued Executive Committee Act 225/1/30.1.2024, which lays down terms and conditions for authorisation of CSFs.

The outlook for the Greek banking sector is positive, although significant challenges still lie ahead. Greece's upgrade to investment grade undoubtedly had a positive impact on banks, while the overall improvement in banking fundamentals is undeniable. However, the outlook for the Greek banking sector is inevitably linked to European developments and progress towards a single banking market. If the necessary political will to reach a consensus is mustered, the EU will be able to take the necessary initiatives to complete the Banking Union,[11] as well as the Capital Markets Union (CMU), thus laying the foundations for stronger growth and increasing resilience in the face of new common challenges and uncertainties. In addition, boosting competition in the domestic banking sector by continuing to work towards a "fifth pillar" is important, as it will benefit consumers and businesses, also increasing the financing of the real economy. Despite the significant progress made to buttress the banking sector, challenges still lie ahead. In a more uncertain international environment, there is no room for complacency.

The macroeconomic environment may affect banks' asset quality. The maintenance of the European Central Bank's (ECB) key interest rates at restrictive levels – in order to bring inflation closer to its 2% medium-term target –puts strain on the resilience of households and businesses, as the bulk of their loans carry variable rates.[12] As a result, if debt-servicing costs are anchored at high levels, this can have a negative impact on the quality of banks' assets. Therefore, improving banks' asset quality and ensuring the convergence of Greece's NPL ratio to the European average (December 2023: 1.9%)[13] is a priority. In this context, extending the "Hercules III" asset protection scheme[14] is expected to help banks focus on their main function, which is to finance the Greek economy.

Maintaining banks' profitability and strengthening their capital base is also challenging. Banks' core profitability improved considerably in 2023, underpinned by net interest income, and their profitability ratios stood at high levels. When the ECB starts to cut its key interest rates, banks' core profitability may be negatively affected, especially if banks fail to meet their credit growth targets. Reduced profitability will affect banks' internal capital generation capacity and hence their ability to improve, in the medium term, the quality of their prudential own funds. In this context, banks' dividend policy must take into account the heightened uncertainty and the challenges associated with the international environment. Building up adequate capital buffers is important for the robustness of the banking sector.

The current economic environment poses risks mainly linked to external factors. The sharp rise in geopolitical risks with the expansion of armed conflicts, as well as the increasing trade

[11] The European Deposit Insurance Scheme (EDIS) and, more broadly, the review of the crisis management and deposit insurance (CMDI) and the Capital Markets Union (CMU) framework.

[12] According to Bank of Greece data, the share of outstanding long-term variable-rate loans stood at 92% in December 2023.

[13] Source: European Banking Authority, EBA Dashboard – Q4 2023.pdf (europa.eu). It should be noted that EBA data are calculated on a consolidated basis and include loans to credit institutions and central banks; therefore, they are not directly comparable with Bank of Greece data. For instance, the NPL ratio for domestic significant credit institutions on a consolidated basis and taking into account loans to credit institutions and central banks stands at 4.7%.

[14] Under this extension, the "Hercules III" scheme has a guarantee ceiling of EUR 2 billion and a term that ends on 31.12.2024. It should be noted that this scheme is expected to be used by Attica Bank and Pancreta Bank, so that they may clean up their balance sheets of NPLs ahead of their merger.

tensions between the US and China, is leading to higher overall costs. Therefore, a possible further rise in inflation and a decline in global growth may cause stagflationary pressures. The international environment poses the biggest challenge, with potentially significant negative economic repercussions on national economies and, thus, also on financial stability. An abrupt deterioration in international financial conditions could have adverse effects both on the global financial system and on the financial situation of firms and households at the domestic level, causing shocks.

In order for Greek credit institutions to fulfil their role as drivers of growth, they must continue their efforts to further enhance their resilience. Priorities include the continued cleaning up of their balance sheets, as well as a quantitative and qualitative strengthening of their capital base, while maintaining adequate profitability. Banks have restarted financing the real economy, while credit growth rates will also be boosted by disbursements of business loans related to the Recovery and Resilience Facility. However, banks should continue to invest in the digitalisation of their operations in order to improve the services provided to their clients, but also to reduce operating costs. Emerging new risks, including the climate crisis and cyberattacks, need to be taken seriously, as they are difficult to identify and quantify. Therefore, vigilance from all stakeholders is needed in order to keep the domestic banking sector on a growth path.

II. MACROECONOMIC ENVIRONMENT, MONEY AND CAPITAL MARKETS

1. ECONOMIC ACTIVITY: DEVELOPMENTS AND PROSPECTS

In 2023, the Greek economy recorded a satisfactory growth rate, which remained significantly higher than in the euro area, despite a slowdown compared to 2022. Private consumption, goods and services exports, and investment remained the key drivers of GDP growth. On the other hand, higher imports exerted a dampening effect on growth, which was nonetheless more muted than in 2022. On the supply side, despite a decline in retail sales, data from industry, construction and services indicated strong growth in 2023. Business and consumer confidence indicators have been adversely affected, albeit to a lesser extent than in the euro area, by mounting uncertainty over developments in the Middle East, the ongoing war in Ukraine, serious natural disasters that affected the country, as well as the persistence of inflationary pressures on food prices. The Purchasing Managers' Index (PMI) still points to growth of Greek manufacturing output as a result of rising demand.

In more detail, GDP grew by 2.0% in 2023 compared to 2022, as both domestic final demand and net exports contributed positively. Private consumption recorded a lower growth rate in 2023 after the very high rates of the post-pandemic period (1.8%, down from 7.4% in 2022 and 5.8% in 2021), due to the normalisation of consumer demand and high inflation. Private demand was strongly supported by an increase in disposable income, as the nominal disposable income of households and non-profit institutions serving households (NPISHs) rose by an average of 7.4%

Table II.1 GDP and its main components (2020 – Q4 2023)

Percentage changes (2015 constant market prices)
Annual data: non-seasonally adjusted; quarterly data: seasonally adjusted

	2020	2021	2022	2023	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Private consumption	-7.4	5.8	7.4	1.8	1.1	2.1	1.2	1.8
Public consumption	3.0	1.8	2.1	1.7	2.8	1.1	-0.4	2.7
Gross fixed capital formation	2.0	19.3	11.7	4.0	8.2	9.2	4.8	-5.7
Residential investment	19.0	27.3	33.7	20.7	47.9	45.9	27.7	-18.7
Other construction	-1.7	12.8	9.5	10.0	6.3	13.7	4.0	13.1
Equipment	-2.1	28.6	15.1	-2.3	0.8	4.8	15.4	-11.1
Domestic demand	**-3.7**	**7.2**	**6.1**	**1.4**	**2.4**	**2.8**	**1.4**	**0.9**
Exports of goods and services	-21.5	24.2	6.2	3.7	7.2	0.3	1.9	2.1
Exports of goods	4.2	14.1	3.5	3.2	10.8	-0.9	-1.3	-1.6
Exports of services	-42.6	37.5	9.3	4.2	6.2	1.1	4.2	4.7
Imports of goods and services	-7.3	17.9	7.2	2.1	3.3	-0.6	2.9	0.0
Imports of goods	-3.8	17.0	8.5	1.9	0.9	-2.5	3.5	1.6
Imports of services	-17.2	20.6	3.3	2.8	10.9	5.5	0.8	-4.0
Real GDP at market prices	**-9.3**	**8.4**	**5.6**	**2.0**	**2.0**	**2.7**	**2.1**	**1.2**

Sources: Hellenic Statistical Authority and Bank of Greece.

in the first nine months of 2023, while real disposable income increased by 2.2% due to inflation. At the same time, public consumption rose by 1.7%, slightly below the levels of the previous year.

Investment continued to grow in 2023, outpacing economic activity. More specifically, gross fixed capital formation rose by 4.0% in 2023, against 11.7% in 2022. Positive growth rates are largely due to an increase in “residential investment” by 20.7% and in “other construction” by 10.0%. Investment in “transport equipment” also rose significantly by 14.9%, whereas investment in “machinery and weapon systems” decreased by 3.1% and in “ICT equipment” by 12.4%. Finally, investment in “Other products” rose by 2.5%.

In 2023, net exports had a marginally positive contribution of 0.5 percentage point, as exports grew more strongly than imports. Exports increased by 3.7%, driven by growth in both goods and services exports. Imports, on the other hand, rose by 2.1%.

On the supply side, the total gross value added increased by 1.2% in 2023. At the sectoral level, strong growth rates were recorded in “construction” (14.0%), “professional, scientific and technical services, administrative and support services” (6.1%), “arts, entertainment and recreation services” (7.9%) and “wholesale and retail trade services, repair services of motor vehicles and motorcycles, transportation and storage, accommodation and food services” (0.4%), while “industry” remained stable. By contrast, the primary sector recorded a significant decline of -7.4% owing to the natural disasters in Thessaly.

In 2023, the current account deficit decreased year-on-year to €14.0 billion (6.3% of GDP), compared with €21.2 billion in 2022 (10.3% of GDP), driven by improvements in the oil and other goods balance, as well as in the secondary income account and the other services balance. However, this improvement was partly offset by an increase in the deficit of the primary income account, mainly on account of higher interest payments, and, to a lesser degree, by a decrease in the surplus of the transport balance.

There was a further – albeit milder – improvement in the labour market in 2023. More specifically, total employment rose by 1.3% and dependent employment by 0.4%, while the self-employed increased by 2.0%. The unemployment rate fell to 11.1%, against 12.4% year-on-year. This included a significant improvement for women (14.3%, from 16.4% in 2022), as well as for youth aged 20-29 years (21.1%, from 23.3% in 2022). Meanwhile, the decline in the long-term unemployment rate was slower than in 2022, to 6.2% from 7.7%.

Labour market tightness, as expressed by the job vacancy rate, has been nevertheless increasing steadily since the end of the pandemic, particularly in trade, construction, tourism and manufacturing. Increasing labour market tightness has resulted in intensifying wage pressures, with labour costs accelerating in 2023. Compensation per employee rose by 5.5% in 2023, compared with just 2.8% in 2022. At the same time, the Labour Cost Index recorded an increase of 5.9%, largely reflecting a 9.4% rise in the minimum wage in April 2023.

Inflation, as measured by the Harmonised Index of Consumer Prices (HICP), fell markedly to 4.2% in 2023, mainly on the back of substantial energy price drops (-13.4%). Nevertheless, HICP excluding energy recorded high rates of increase. This reflects upward pressures on food prices, as well as on the prices of non-energy industrial goods and services.

According to the latest Bank of Greece projections, economic activity is expected to grow by 2.3% in 2024 and by 2.5% in 2025.I Inflation is projected at 2.8% in 2024 and at 2.2% in 2025.

Risks to the growth forecasts of the Bank of Greece are tilted to the downside and concern: (i) a deterioration of the euro area growth rate, compounded by the geopolitical crisis in Ukraine and the Middle East, and the ensuing implications for the global economic environment; (ii) potential natural disasters related to the impact of the climate crisis; (iii) a lower-than-expected implementation rate of NextGenerationEU actions; and (iv) potential delays in implementing reforms.

2. FISCAL DEVELOPMENTS

The overperformance of tax revenue, which overshot the 2023 targets, enabled the financing of extraordinary fiscal interventions that were required to address both the prolonged energy crisis and the impacts of extreme weather events, without jeopardising the fiscal path. On the contrary, the primary balance in 2023 showed a significant improvement against the target thanks to this outperformance, in conjunction with contained primary expenditure.

In greater detail, according to the first notification of fiscal data for 2020-2023 by the Hellenic Statistical Authority (ELSTAT) in the context of the Excessive Deficit Procedure in April 2024, the general government primary balance for 2023 turned out at a surplus of 1.9% of GDP, compared with a balanced primary result in 2022 and against an estimated surplus of 1.1% of GDP in the Report on the 2024 Budget. The public debt fell from 172.7% of GDP in 2022 to a post-2010 low of 161.9% of GDP in 2023. Greece recorded the second largest improvement in fiscal fundamentals at euro area level.

According to the Report on the 2024 Budget, in 2024 the general government primary surplus is projected to stand at 2.1% of GDP and public debt at 152.3% of GDP. Similarly, based on available data and the policy measures so far announced, the Bank of Greece's revised projections foresee that the primary surplus will increase to 2.1% of GDP and public debt will decrease further to 153% of GDP.

In December 2023, the ECOFIN Council reached an agreement on the revision of the European economic governance framework (Stability and Growth Pact) with the key goals to strengthen public debt sustainability and promote inclusive growth through investment and reforms. Benchmarks provided under the Stability and Growth Pact (deficit at 3% of GDP, debt at 60% of GDP) remain unchanged, while the scope of the Excessive Deficit Procedure is broadened to include deviations both from the deficit target of 3% of GDP and from the agreed rate of debt reduction (debt criterion). Member States shall have more autonomy in drawing up medium-term fiscal plans to reduce deficits and debt. The implementation of these fiscal plans shall be monitored with the introduction of an operational expenditure rule against which each country's compliance with the budgetary framework shall be assessed. The implementation of the expenditure rule shall ensure the objectives of simplifying and enhancing the efficiency and transparency of fiscal rules, while promoting less procyclical fiscal policies. These proposals are in line with the Bank of Greece proposals for the revision of the fiscal rules, and do not leave much room for deviation from the agreed target of average primary surpluses of around 2% of GDP annually.

Between October 2023 and April 2024, the ECB kept key policy rates unchanged at restrictive levels, continuing its efforts to drive inflation towards its medium-term target of 2%. Thanks to the recovery of the investment grade, the investment sentiment for Greece has improved significantly.

In January and February 2024, the Greek Public Debt Management Agency (PDMA) reopened the 2023 5-year bond, raising a total of €450 million at significantly lower yields compared to both the original issue and the 2023 reopening, thus confirming that there is strong investor demand for Greek medium-term securities. In February 2024, it raised €4 billion through a new 10-year bond issue with a yield of 3.478%, significantly lower than the 4.279% yield of the January 2023 issue, which had similar maturity. It is worth noting that this issue set three records at the same time: (1) It attracted the largest orderbook ever recorded for Greek government securities, exceeding €35 billion, with a coverage ratio of 8.75x (compared to 6.26x in the previous issue). (2) The pricing of this bond closed with the lowest spread ever achieved for a Greek issue, standing at 80 basis points above the mid-swap rate on risk-free euro bonds. (3) It is the largest issue amount for a 10-year bond since 2010.

These were the first issues after the recovery of the investment grade from major rating agencies and their success reflects a significant increase in investment interest for Greek securities. This is due not only to the fact that Greek bonds now attract a broader investor community, following their inclusion in international indices, but also to the strong demand for government issues in general, as the markets expect a relative easing of the Eurosystem's monetary policy from the end of the second quarter of the year.

2023 is a landmark year in terms of fiscal policy credibility due to the overachievement of the fiscal targets with a significant widening of the primary surplus and without affecting economic growth, on the one hand, and Greece’s upgrade to investment grade on the other. These positive developments should nurture a sustained commitment to fiscal responsibility, especially given that achieving primary surpluses over the medium term will become more difficult as growth rates are projected to slow down and the positive impact of inflation on public finances will gradually wane.

The introduction of new fiscal rules in the EU in 2024 will lead to a prudent medium-term fiscal planning, with constraints on extraordinary fiscal measures. Making the expenditure rule an operational rule for monitoring and compliance implies that any fiscal space will be used to either build up buffers or reduce public debt, while any extraordinary fiscal measure on the expenditure side should be financed by a revenue-increasing measure of an equal size.

Boosting investment, innovation and reforms contributes to raising productivity and increasing potential growth rates, thereby improving both the economy’s resilience and fiscal aggregates. To this end, effectively utilising the Recovery and Resilience Facility resources is crucial for the implementation of the required reforms, as well as for closing the investment gap and in particular strengthening investment in physical and human capital, clean energy, digital technologies and artificial intelligence.

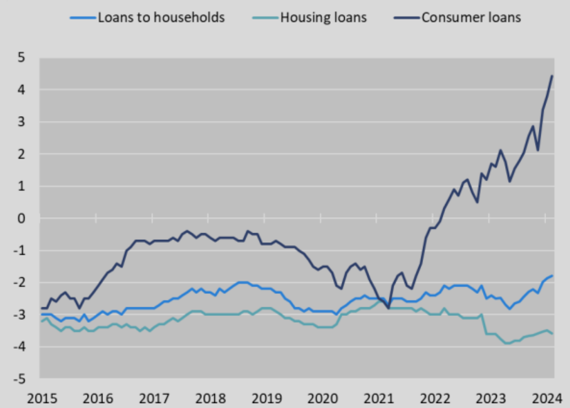
It is estimated that risks to the sustainability of public debt remain contained in the medium term, contingent upon a commitment to meeting the fiscal targets and an efficient use of European resources. This is largely a result of the favourable repayment profile of the official sector debt, which constitutes the major component of total debt, combined with the timely establishment of past hedging swap contracts that have locked in historically low interest rates. It should be stressed, however, that the current favourable characteristics of the debt stock are not of a permanent nature. They merely provide a unique window of opportunity for public debt to remain sustainable going forward, as the concession loans granted under the MoUs gradually mature and are replaced by new borrowing on market terms. In order to take advantage of this window of opportunity, two things are needed: fiscal credibility must be safeguarded and European funds must be used efficiently. Meeting these conditions shall ensure not only maintaining investment grade status, but also obtaining further upgrades of the country’s credit rating.

3. FINANCIAL CONDITION OF HOUSEHOLDS

3.1 DEVELOPMENTS IN HOUSEHOLDS' CREDIT AND INDEBTEDNESS

The annual rate of change in household lending[15] by domestic monetary financial institutions (MFIs) remained in negative territory in 2023 and in early 2024 (February 2024: -1.8%, see Chart II.1). Specifically, the annual rate of change in housing loans remained negative (February 2024: -3.6%), while the annual rate of change in consumer loans has turned positive since March 2022 (February 2024: 4.4%).

Chart II.1 Financing of households and non-profit institutions serving households from domestic monetary financial institutions (2015 - February 2024)
(twelve-month rate of change)



Source: Bank of Greece.

Note: The growth rates reflect changes in the balances, which have been adjusted for loan write-offs, securities depreciation, foreign exchange differences and reclassifications.

According to the results of *Bank Lending Survey*,[16] there was a decline in housing loan demand for two consecutive years (with the exception of the second quarter of 2023) due to higher lending rates. In the same vein, credit institutions reported a slight increase in demand for consumer and other household loans in 2023, which continued into the first quarter of 2024. On the loan supply side, it was reported that the overall terms and conditions for issuing new loans tightened somewhat in the first quarter of 2024 vis-à-vis 2023, when they had remained almost unchanged. At the same time, credit standards for loans to households eased in the first quarter of 2024, having remained relatively unchanged for nearly three years (from the fourth quarter of 2020 to the fourth quarter of 2023). In addition, the rejection rate for consumer and other loans slightly decreased in the first quarter of 2023 and stabilised thereafter, while the corresponding rate for housing loans somewhat decreased, except during the first quarter of 2024 and the second quarter of 2023.

3.2 HOUSEHOLDS' INTEREST RATE RISK

The cumulative increase of 450 basis points in the ECB key interest rates from July 2022 to September 2023 impacted domestic interest rates gradually.[17] The weighted average interest rate on all outstanding loans to households rose by 227 basis points (February 2024: 6.2%, June 2022: 3.9%), reflecting the tightening of the monetary policy stance in the euro area. This increase was more marked in long-term housing loans. In particular, the weighted average interest rate on the outstanding balances of housing loans with a maturity of over five years rose by 240 basis points (February 2024: 4.4%, June 2022: 2.0%), while the corresponding interest rate on housing loans with a maturity of over one and up to five years increased by 176 basis points (February 2024: 5.6%, June 2022: 3.9%). Similarly, the rise in the weighted average interest rate on the outstanding balances of consumer and other loans to households varied according to loan maturity (by 96

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[15] Also includes financing of private non-profit institutions serving households (NPISH) from domestic monetary financial institutions.
[16] [Bank Lending Survey.](#)
[17] The first increase in the ECB key interest rate took effect in July 2022, therefore the impact on lending rates is calculated based on their value in June 2022 (i.e. before the first increase in the ECB key interest rates).

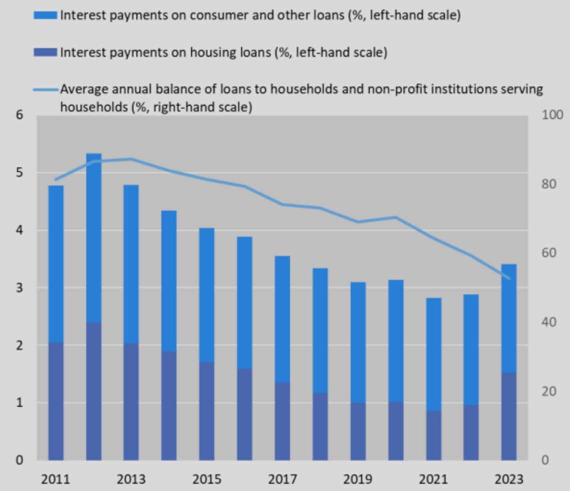
basis points for loans with a maturity of up to one year, by 139 basis points for loans with a maturity between one and five years and by 191 basis points for loans with a maturity of over five years).

In this context, the initiative by Greece's significant institutions to extend the duration of programmes that reward performing borrowers with floating-rate mortgages, providing them with temporary protection against interest rate increases, was welcome (see Box II.1)

Interest payments on housing loans as a percentage of household gross disposable income increased significantly in 2023, due to a rise in the interest rates on existing loans, while they remained relatively unchanged for consumer and other loans (see Chart II.2). Nonetheless, the average annual balance of loans to households and non-profit institutions serving households as a percentage of household gross disposable income has further declined due to a decrease in average loan balances and an increase in household average gross disposable income.

Chart II.2 Household debt and interest payments on housing, consumer and other loans as a percentage of gross disposable income (2011 – 2023)

(% of gross disposable income)



Sources: Bank of Greece calculations and Hellenic Statistical Authority.

Notes:

1. Interest payments are approximated by the product of the weighted average interest rate per category of outstanding performing loans and the average annual balance of household finance per each category.

2. Household finance includes housing, consumer and other loans that are on the balance sheets of domestic credit institutions and credit servicing firms (CSFs).

3. Household finance also includes the securitised loans which remain on the balance sheets of domestic credit institutions (such as synthetic securitisations).

4. The annualised gross disposable income is derived as the sum of four quarterly income observations. The 2023 figure takes into account the observations from the fourth quarter of 2022 to the third quarter of 2023. It is noted that the income of all households is taken into account whether or not they are in debt.

Box II.1 Programmes to support vulnerable borrowers and reward performing borrowers with floating-rate mortgages

Monetary policy tightening in the context of the efforts to contain the surge in inflation, *inter alia* through key interest rate hikes, resulted in an increase in the interest rates on floating-rate mortgages. Taking into account the substantial rise in the debt servicing cost for these borrowers, banks have launched programmes to support vulnerable borrowers through a monthly instalment subsidy and to reward performing borrowers by maintaining a lower base interest rate on housing loans.

In April 2023 the four significant banks, in the context of their corporate social responsibility, announced a programme to reward performing borrowers (natural persons) with floating-rate mortgages. This programme[1] took effect on 02.05.2023 and entailed the automatic enrolment of all performing borrowers with a floating-rate mortgage irrespective of maturity and currency. The main conditions are as follows: a) the loan should have been partially or fully disbursed prior to 31.12.2022; b) no delinquencies (zero days past due) on 28.04.2023; and c) the borrower should remain performing for the duration of the programme. Initially, under the programme the reference interest rate would be maintained at the level applicable on 31.3.2023 reduced by 20 basis points for 12 months, thus insulating borrowers against further increases in key interest rates. In March 2024 it was decided to extend the programmes by another 12 months, bringing their total duration to 24 months. If, in the course of the programme, key interest rates decline to a level lower than the programme level, then the lower base rate will automatically be applied in favour of borrowers.

[1] Some less significant institutions and the Hellenic Loan Servicers Association (HLSA) have announced similar programmes.

3.3 HOUSEHOLDS' INCOME RISK

The evolution of households' disposable income is a key determinant of the relative ease of servicing their loan obligations. According to the most recent available quarterly data from the non-financial accounts of the institutional sectors compiled by the Hellenic Statistical Authority (ELSTAT), household nominal disposable income increased by 7.4% in the first nine months of 2023 year-on-year, while real disposable income rose at a lower rate, by 2.2%, due to high inflation. The increase in nominal disposable income over this period stems from a considerable rise in the disposable income of the self-employed and dependent labour income. The increase in dependent labour income was mainly driven by higher remuneration per employee and, to a lesser extent, to employment growth. Also, the government's fiscal measures to support vulnerable households against rising energy prices significantly contributed to boosting household income. Similarly, the raise in the minimum wage and active employment policies helped increase household income.

At the same time, in the fourth quarter of 2023 the labour market continued to improve, with an increase in employment and a decrease in the unemployment rate (Q4 2023: 10.5%, Q4 2022: 11.9%). Notably, there was an improvement in women's unemployment rate (Q4 2023: 12.9%, Q4 2022: 15.7%) and in the long-term unemployment rate (Q4 2023: 50.8%, Q4 2022: 63.7%). However, in February 2024, the unemployment rate increased to 11.0% from 10.6% in January 2024, albeit remaining below the February 2023 rate (11.2%).

3.4 HOUSE PRICE RISK

Residential real estate prices, according to the apartment prices indices compiled by the Bank of Greece, continued to increase at an accelerating rate throughout 2023. Specifically, apartment prices (in nominal terms) rose by 13.4% y-o-y in 2023, compared with an increase of 11.9% in 2022. The prices of newly built apartments (up to five years old) rose at an average annual rate of 12.4% in 2023, whereas those of older ones increased by 14.2%. The geographical breakdown shows that the strongest increases were recorded in large urban centres, namely Athens (13.7%), Thessaloniki (16.2%) and other large cities (14.5%), which exceeded the average rate of increase for the country as a whole.

The outlook for the Greek real estate market in the forthcoming period remains moderately positive, against a backdrop of lingering considerable uncertainties due to international geopolitical instability. The current environment, characterised by heightened inflation, mounting construction costs and elevated interest rates, poses challenges to the profitability of real estate investments, thereby potentially dampening domestic property market prices, which have been largely sustained by foreign investments in recent years. Over the short term, prices are anticipated to sustain their upward trend, contingent upon continued robust demand from abroad. At the same time, the problem of housing affordability has deteriorated in recent years, propelled by the widespread exploitation of residential properties for profit, subdued construction activity impeding the smooth replenishment of housing stock, and the withdrawal of properties used as collateral for non-performing loans and undergoing foreclosure proceedings. These multifaceted challenges should be considered by policymakers when considering the need for policy action. Consequently, initiatives aimed at supporting low-income households (youth and vulnerable social groups) in accessing housing and renovating older residences (e.g. 'Social Compensation' and 'Renovate – Rent' programmes) are poised to enhance the quality of the housing stock and also improve the financial situation of these households.

Box II.2 Key characteristics of the 'My Home' programme disbursements

The 'My Home' programme (hereinafter 'the Programme') was planned for the provision of low-interest or interest-free loans to young individuals or couples for buying their first home and was co-financed by the Public Employment Organisation (DYPA). The Programme's budget eventually reached €1,000 million, of which €750 million were provided by DYPA and €250 million by the participating credit institutions.

According to data collected by the Bank of Greece on new disbursements of residential real estate loans (Executive Committee Act 175/1/2020), €243 million in new loans were disbursed under the Programme in the second half of 2023 (€48 million in the third quarter and €194 million in the fourth quarter). These loans were funded by €61 million by the participating credit institutions and by €184 million by DYPA, as prescribed by the Programme's terms. The market share of the four significant institutions amounted to 98%.

In an interview held on 3 April 2024,[1] the DYPA Governor stated that 5,228 loans had been disbursed, accounting for 52.7% of the 9,909 approved loans under the Programme. Furthermore, 57% of the approved loans were for young couples and 4% for single-parent families, while the average annual income of the beneficiaries amounted to €17,000. In addition, the average loan amount was €100,147, the average property value was €135,523, and the average age and size of the properties were 40 years and 91m^2, respectively.

Analysis of key figures and indicators – Comparison with other Residential Real Estate (RRE) loans

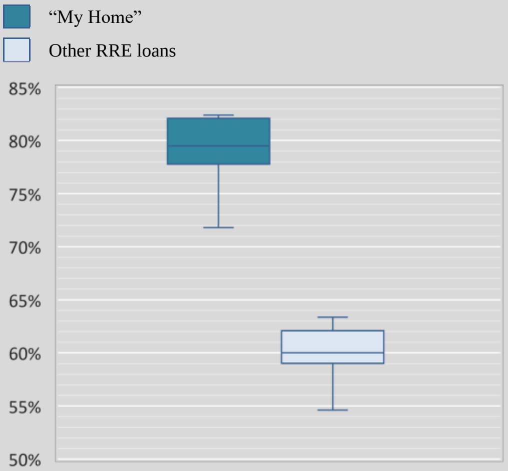
Loans under the 'My Home' Programme display distinct characteristics in terms of the performance of credit origination indicators when compared with other RRE loans (see Chart 1). Specifically, in the second half of 2023, RRE loans granted under the Programme by the significant institutions exhibited a weighted average loan-to-value ratio (LTV-O) of 79%, compared with 60% for other RRE loans. Furthermore, the weighted average debt service-to-income ratio (DSTI-O) and debt-to-income ratio (DTI-O) stood at 29% and 6.3, respectively, for 'My Home' loans, against 31% and 4.9 for other RRE loans. The weighted average loan maturity for Programme loans was 29 years, as opposed to 23 years for other RRE loans. While beneficiaries of the Programme undertake relatively higher debt levels relative to their disposable income (as evidenced by higher DTI-O values vis-à-vis other RRE loans), this does not negatively affect debt servicing capacity (as indicated by lower DSTI-O figures vis-à-vis other RRE loans).

This resilience is attributed to the extended loan maturities permitted under the Programme, which can be up to 30 years, as evidenced by the increased weighted average loan maturity compared to the rest of RRE loans.

Chart 1 Comparison of credit origination indicators for loans under the 'My Home' Programme and other RRE loans

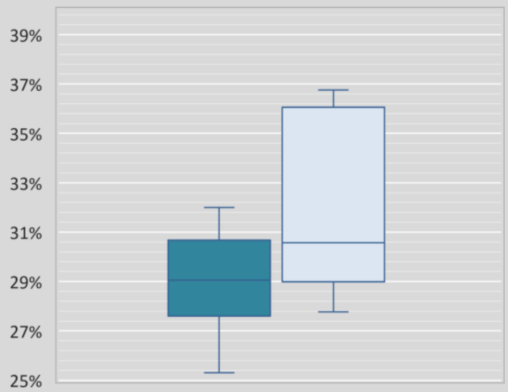
Weighted average LTV-O

(H2 2023, %)



Weighted average DSTI-O

(H2 2023, %)

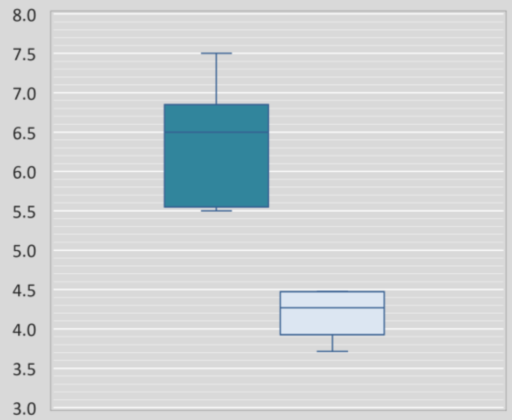


Weighted average duration

(H2 2023, years)

Weighted average DTI-O

(H2 2023, indicator)



Source: Bank of Greece.

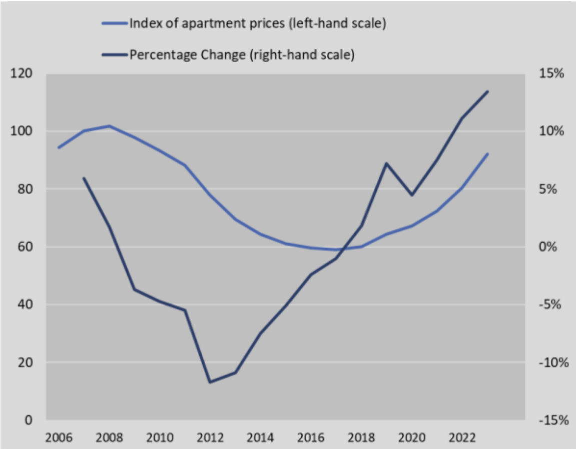
1. The analysis refers to the significant credit institutions.

[1] DYPA Governor interview (dypa.gov.gr) (available only in Greek)

In addition, it should be pointed out that real estate prices are still below the historical highs recorded before the Greek sovereign debt crisis. Based on the index of apartment prices compiled by the Bank of Greece for the whole country, the index peaked in 2008 (101.7) and then edged down steadily, reaching a low in 2017 (59.0). Since then, the index of apartment prices has been steadily rising, reaching 92.0 in 2023, which is 9.7% below its peak (see Chart II.3).

Chart II.3 Index of apartment prices and annual percentage change

(2007=100)



Source: Bank of Greece.

Developments in rental prices follow a similar pattern, with the corresponding index reaching 99.6 in the fourth quarter of 2023, compared with 94.9 in the fourth quarter of 2022.[18] In contrast to the housing price index, the rent index remains significantly below its historical peak (124.3 in the third quarter of 2011).

Box II.3 Loans collateralised by residential real estate – Overview of disbursements in 2023

The Bank of Greece collects on a quarterly basis data on loan disbursements collateralised by residential real estate, in accordance with Bank of Greece Executive Committee Act 175/1/2020.[1] For the purposes of this Act, a residential real estate (RRE) loan refers to a loan to a natural person secured by residential real estate, regardless of the purpose of the loan. In this regard, the reporting perimeter includes mortgages, renovation and consumer loans secured by residential real estate, as well as loans to self-employed persons and sole proprietors secured by residential real estate.

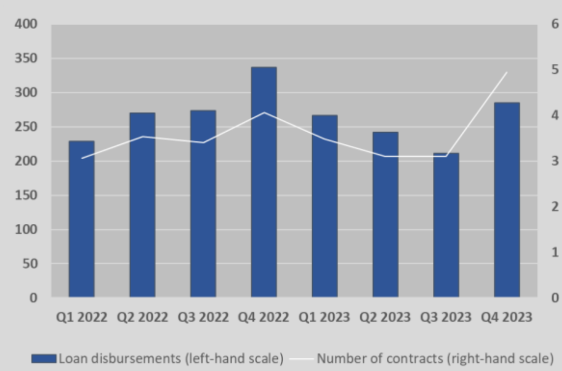
The main conclusions for 2023 are summarised as follows:

(a) Loan disbursements collateralised by residential real estate stood at €1,004 million, down by 9.5% compared to 2022 (see Chart 1), and remain low both in absolute terms and compared with the levels prior to the global financial crisis.[2]

(b) The increase in disbursements was not accompanied by a loosening of credit origination standards. The analysis of key indicators (i.e. LTV-O, LTV-C, DSTI-O, LSTI-O, LTI-O, DTI-O)[3] shows that

Chart 1. RRE loan disbursements (left-hand scale) and number of contracts (right-hand scale)

(Q1 2022 – Q4 2023, EUR million and thousand contracts)



Source: Bank of Greece, ECA 175/1/2020.

[18] Source data from the Organisation for Economic Cooperation and Development (OECD), 2015 = 100, https://data.oecd.org/price/housing-prices.htm

banks so far maintain prudent lending standards.

Analysis of key figures and indicators

In 2023, the amount of RRE-backed loan disbursements across the banking sector reached €1,004 million, corresponding to 14,621 new contracts. This represents a decline of 9.5% compared to the previous year, when disbursements stood at €1,109 million. The average disbursement amount in 2023 was €68.7 thousand, down from €78.8 thousand in 2022.

The market share of the four significant institutions as regards RRE-backed loan disbursements amounted to 93.9%, slightly lower than in 2022 (94.7%). Less significant commercial banks and cooperative banks held a share of 5.4% and 0.7%, respectively. Finally, the share of foreign credit institutions' branches was negligible.

The weighted average loan-to-value ratio at origination (LTV-O) stood at 62.0% in 2023, having decreased by 85 basis points compared to 2022 (62.9%) (see Table 1). Analysing the frequency distribution of the LTV-O, 27.9% of disbursements exhibited an LTV-O of less than or equal to 50%, while 89.9% of disbursements had an LTV-O of less than or equal to 80%. Regarding the stock of RRE loans, the weighted average of the current loan-to-value ratio (LTV-C) stood at 69.1%, with 68.0% of these loans having an LTV-C of less than or equal to 80%.

Table 1 Key figures and indicators of RRE loan disbursements

	Loan disbursements (in € million)	Number of contracts	LTV-O	LTV-C	LSTI-O	DSTI-O	LTI-O	DTI-O
			(%)					
Q1 2023	266	3,481	62.0	72.4	23.2	30.7	3.5	4.2
Q2 2023	241	3,097	61.4	69.0	23.2	31.5	3.5	4.2
Q3 2023	211	3,102	62.2	67.7	23.6	31.6	3.6	4.3
Q4 2023	285	4,941	62.4	67.1	24.2	30.9	4.0	5.6
2023	**1,004**	**14,621**	**62.0**	**69.1**	**23.6**	**31.1**	**3.7**	**4.6**

The weighted average loan-to-income ratio at origination (LTI-O) was 3.7, signifying that total RRE-backed loans are almost four times the total annual disposable income of borrowers. However, it is worth noting that 41.4% of disbursements displayed an LTI-O of less than or equal to 3. In addition, the weighted average debt-to-income ratio at origination (DTI-O) stood at 4.6, with 33.6% of new loans exhibiting a DTI-O of less than or equal to 3. Equally importantly, the weighted average of the loan service-to-income ratio (LSTI-O) amounted to 23.6%, while the weighted average debt service-to-income ratio (DSTI-O) was considerably higher at 31.1%.

Additional features

- 97.4% of loan disbursements are intended for the purchase of RRE property to be used as a residence by its owner ("owner-occupied"), while only 2.6% are "buy-to-let".
- Almost all new loans (95.9%) are fully amortising.
- Loan disbursements with an initial rate fixation period of more than 10 years accounted for 55% of total new loans, and loan disbursements with an initial rate fixation period between 5 and 10 years accounted for 17% of total new loans. Hence, the bulk of new disbursements have a long fixed-interest rate period protecting borrowers from further increases of key interest rates. The percentage of disbursements with an initial rate fixation period of less than or equal to one year amounted to only 11.6% of new loans.

- The average maturity upon origination of the loan disbursements is 23.7 years. 20% of new loan contracts have a maturity of up to 15 years, 37% have a maturity from 15 to 25 years, 38% have a maturity from 25 to 30 years, while the remaining 5% have a maturity above 30 years.

Joint distribution of indicators

As regards the joint distributions of selected indicators, 67% of loan disbursements exhibit an LTV-O of less than or equal to 80% and an LSTI-O of less than or equal to 30%, whereas 52% of loan disbursements show an LTV-O of less than or equal to 80% and a DTI-O of less than or equal to 4 (see Tables 2 and 3 below).

Table 2. Joint distribution of loan-to-value at origination (LTV-O) and loan service-to-income at origination (LSTI-O) of RRE loan disbursements (2023)

(%)

Loan-to-value at origination (LTV-O)	Loan service-to-income at origination (LSTI-O)			
	≤30%	(30%-50%]	>50%	**Total**
LTV-O <= 80%	67.1	21.4	2.6	**91.1**
LTV-O (80%-90%]	5.2	1.8	0.1	**7.1**
LTV-O (90%-110%]	0.4	0.3	0.0	**0.6**
LTV-O >110%	0.6	0.4	0.1	**1.1**
Total	**73.3**	**23.9**	**2.8**	**100.0**

According to the joint distribution of the LTV-O and the LSTI-O, we classify loan disbursements collateralised by residential property in three risk clusters, namely low, medium and high, reflecting their perceived risk, as depicted in Table 2. Specifically, the bulk of loan disbursements (i.e. 72.3%) are classified as low risk (highlighted in green), indicating borrowers with sufficient income and debt-servicing capacity. Additionally, 26.9% of loan disbursements fall within the medium risk category (highlighted in orange). The high-risk category (marked in red) accounts for only 0.8% of the total. These high-risk exposures are found within the cluster of LTV-O above 80% and LSTI-O above 50%, as well as the cluster of LTV-O above 90% and LSTI-O above 30%. Moreover, considering the joint distribution of LTV-O and DTI-O, 54.3% and 42.0% of loan disbursements collateralised by residential property are classified as low and medium risk, respectively, with only 3.6% classified as high risk (as detailed in Table 3).

Table 3. Joint distribution of loan-to-value at origination (LTV-O) and debt-to-income at origination (DTI-O) of RRE loan disbursements (2023)

(%)

Loan-to-value at origination (LTV-O)	Debt-to-income at origination (DTI-O)			
	≤4	(4-6]	>6	**Total**
LTV-O <= 80%	52.3	26.3	12.6	**91.1**
LTV-O (80%-90%]	2.1	2.5	2.5	**7.1**
LTV-O (90%-110%]	0.2	0.3	0.1	**0.6**
LTV-O >110%	0.4	0.5	0.2	**1.2**
Total	**55.0**	**29.5**	**15.5**	**100.0**

In conclusion, the analysis of the indicators shows that throughout 2023 credit institutions applied prudent credit origination standards on loans collateralised by residential property. A slight deterioration in the performance of income-related indicators is more evident in the second half of the year, primarily due to the disbursement of new loans under the ‘My Home’ Programme, which incorporates more relaxed credit standards than those typically applied by credit institutions as part of their standard lending policies.

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[1] The present analysis refers to the banking sector, since leasing companies have reported neither loan disbursements nor loan balances collateralised by residential real estate.

[2] In the period 2005-2007, annual mortgage flows stood on average at €12 billion (Bank of Greece data on credit to the private sector from domestic MFIs).

[3]The key indicators are the following: Loan-to-income ratio at origination (LTV-O); Current loan-to-value ratio (LTV-C); Debt-service-to-income ratio at origination (DSTI-O); Loan service-to-income ratio at origination (LSTI-O); Loan-to income ratio at origination (LTI-O); and Debt-to-income ratio at origination (DTI-O).

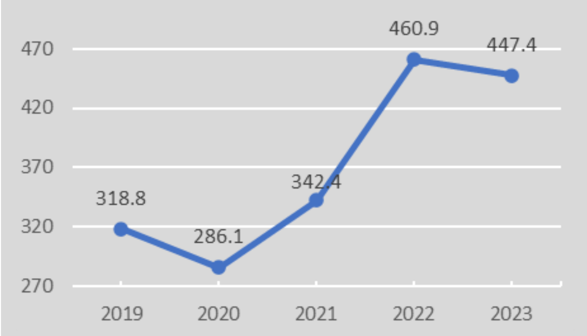
4. FINANCIAL CONDITION OF ENTERPRISES

4.1 FINANCIAL DATA

In 2023, Greek corporates posted reduced income compared to 2022. According to the Hellenic Statistical Authority (HSA) data,[19] the turnover for all enterprises and activities of the economy as a whole amounted to €447.4 billion, down by 2.9% compared to 2022 (see Chart II.4).

Chart II.4 Turnover evolution for all enterprises and activities of the economy as a whole (H1 2019 – H1 2023)

(EUR billion)



Source: Hellenic Statistical Authority.

The reduction can be mainly attributed to a decline in the turnover of the sector "Electricity, Gas, Steam and Air Conditioning Supply" by €25.8 billion or -45.2%, reflecting further de-escalation of energy prices. On the contrary, the largest percentage increase in turnover, when compared to 2022, was recorded in the sectors "Education" and "Construction", by 23.5% and 16.7% respectively. The sector "Wholesale and Retail Trade, Repair of Motor Vehicles and Motorcycles", which accounts for more than 1/3 of the turnover of all businesses, recorded a marginal increase in 2023 (1.2%) to €169.4 billion (from €167.3 billion in 2022).

In the first nine months of 2023, the profitability of Greek businesses declined year-on-year. In particular, according to the latest available data from ELSTAT,[20] the gross operating surplus of Greek corporates fell by 1.3% in the first nine months of 2023 (against an increase of 35.7% in the same period of 2022), while the net operating surplus decreased even more, by 7.6% (against an increase of 56.9% in the same period of 2022). Therefore, in the first nine months of 2023 the performance of the business sector in terms of operating profits – as expressed by the net profit share, i.e. the ratio of net operating surplus to net value added – declined to 37.7%, against 41.4% in the corresponding period of 2022, remaining however significantly higher than the average of the pre-pandemic period 2017-2019 (28.1%).

4.2 CREDIT TO NON-FINANCIAL CORPORATIONS AND INDEBTEDNESS

The financing of non-financial corporations (NFCs) by domestic Monetary and Financial Institutions (MFIs) accounts for 57.6% of total credit to the domestic private sector (see Chart II.5). The annual rate of change in MFI credit[21] to NFCs for 2023 remained positive (5.8%), albeit reduced compared to the end of 2022 (11.8%, see Chart II.6).

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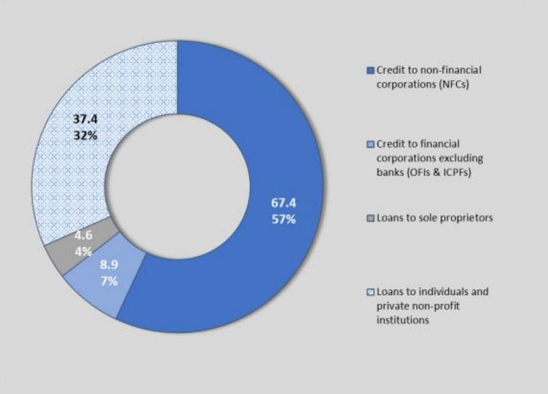
[19] Press Release – Evolution of turnover of enterprises 2023.

[20] Quarterly Non-Financial Accounts of Institutional Sectors for Non-Financial Corporations (S.11 – ESA 2010) / Q3 2023.

[21] MFI credit to the Greek economy.

Chart II.5 Credit to the domestic private sector by domestic Monetary Financial Institutions (MFIs)

(EUR billion; %)



Source: Bank of Greece.

Note: Outstanding amounts at end of period, including securitised loans and corporate bonds.

Chart II.6 Annual rate of change in credit to non-financial corporations from domestic MFIs (December 2010-September 2023)

(%; annual growth rates)

Source: Bank of Greece.

Note: Growth rates are derived from the changes in outstanding amounts corrected for loan write-offs, exchange rate valuations and reclassifications or sale of loans.

According to the results of the Bank Lending Survey[22] published by the Bank of Greece on a quarterly basis, credit standards on loans to NFCs remained unchanged during the first nine months of 2023, while the overall conditions and terms for approving loans "eased somewhat"[23] in the second and third quarters of 2023. Overall demand for loans to NFCs presented a mixed picture during 2023. In particular, in the first quarter of 2023, demand for loans to NFCs "decreased somewhat"[24] for the first time since the third quarter of 2019, while it "increased somewhat" during the second and third quarters. At the same time, the overall demand for loans remained unchanged despite banks' expectations for the second quarter of 2023, as reflected in the Bank Lending Survey, when a small share of respondents indicated that demand would "increase somewhat". The average of responses regarding the factors that affect demand for loans to NFCs was higher than three (3.25 for three out of the four quarters, where 3 = "*contributed to keeping the terms and conditions for granting loans essentially unchanged*") for "financing fixed investments". On the contrary, the average of responses for the same question was lower than three for the options "inventories and working capital", "internal financing", and "general level of interest rates". It should be noted that at the European level, the second quarter of 2023 saw the historically largest decrease in demand for loans by businesses since 2003,[25] mainly due to the increase in the general level of interest rates and the decrease in fixed investment. Demand continued to drop in the remaining quarters, albeit at a slower rate.

Lending rates to NFCs were determined by interest rate hikes in 2023, as part of the ECB's tightening of monetary policy to curb high inflation. The weighted average interest rate on new loans

[22] The Bank Lending Survey is conducted on a quarterly basis by the national central banks of the euro area, in collaboration with the European Central Bank (ECB), on a sample of approximately 150 banks from all euro area countries, which includes the four significant credit institutions in our country.

[23] The average of banks' responses in the first quarter was 3.0 and 3.25 in the second and third quarters. It is noted that the average of banks' responses is on a scale of 1 to 5, where: 1=lending conditions "tightened considerably", 2="tightened somewhat", 3="remained basically unchanged", 4="eased somewhat" and 5="eased considerably".

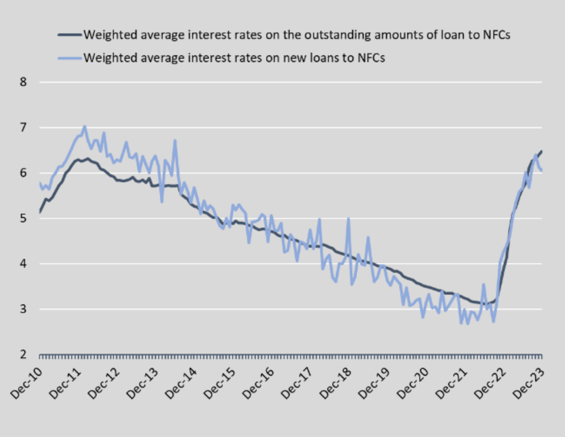
[24] The average of banks' responses was 2.50 in the first quarter, 3.25 in the second and 3.00 in the third and fourth quarters. It is noted that the average of banks' responses is on a scale of 1 to 5, where: 1=loan demand "decreased considerably", 2="decreased somewhat", 3="remained basically unchanged", 4="increased somewhat", 5="increased considerably".

[25] The euro area bank lending survey – Fourth quarter of 2023 (europa.eu)

increased by 138 basis points to 6.01% in December 2023, from 4.63% in December 2022. Likewise, in the same period, the weighted average interest rate on outstanding loans rose by 163 basis points to 6.38%, from 4.75% (see Chart II.7). It is pointed out that the continued increase in lending rates has a decisive effect on the operating cost of businesses, which is already burdened due to inflationary pressures, also reflected in the decrease in the demand for loans to NFCs in 2023.

Chart II.7 Weighted average interest rates on new and outstanding loans to NFCs from MFIs (December 2010-September 2023)

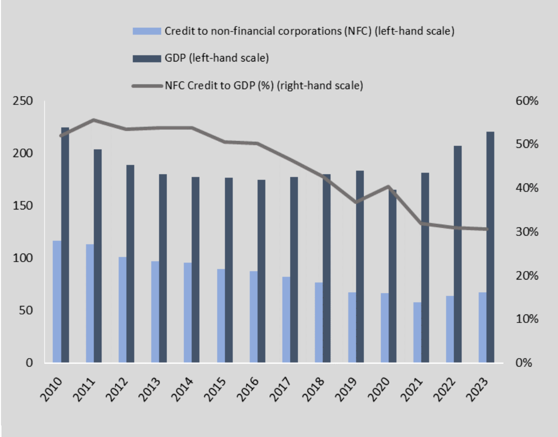
(%)



Source: Bank of Greece.

Chart II.8 Ratio of NFC credit to Gross Domestic Product (December 2010-June 2023)

(EUR million, %)



Source: Bank of Greece, Hellenic Statistical Authority.

The NFC credit-to-GDP ratio at end-2023 was 31%, remaining almost unchanged at the end of 2023 compared to end-2022 (see Chart II.8).

5. DEVELOPMENTS IN DOMESTIC AND INTERNATIONAL MONEY AND CAPITAL MARKETS

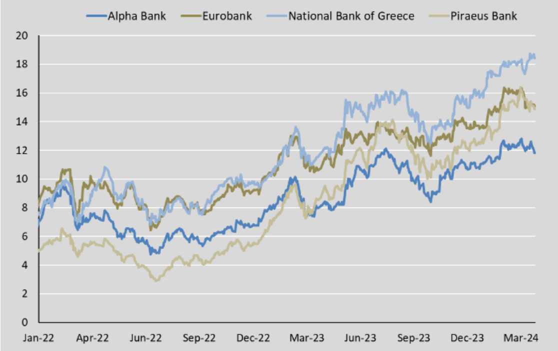
During November 2023-March 2024, upward trends prevailed for the majority of global financial indices, positively affecting the Greek stock market. The key drivers of this development were a gradual easing of inflationary pressures, as a result of monetary policy tightening and a decline in energy prices, a milder than initially expected slowdown in global economic growth, as well as expectations of central banks key interest rate cuts in the near future.

In Greece, during the period August-December 2023,[26] three out of the four rating agencies recognised by the Eurosystem upgraded Greece's credit rating to investment grade, as they assessed positively the favourable public debt servicing profile, the government's commitment to fiscal discipline and timely implementation of an ambitious investment-oriented reform program, continued growth of the Greek economy, as well as a further improvement in the financial figures of the Greek banking sector. This, combined with a strengthening of the financial situation of Greek non-financial corporations,[27] a generally favorable macroeconomic environment, political stability, as well as encouraging employment statistics with a continued decline in the unemployment rate, contributed decisively to a positive climate in the Greek stock market. Therefore, between November 2023 and March 2024, the domestic stock market indices followed a steady upward trend and the Athens Composite Share Price Index (ATHEX) reached an almost ten-year high in March 2024 (1,434.87 points), up by 19.9% compared to November 2023.

Regarding the significant banks with stocks listed on the Athens Exchange, the Market Capitalisation to Weighted Assets Index (Market Cap/RWAs, see Chart II.9) tracked the ATHEX index, recording a significant increase between November 2023 and March 2024, due to positive developments in banks' economic figures, the upgrading of their credit ratings in December 2023 by two rating agencies (Standard & Poor's[28] and Fitch[29]), as well as the recovery of investment grade by Greece.

Chart II.9 Greek banks' capitalisation index as a percentage of weighted assets

(1.1.2022-28.3.2024, daily prices, %)



Sources: Athens Exchange and Bank of Greece.

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[26] First Scope in August 2023 and then DBRS in September upgraded Greece's credit rating, followed by Standard & Poor's in October and Fitch Ratings in December 2023, bringing Greece's credit rating to (BBB-). Moody's has yet to upgrade the country's credit rating.

[27] See Section II.4 Financial condition of enterprises.

[28] Standard & Poor's Report.

[29] On 14 December 2023, Fitch Ratings revised the credit rating outlook of the four Greek significant banks to positive from stable.

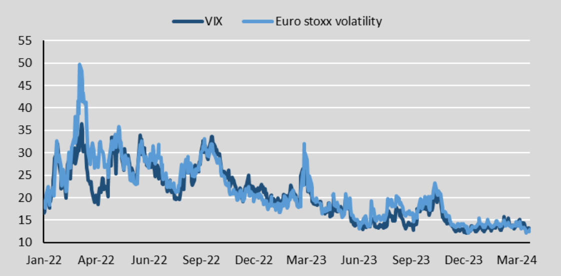
At the European level, the upward trend of stock markets between November 2023 and March 2024 was accompanied by reduced volatility. In particular, a significant decline in volatility in November 2023 favoured higher valuations in stock markets (see Chart II.10).

Valuation differences between European and Greek stocks widened in the November 2023-March 2024 period, as the ATHEX increased less than the Euro Stoxx 50[30] index (18.6% vs. 24.4%, respectively). The Price to Book Value (P/BV) of European stocks during the period November 2023-March 2024 increased from 1.77 to 2.16, while the corresponding ATHEX index rose from 1.15 to 1.32 in the same period. It should be noted that the European average P/BV stood at 1.96 during this period and remained well above the Greek P/BV (1.25 – see Chart II.11).

Central banks, in particular the US Federal Reserve (Fed), the Bank of England and the European Central Bank (ECB),[31] kept their key policy rates unchanged (see Chart II.12). In the global bond market, in the period November 2023-March 2024, government bond yields mostly fell compared to the yields at the beginning of November. It should be noted that market participants' expectations of a reduction in central banks' key interest rates in the near future contributed to a de-escalation of bond yields.

Chart II.10 European and US financial markets' volatility

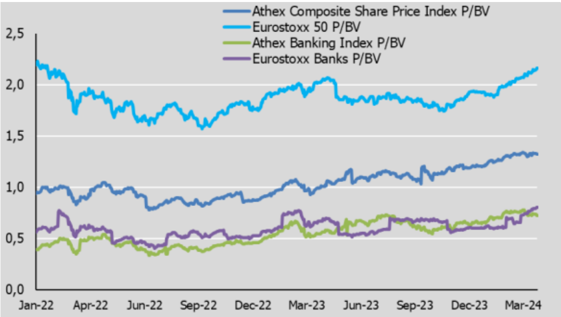
(1.1.2022- 28.3.2024; daily values)



Source: Bloomberg.

Chart II.11 Stock market indices

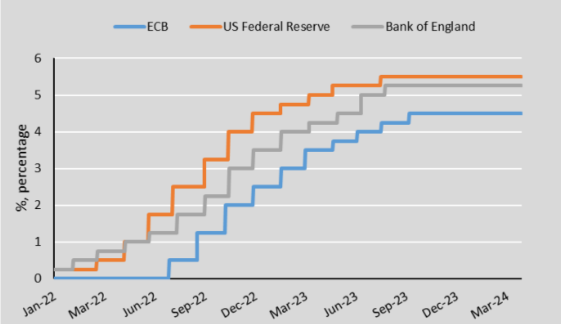
(1.1.2022-28.3.2024; daily values)



Sources: Athens Stock Exchange and Frankfurt Borse.

Chart II.12 Central banks' interest rates

(1.1.2022-28.3.2024; daily values)



Sources: European Central Bank, US Federal Reserve, Bank of England.

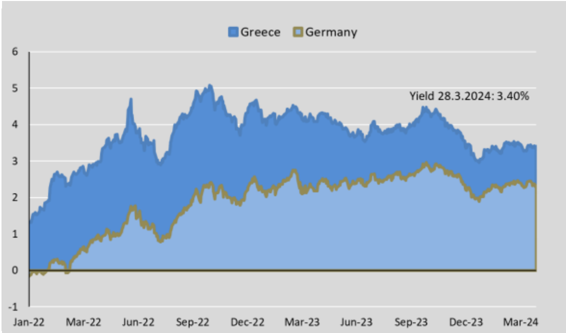
[30] Euro Stoxx 50 is the euro area stock market index designed by Stoxx, an index provider owned by the Deutsche Börse Group. The index is made up of 50 of the largest and most liquid stocks from 11 countries in the euro area, and represents companies considered as leaders in their respective sectors.

[31] The primary objective of the ECB's monetary policy, given data and other factors examined, is making sure that inflation remains around 2% over the medium term, while the US Federal Reserve's monetary policy aims to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates.

As a result, Greek government bond yields declined across maturities over the November 2023-March 2024 period, with markets appreciating the country's return to investment grade.

Chart II.13 Greek and German 10-year bond yields

(1.1.2022-28.3.2024; daily values; %)



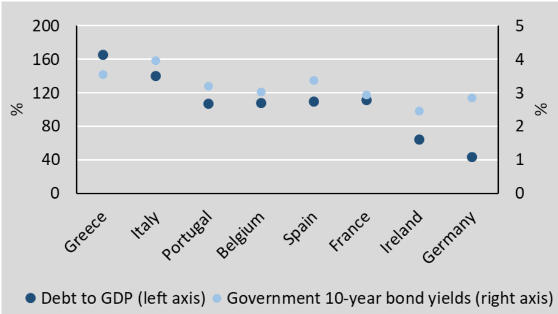
Source: Public Debt Management Agency.

Similarly, euro area ten-year government bond yields experienced a decrease during the period November 2023-March 2024, while the yield spread between the Greek ten-year bond and the corresponding German bond (Bund) narrowed from 140 basis points at the beginning of November 2023 to 109 basis points at the end of March 2024 (see Chart II.13).

At the same time, euro area ten-year government bond yields generally moved in line with the respective debt-to-GDP ratios at the end of March 2024 (see Chart II.14). In the US, the yield on the 10-year government bond decreased to 4.21% at the end of March, from 4.93% at the beginning of November 2023. It should be noted that the US Federal Reserve has set the federal funds target range between 5.25% and 5.50%. The latest increase took place in July 2023.

Chart II.14 Debt to GDP and 10-year government bond yields

(28.3.2024; percentages)



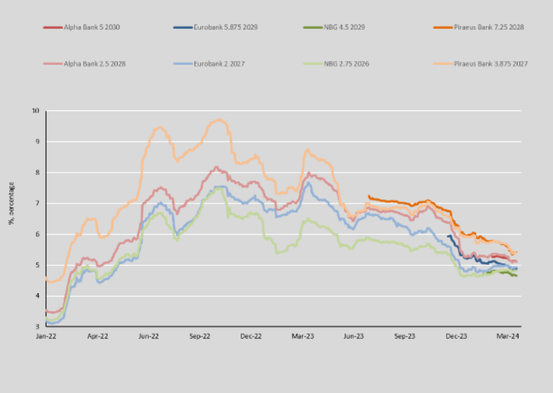
Sources: Public Debt Management Agency, Eurostat.

The bond yields of the major Greek banks declined during the November 2023-March 2024 period, due to Greece's return to investment grade, banks' improved financial figures, as well as the upgrading of their credit ratings (see Charts II.15 and II.16). Credit rating upgrades have given new impetus to investment fund inflows, as investors have, until recently, been reluctant to invest in the country, due to institutional and investment mandate constraints.[32] At the same time, faster disinvestment by the Hellenic Financial Stability Fund of its stakes in the equity capital of significant banks created a positive climate, which was reflected both in stock valuations and in the yields of bank bond issuances.[33] In this context, Greek banks issued bonds (both senior preferred and subordinated) of a total of €2.8 billion between November 2023 and March 2024. It is pointed out that the de-escalation of banks' funding costs is inextricably linked to the effort to meet prudential capital requirements, in particular the minimum requirement for prudential own funds and eligible liabilities (MREL). Therefore, any future credit rating upgrades of the four significant banks will further contribute positively to this effort.

[32] According to the investment mandates of most investment funds (e.g. money market funds, other institutional investors, etc.), the rating of the instrument's issuer should be investment grade, awarded by at least two internationally recognised rating agencies.
[33] HFSF – NBG.
HFSF – Piraeus Bank.
HFSF – Alpha Bank.

Chart II.15 Evolution of yields of senior preferred bonds issued by Greek banks

(1.1.2022-28.3.2024; %)

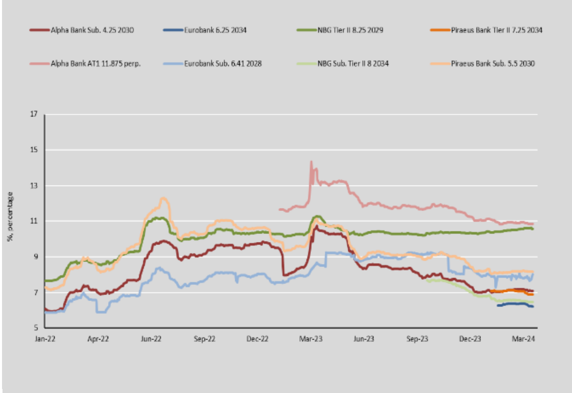


*For each of the 4 significant banks, the oldest and the most recent bond issuance have been chosen.

Sources: Frankfurt Borse and Munich Borse.

Chart II.16 Evolution of yields of subordinated and perpetual bonds issued by Greek banks

(1.1.2022-28.3.2024; %)



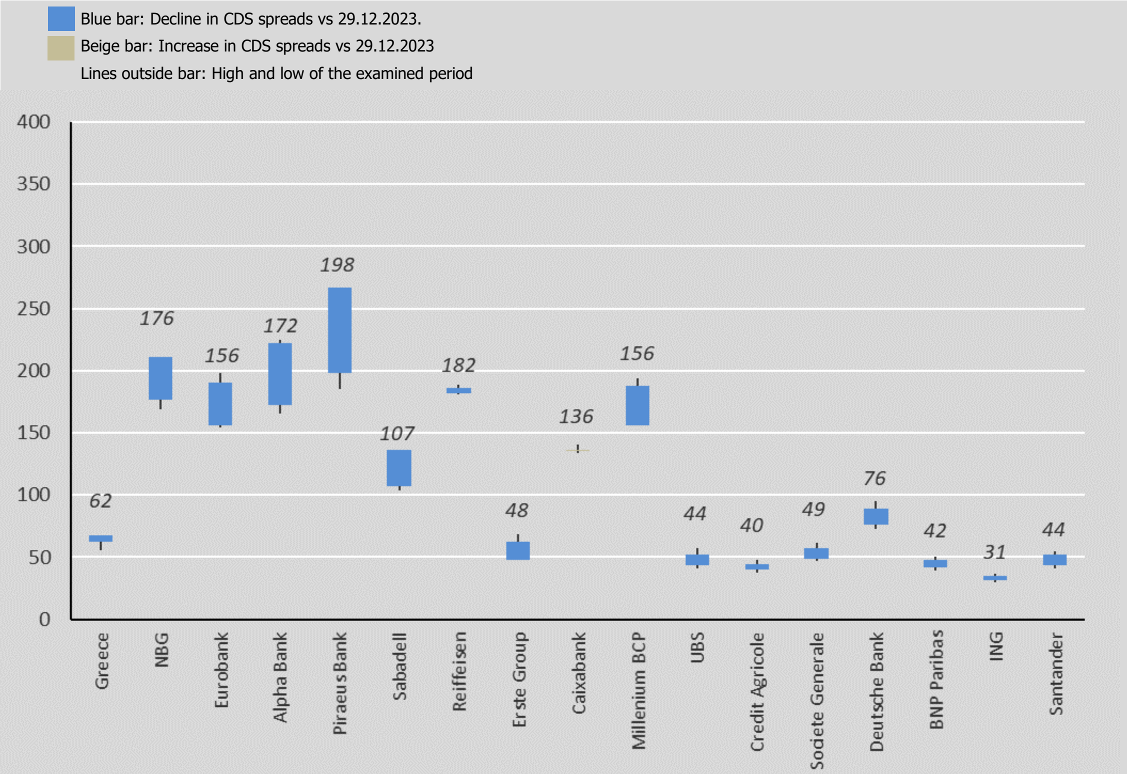
*For each of the 4 significant banks, the oldest and the most recent bond issuance have been chosen.

Sources: Frankfurt Borse and Munich Borse.

Lastly, due to the improved economic climate, Greece's 5-year Credit Default Swaps (CDS) decreased significantly between November 2023 and March 2024, to stand at 62 basis points at end-March 2024, from 86 basis points in early November 2023 (see Chart II.17).

Chart II.17 5-year CDS spreads of the Greek sovereign, Greek and European banks

(29.12.2023-28.3.2024; basis points)



Source: Bloomberg.

Five-year CDS for all major Greek banks followed a similar downward trend until March 2024. However, it should be noted that in March 2024 Greek banks’ CDS spreads stood at significantly higher levels than Greece’s CDS spreads.

III. THE BANKING SECTOR

1. KEY BALANCE SHEET FIGURES

In December 2023, Greek banking groups' assets stood at €319.0 billion, down by 1.6% (or €5.2 billion) compared to December 2022 (see Table III.1).

Table III.1 Structure of assets and liabilities of Greek commercial banking groups

(EUR million)

Assets	2022	%	2023	%	Change
Cash & balances with Central Bank	53,415	16.5	36,987	11.6	-16,428
Due from banks	7,149	2.2	7,991	2.5	842
Loans & advances to customers (net)	160,120	49.4	157,677	49.4	-2,443
Derivative financial instruments	5,517	1.7	4,966	1.6	-551
Securities	55,065	17.0	64,983	20.4	9,917
Investment in subsidiaries & associates, tangible and intangible assets	10,293	3.2	11,030	3.5	737
Non-current assets held for sale	2,505	0.8	7,554	2.4	5,049
Other assets	30,055	9.3	27,749	8.7	-2,306
Total	**324,119**	**100**	**318,937**	**100**	**-5,182**
Liabilities	**2022**	**%**	**2023**		**Change**
Deposits from customers	230,677	71.2	233,734	73.3	3,057
Due to banks	41,942	12.9	22,941	7.2	-19,002
Debt securities in issue & other borrowed funds	10,175	3.1	13,013	4.1	2,838
Liabilities related to assets held for sale	38	0.0	4,810	1.5	4,772
Other liabilities	14,428	4.5	12,577	3.9	-1,851
Total equity	26,858	8.3	31,863	10.0	5,005
Total	**324,119**	**100**	**318,937**	**100**	**-5,182**

Source: Bank of Greece.

More specifically, changes in assets' volumes and composition are mainly attributed to:

(i) A decrease of €16.4 billion in cash, mainly cash balances with the Bank of Greece, in the context of the repayment of TLTRO III funding from the Eurosystem. As a result, the share of cash in total assets decreased (December 2023: 11.6%, December 2022: 16.5%, see Chart III.1 and Table III.1).

(ii) An increase of €9.9 billion in debt securities, mainly due to a rise in foreign government bond and corporate bond holdings, resulting in a rise in the share of debt securities in total assets (December 2023: 20.4%, December 2022: 17.0%).

(iii) An increase of €5.0 billion in assets available for sale, mainly due to the classification as held for sale of the Romanian subsidiary of Alpha Bank,[34] resulting in an increase of their share in total assets (December 2023: 2.4% December 2022: 0.8%).

(iv) A decrease of €2.4 billion in net loans,[35] as the classification as held for sale of the Romanian subsidiary of Alpha Bank, (timely and early) repayments of mainly business loans and, to a lesser

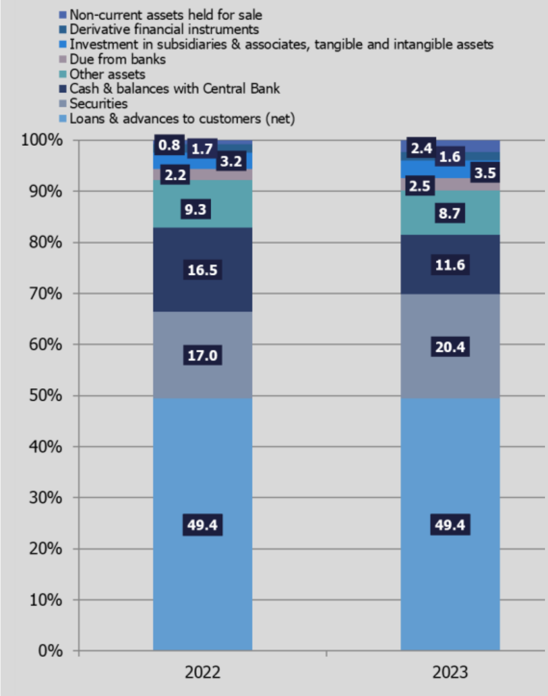
[34] See section III.2.4 International activity.

[35] The stock of loans includes the senior notes that banks have retained from their loan securitisations, which carry a state guarantee under the Hellenic Asset Protection Scheme ("Hercules").

extent, sales of loans more than offset the increase of balances due to loan disbursements. Nevertheless, the ratio of net loans to total assets remained unchanged (December 2023: 49.4%, December 2022: 49.4%).

Chart III.1 Structure of assets of Greek banking groups

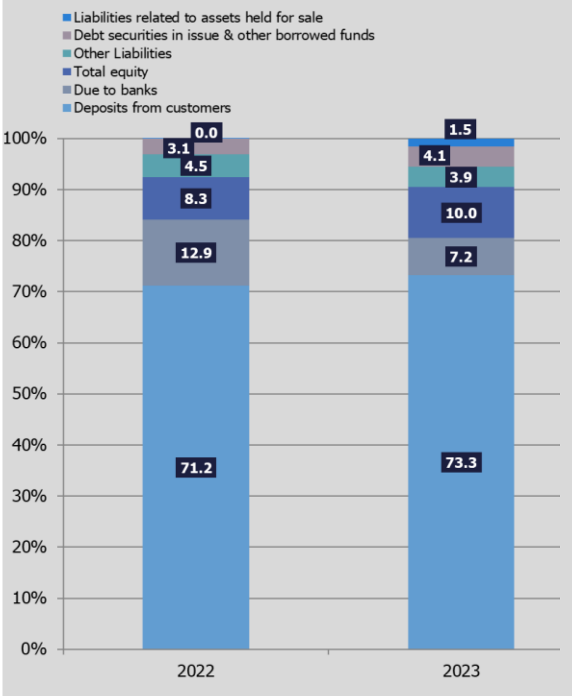
(%)



Source: Bank of Greece.

Chart III.2 Structure of liabilities of Greek banking groups

(%)



Source: Bank of Greece.

On the liabilities side, the most significant developments were as follows:

(i) A decrease of €19.0 billion in amounts due to credit institutions, as a result of the repayment of TLTRO III funding. Consequently, the ratio of amounts due to credit institutions to total liabilities decreased (December 2023: 7.2%, December 2022: 12.9%).

(ii) An increase of €5.0 billion in banking groups' equity, mainly attributable to a rise in reserves and retained earnings. As a result, the ratio of equity to total liabilities increased (December 2023: 10.0%, December 2022: 8.3%).

(iii) An increase of €4.8 billion in liabilities available for sale, mainly as a result of the classification as held for sale of the Romanian subsidiary of Alpha Bank. As a result, the ratio of liabilities available for sale to total liabilities stands at 1.5% (see Chart III.2).

2. RISKS

2.1 CREDIT RISK

Evolution of key figures

In 2023, the asset quality of credit institutions' loan portfolios improved further. Non-performing loans (NPLs) continued their downward trend; as a result, at the end of the year the total stock of NPLs stood at €9.9 billion, down by 24.9% or €3,294 million compared to the end of 2022 (€13.2 billion), according to on-balance-sheet data on a solo basis[36] (see Table III.2).

Table III.2 Key figures – Total portfolio

(EUR million; on-balance-sheet items)	Dec-22	Dec-23
Breakdown of NPLs		
Total loans	**151,709**	**149,579**
Performing loans	**138,472**	**139,637**
NPLs	**13,236**	**9,942**
Unlikely-to-pay	4,058	3,233
Past due > 90 days	4,390	2,535
91-180 days	479	410
181-360 days	531	388
>1 year	3,380	1,737
Denounced loans	4,788	4,173
Breakdown of forborne loans		
Forborne loans	**11,420**	**8,537**
Performing forborne loans	6,632	5,016
Non-performing forborne loans	4,788	3,521
Breakdown of impairment losses and write-offs		
Accumulated impairment on NPLs	**6,196**	**4,572**
Total collateral	**98,000**	**95,705**
Collateral on performing loans	**90,067**	**89,657**
Collateral on NPLs	**7,933**	**6,048**
Unlikely-to-pay	2,779	2,301
Past due > 90 days	2,352	1,435
Denounced loans	2,802	2,312
Collateral on non-performing forborne loans	**3,311**	**2,480**
Flows breakdown of non-performing loans and write-offs	**2022**	**Δεκ-23**
Flows of non-performing loans	**125**	**802**
Flows to performing loans	-2,434	-1,828
Flows from performing loans	2,559	2,631
Write-offs	**961**	**1,041**
of which write-offs of denounced loans	618	740

Source: Bank of Greece.

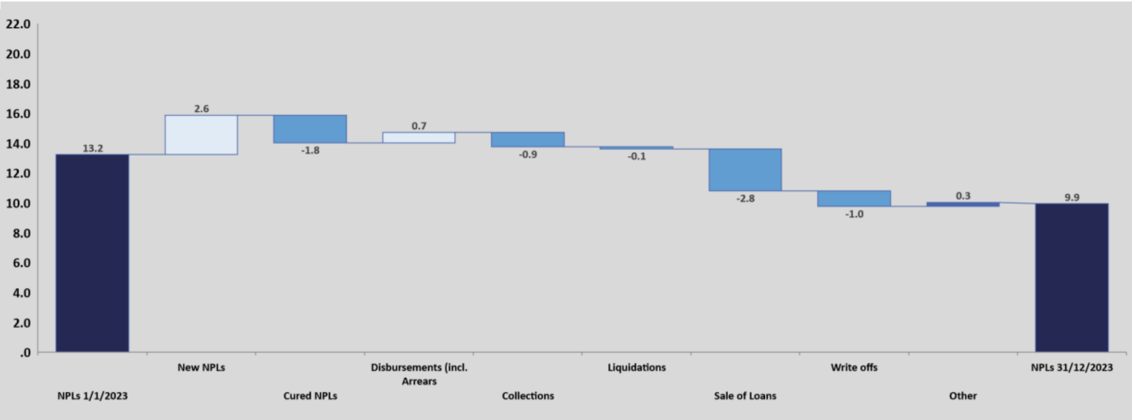
It should be noted that the total decrease in NPLs from their March 2016 peak reached 90.7% or €97.2 billion.

The decline of NPLs in 2023 is mainly due to outright sales of loans on the secondary market, and to a lesser extent to curings, write-offs or collections (see Chart III.3).

[36] On a consolidated basis, the NPL stock stood at €10.2 billion, down by 26.4% or €3.7 billion from €13.9 billion at the end of 2022.

Chart III.3 Flows of non-performing loans in 2023

(EUR billion)



Notes: The categories "Liquidations" and "Sale of Loans" include any partial write-off amounts related to these categories. The "Write-offs" category includes pure loan write-offs. NPLs sales transactions directly or through securitisations are included under "Sale of Loans" and "Other".

Source: Bank of Greece.

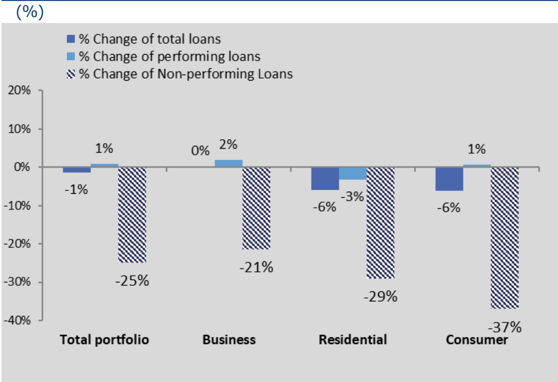
Nevertheless, there was a net inflow of new NPLs during 2023, despite a considerable cured loans flow and a negative net NPL inflow during the last quarter of the year. At the same time, NPL reduction through collateral liquidation remains negligible. It is also noted that for some of the securitisation transactions, the provision of Greek government guarantees (under the "Hercules" plan) on the senior tranche securities[37] is pending.[38] The aforementioned loan balances have already been classified as held for sale.

It is important to note that the transfer of NPLs out of the banking sector does not automatically imply the removal of debt from the economy; the debt remains and is now managed by credit servicing firms (CSFs).

The total stock of outstanding (performing and non-performing) loans on a solo basis amounted to €149.6 billion, recording a slight decrease of 1.4%, mainly attributable to the residential loan portfolio (-5.9%).The total stock of performing loans increased by 0.8%, mainly due to the expansion of the performing business loan portfolio (1.9%), as new disbursements exceeded loan repayments (see Chart III.4).

Chart III.4 Percentage change of Greek banks' total (performing and non-performing) loans per portfolio in 2023

(%)



Source: Bank of Greece.

The ratio of NPLs to total loans at the end of 2023 stood at 6.6%, compared with 8.7% at the

[37] See Box V.1 "Securitisations as a tool to effectively manage banks' non-performing loans (NPLs)".

[38] It should be noted that as at 31.12.2023, the total stock of NPLs included in the "Hercules" plan amounts to €42.8 billion (from €43.8 billion as at 31.12.2022), while the amount of guarantees granted by the Greek State stands at €16.5 billion.

end of 2022. It is worth noting that all four significant institutions have achieved their operational target of a single-digit NPL ratio, with three of them (out of four) falling below 5%. However, in the less significant institutions (LSIs), the ratio of NPLs to total loans is particularly high and stands at 37.6% in 2023, down by 8% compared to December 2022, a reduction mostly related to the credit expansion noticed in some LSIs.

Additionally, the system-wide NPL ratio remains higher than the European average (Dec. 2023: 1.9%[39]), implying that banks must continue their efforts to reduce their existing NPL stock, especially in the light of emerging challenges.

The high interest rate environment, resulting from the ECB's abrupt monetary policy tightening in response to inflationary pressures, poses direct challenges to the cost of financing and the debt repayment capacity of households and corporations. The securitisation of NPLs through the government guarantee protection scheme – HAPS ("Hercules III") is expected to contribute to a further reduction of NPLs, especially among the LSIs. Maintaining a satisfactory level of economic growth in Greece and improving conditions for lower income households, as inflation falls, should ease the pressures on their financial situation.

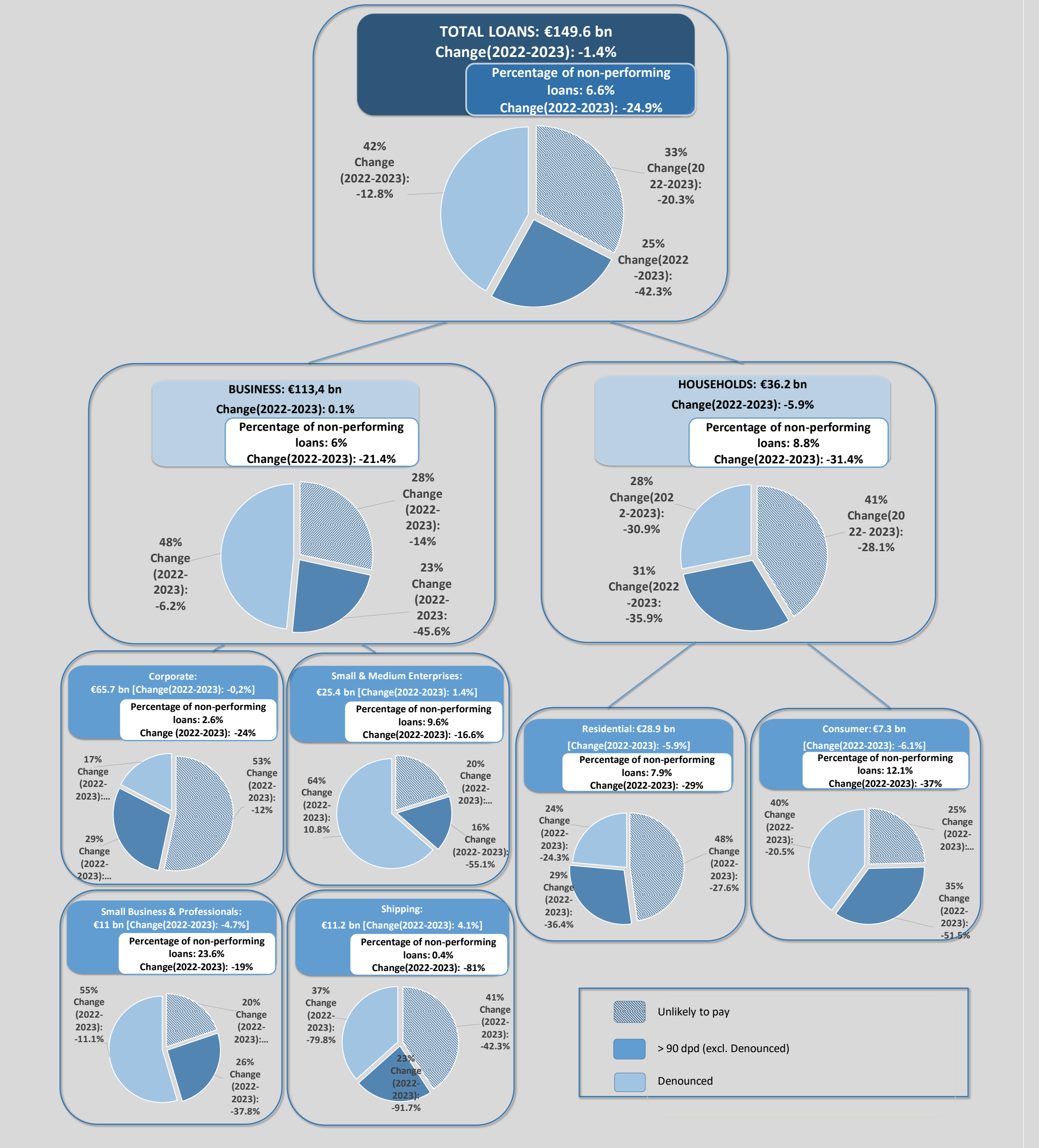
Structure and evolution of non-performing loans (NPLs)

A significant decline in the stock of NPLs was recorded across loan portfolios during 2023. The largest percentage decrease of NPLs was recorded for households (-31.4%), while in absolute terms the decrease was more substantial for business loans (-€1.8 billion) (see Chart III.5).

[39] Source: Single Supervisory Mechanism (SSM).

Chart III.5 Structure and evolution of Greek commercial banks' total loans and NPLs by loan portfolio category in 2023

(EUR billion; %)



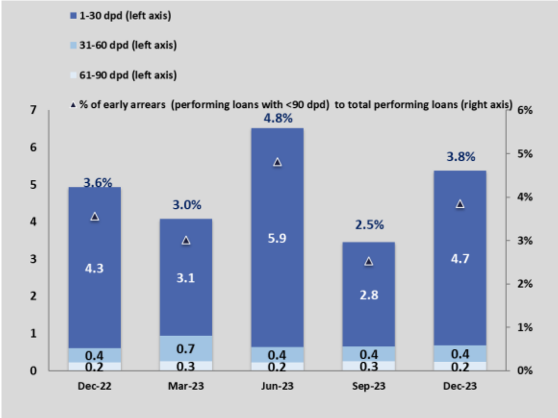
Source: Bank of Greece.

Unlikely-to-pay loans amounted to €3.2 billion (32% of NPLs) at the end of 2023, down by 20.3% compared to end-2023 (€4.1 billion).

Loans that are 1 to 90 days past due (early arrears) increased by 9% to €5.4 billion at the end of 2023, from €4.9 billion at the end of 2022. This increase comes mainly from business loans in arrears from 1 to 30 days. In addition, the ratio of loans in arrears from 1 to 90 days to total performing loans increased to 3.8% in 2023, compared with 3.6% at the end of 2022 (see Chart III.6).

Chart III.6 Structure of early arrears per arears bucket and the ratio of early arrears to total performing loans

(EUR billion; %)



Source: Bank of Greece.

Loans over 90 days past due (excluding denounced loans) declined further during 2023 to €2.5 billion (25.5% of NPLs), down by 7.7% compared to end-2022 (€4.4 billion). However, it is noted that 68.5% of the NPLs in this category are more than one year past due, lower compared to the end of 2022 (77%). The corresponding delinquency rate reaches 75.5% for business loans, 54.7% for residential loans and 62.5% for consumer loans.

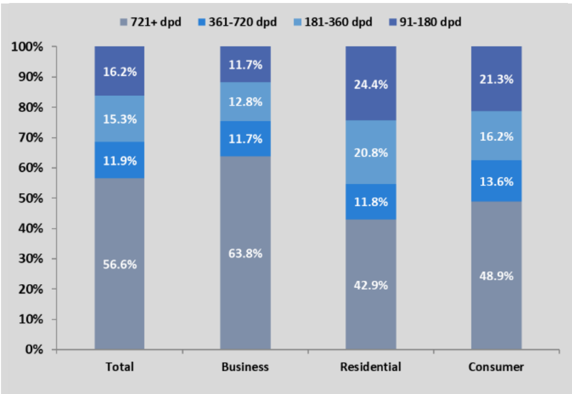
The structure of NPL balances over 90 days past due per portfolio at the end of 2023 is presented in Chart III.7.

At the same time, 42% of NPLs relate to denounced loans, which at the end of 2023 amounted to €4.2 billion, down by 5.8% (-€0.6 billion) compared to end-2022, mainly due to sale transactions.

Lastly, the improvement in portfolio quality is also reflected in the allocation of the total loan stock per stage, in accordance with International Financial Reporting Standard 9 (IFRS 9), in 2023 compared to 2022, mainly due to a decrease of the total NPL stock included in stage 3 (see Chart III.8).

Chart III.7 NPLs' balance structure in the arrears bucket of more than 90 days past due (excluding denounced loans) per portfolio

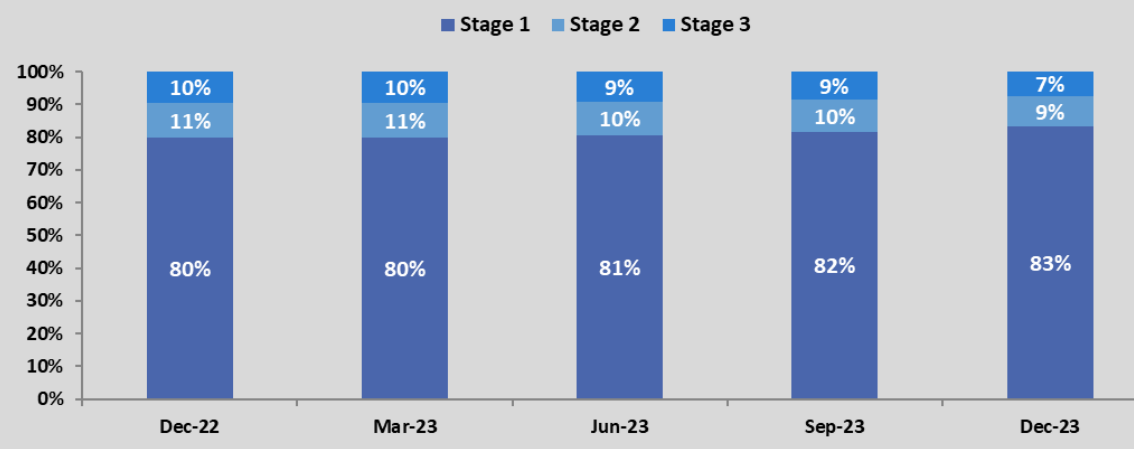
(%)



Source: Bank of Greece.

Chart III.8 Allocation of the total loan stock per stage according to IFRS 9

(%)



Source: Bank of Greece.

Indicators for monitoring and evaluation of NPLs

Regarding the indicators for monitoring and evaluation of NPL management for 2023, the following should be noted (see Table III.3):

Table III.3 Total portfolio – Key indicators

(%, on-balance-sheet items)	Dec-22	Dec-23
Credit quality indicators		
NPL ratio	**8.7**	**6.6**
> 90 days past due	6.1	4.5
NPL structure		
Unlikely-to-pay	**30.7**	**32.5**
Past due > 90 days	**33.2**	**25.5**
91-180 days	3.6	4.1
181-360 days	4.0	3.9
>1 year	25.5	17.5
Denounced loans	**36.2**	**42.0**
Forborne to total loans		
Forborne loans	**7.5**	**5.7**
Forborne performing loans	4.4	3.4
Forborne non-performing loans	3.2	2.4
Coverage ratios and write-offs		
Coverage ratio of NPLs	**46.8**	**46.0**
Total write-offs to total loans	**0.6**	**0.7**
Total write-offs to NPLs	**7.3**	**10.5**
NPL collateral coverage ratio	**59.9**	**60.8**
Collateral coverage on forborne non-performing loans	**69.2**	**70.4**
Total NPL coverage (provisions + collaterals)	**106.7**	**106.8**
Quarterly default and cure rates		
Default rate	0.4	0.4
Cure rate	4.0	5.8
Cost of Credit risk		
Loan-loss impairment to net loans	1.1	1.1
Loan-loss impairment to total assets	0.5	0.5

Source: Bank of Greece.

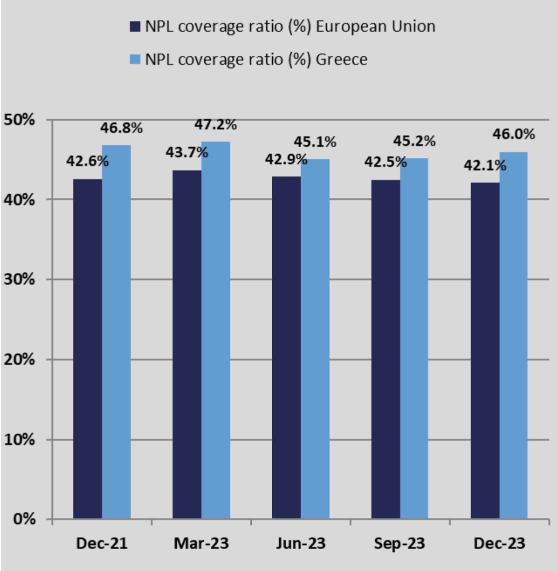
- The NPL coverage ratio (accumulated provisions) stood at 46% in 2023, compared with 46.8% at the end of 2022. In particular, the cumulative provisions for the coverage of NPLs established by banks in December 2023 amounted to €4.6 billion, compared with €6.2 billion at the end of 2022. This decrease is mainly due to the sale transactions that took place during the year. Since the fourth quarter of 2022, the level of the NPL coverage ratio in Greece exceeds the European average (see Chart III.9), as a result of a larger decrease in the denominator (NPLs) than in the numerator (cumulative provisions).
- The collateral coverage ratio for NPLs in 2023 was 60.8%, higher than at end-2022 (59.9%), while the collateral coverage ratio on forborne non-performing loans amounted to 70.4%, compared with 69.2% at the end of 2022.
- Total forborne loans[40] in 2023 fell to €8.5 billion, from €11.4 billion at the end of 2022, representing 5.7% of total loans (7.5% in 2022) (see Chart III.10). The decrease in forborne loans since December 2022 is mainly due to sales of NPLs.

  It is noted that 10.6% of forborne loans are in arrears by more than 90 days, slightly down from 13.3% at the end of 2022.
- 64.4% of NPLs over 90 days past due have not been modified (forborne), compared with 65.5% at the end of 2022, while the corresponding rates for residential, consumer and business loans stand at 72.4%, 73.5% and 59.2%, respectively.

  • Loan write-offs in 2023 amounted to €1,041 million, of which €739.5 million relate to denounced loans, in particular business loans (€0.57 billion).
- During 2023, the flows from performing to non-performing loans were €2.6 billion, while the flows from non-performing to performing loans were €1.8 billion, leaving positive net flows to non-performing loans of €802 million. It is noted that in the first three quarters, net flows to NPLs were observed, with an increasing trend in the second quarter (€165 million in Q1,

Chart III.9 NPL coverage ratio

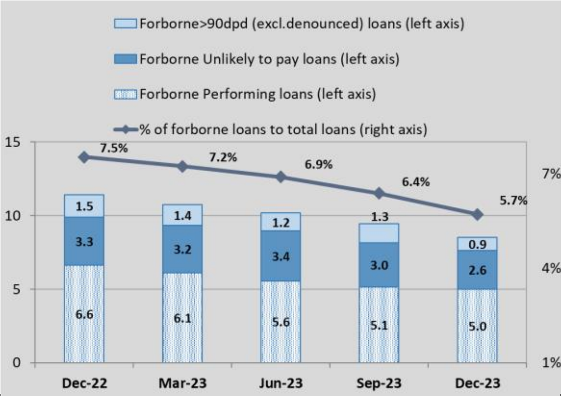
(%)



Sources: Bank of Greece, Single Supervisory Mechanism (SSM).

Chart III.10 Evolution of forborne loans per category and evolution of the ratio of forborne loans to total loans

(EUR billion; %)



Source: Bank of Greece.

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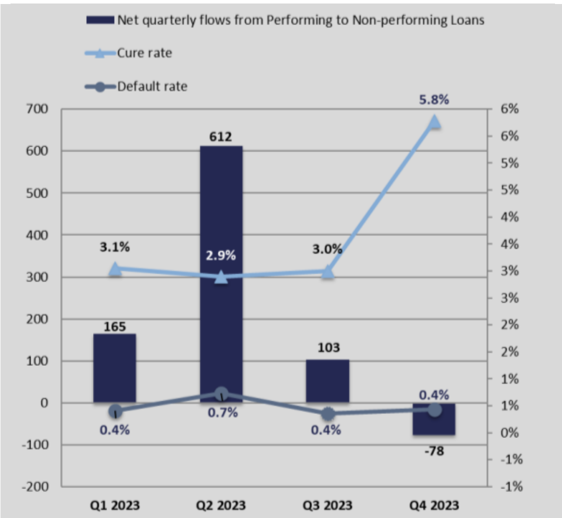
[40] Bank of Greece Executive Committee Act 175/29.7.2020 provides an indicative typology of forbearance and resolution and closure solutions for performing and non-performing loans.

€612 million in Q2 and €103 million in Q3 2023). The trend changed in Q4, when a negative flow was observed (see Chart III.11).

- It should be noted that €128 million, i.e. 1.3% of total NPLs, relate to loans that are under legal protection status pending a final court decision; of these, €59 million relate to already denounced loans. Loans in this category concern either natural persons (e.g. Law 3869/2010[41]) or legal entities (e.g. Law 4307/2014, Bankruptcy Code). Regarding the sub-categories, approximately 2.7% of non-performing residential loans are subject to legal protection, while the corresponding percentage for consumer loans is 2.4%.
- The cure rate stood at 5.8% and the default rate at 0.4% in 2023 (see Chart III.11). Looking into individual loan portfolio categories, the highest cure rate (7.8%) is recorded for residential loans and the lowest (4.8%) for consumer loans.
- The largest part of forborne loans relates to long-term modifications, representing 73.6% of total forborne loans, followed by short-term modifications with 24.5% and resolution and closure actions with 1.9% (see Chart III.12). The percentage of forborne non-performing loans in 2023 remained high (41.5%), but slightly lower than in 2022 (42.4%).

Chart III.11 Evolution of net quarterly flows from performing to non-performing loans, default rate and cure rate

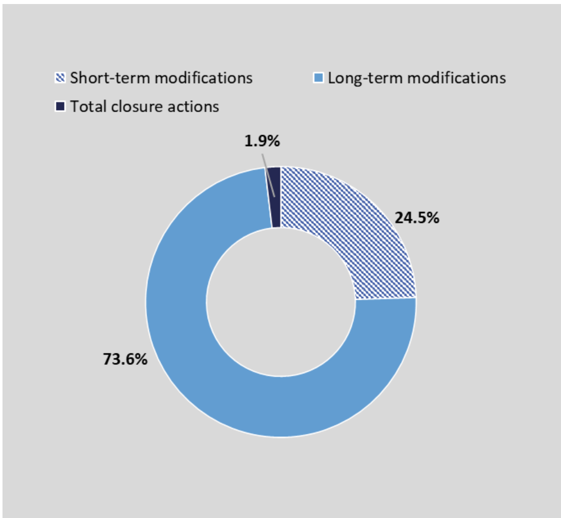
(EUR million, %)



Source: Bank of Greece.

Chart III.12 Allocation of forborne loans balance per modification type

(%)



Source: Bank of Greece.

Credit risk per sector for business loans

In 2023, financing to businesses, according to on-balance-sheet data, came to €113.4 billion, accounting for about 75.8% of the total financing of Greek credit institutions to the economy. The NPL ratio in the business portfolio (6%) continues to be mainly influenced by the high NPL ratio

[41] The law, last amended in September 2018, provides that banking secrecy will be lifted with respect to borrowers benefiting from its provisions, who will cease to qualify for protection if they raise any objection. At the same time, borrowers will declare that they authorise any credit institution to disclose to their creditors the data of any bank accounts and products, permitting them to process and exchange the data they hold or receive from credit institutions.

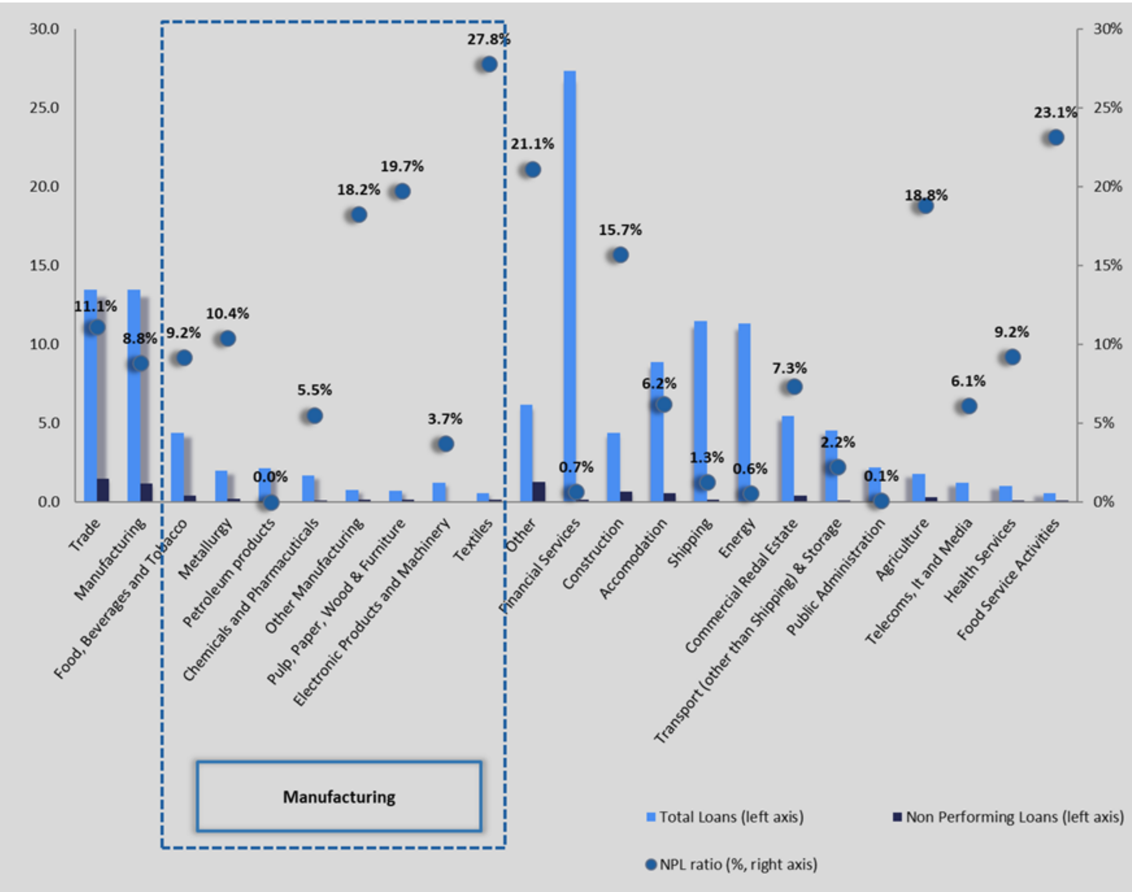
of small and medium-sized enterprises (SMEs) (9.6%) and small business professionals (SBPs) (23.6%).

As regards the sectoral breakdown of financing to the Greek economy, the largest share concerns financial corporations (24% of total corporate financing). The NPL ratio for this sector (0.7% in 2023) is much lower than the corresponding average ratio for business loans.

The highest NPL ratios are recorded in Food Service Activities (23.1%), Agriculture (18.8%), Construction (15.7%), Trade (11.1%), Health Services (9.2%) and Manufacturing (8.8%). High NPL ratios are also recorded in sub-sectors of Manufacturing, such as Textiles (27.8%), Pulp, Paper, Wood & Furniture (19.7%) and Other Manufacturing (18.2%), which, however, refer to lower lending balances and therefore have a lower effect on the overall NPL ratio of the Manufacturing sector. The lowest ratios are indicatively observed in Energy (0.6%) and Financial Services (0.7%) (see Chart III.13).

Chart III.13 Sectoral breakdown of business loans and NPLs for 2023

(in billion euro, %)



Source: Bank of Greece.

In conclusion, the high ECB key interest rate environment and the ensuing increased financing costs, compounded by a slowdown in the rate of economic growth, higher production costs and stagnant real disposable income of households, will continue to put pressure on the financial situation of corporates and households, negatively affecting the loan portfolio quality. The anticipated key interest rate cuts could improve the economic outlook and the quality of the loan portfolio, subject to international developments and in the absence of unforeseen events. Lastly, it is worth mentioning that banks will continue their effort for further NPL deleveraging, gradually converging with the European average.

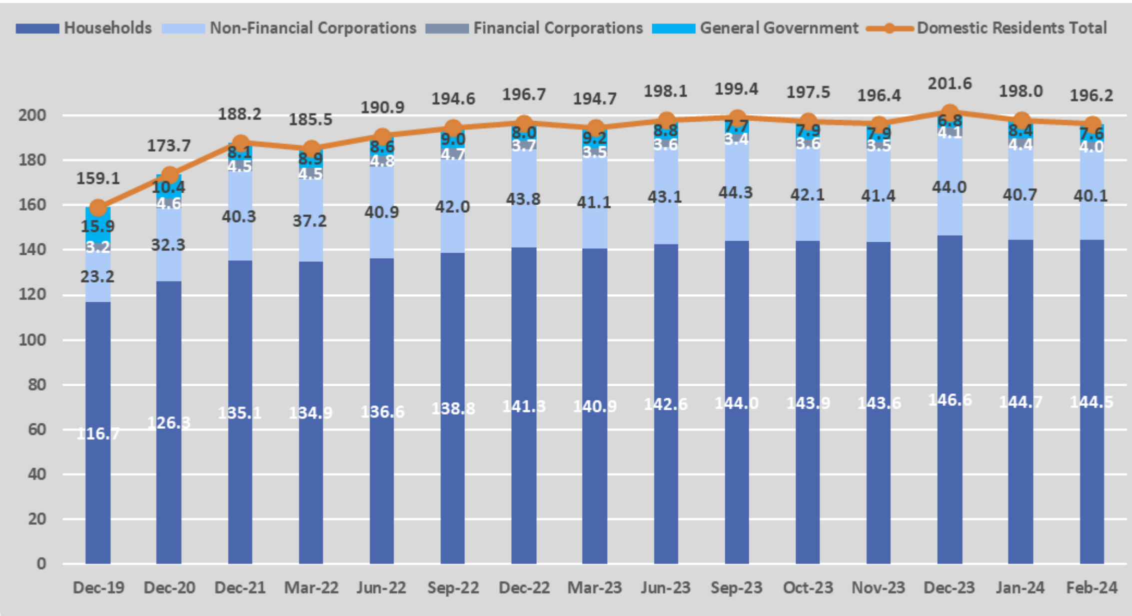
2.2 LIQUIDITY RISK

The liquidity and financing conditions of the Greek banking sector in 2023 improved. Although bank funding costs increased due to rising interest rates, Greek (bank and government) bond yields followed a downward trend. This downward trend is partly attributable to the recovery of the investment grade rating, which created a climate of confidence and optimism in the markets. Greek banks' access to capital markets further improved, while deposits continued to rise in the same period, albeit at a reduced pace, reflecting satisfactory economic growth. The growth of deposits substantially mitigated the impact of repayments of Targeted Longer-Term Refinancing Operations (TLTRO III) funds, thereby ensuring that Greek credit institutions maintained a high level of liquidity.

The balance of residents' deposits in Greece in December 2023 amounted to €201.6 billion, posting a new decade high (see Chart III.14). An increase in deposits by €4.9 billion (2.5%) in 2023, albeit at a slower pace, can be attributed to a strengthening of economic activity and a rise in employment.

Chart III.14 Deposits and repos of domestic non-MFIs in MFIs in Greece (excluding the Bank of Greece)

(EUR billion)



Source: Bank of Greece.

This rise stemmed primarily from an increase in deposits held by households, which came to €146.6 billion, up by €5.3 billion (3.8%) compared to December 2022, while deposits by non-financial corporations remained almost unchanged (December 2023: €44 billion; December 2022: €43.8 billion).

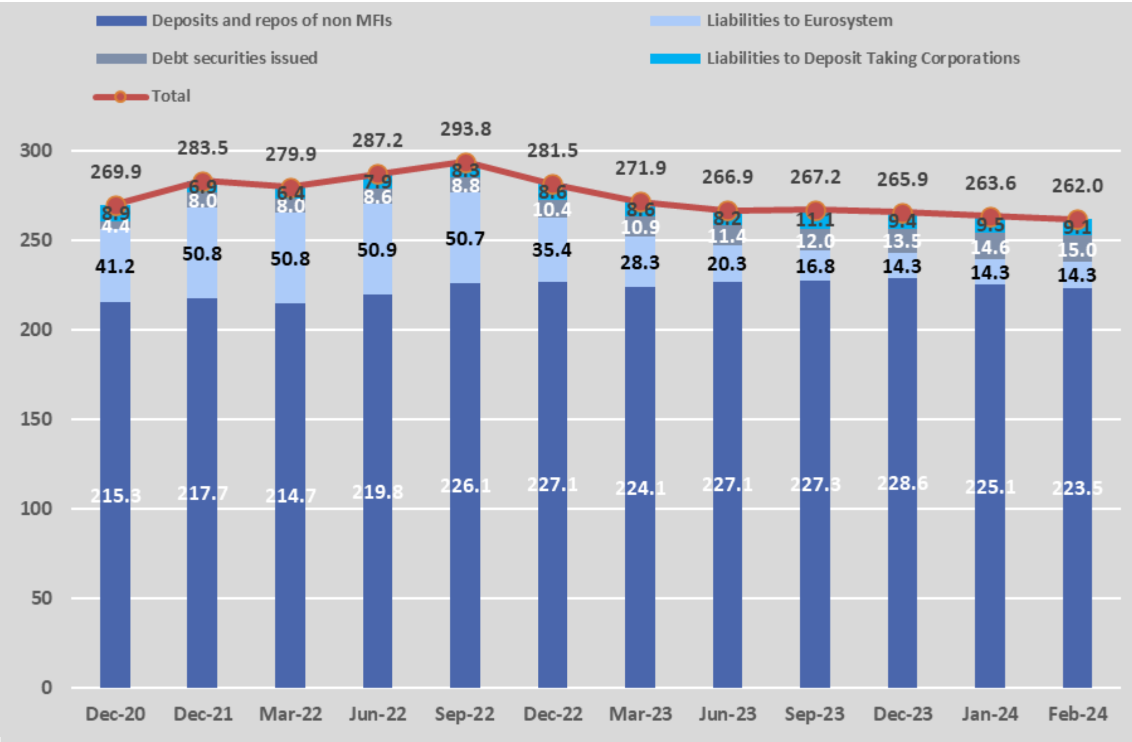
General government deposits decreased by 14.6% in 2023 (December 2023: €6.8 billion; December 2022: €8 billion), despite growing to €8.8 billion in the first half of 2023. Deposits held by financial corporations registered a 13.3% increase (December 2023: €4.1 billion, December 2022: €3.7 billion).

The decrease in deposits observed in the first two months of 2024 was a predictable development, given the substantial liquidity buildup witnessed in deposit accounts by December 2023. Businesses and households are gradually drawing down on this liquidity, using it to meet their seasonal financial obligations. Additionally, a portion of liquidity is channeled into loan repayments, with this trend being more pronounced in business loans.

From December 2022 to September 2023, the ECB's key interest rates increased by 200 basis points. It is noted that in October 2022 the Governing Council of the ECB announced a modification of the terms and conditions of TLTRO III transactions (effective from November 2022) and an adjustment of the remuneration of minimum reserves (effective from December 2022).[42] The higher cost of funding from the Eurosystem led Greek banks to proceed in some cases with an early voluntary repayment of part of their borrowing through TLTRO III operations. In total in 2023, the financing of Greek banks by the Eurosystem was reduced by €21.1 billion (December 2023: €14.3 billion, December 2022: €35.4 billion) (see Chart III.15).

Chart III.15 Sources of funding of Greek credit institutions

(EUR billion)



Source: Bank of Greece.

In addition, liabilities to deposit-taking corporations increased slightly (by €0.8 billion in 2023) (December 2023: €9.4 billion, December 2022: €8.6 billion). Deposits and repurchase agreements of non-financial corporations (including households) followed an upward trend in 2023 (up by

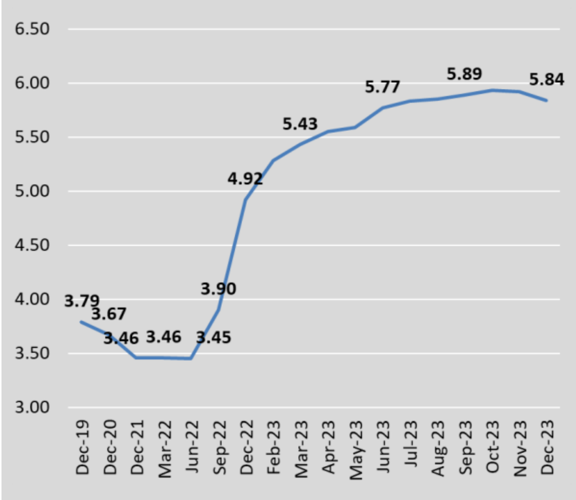
[42] Source: ECB, press release of 27.10.2022, Monetary policy decisions.

€1.5 billion, December 2023: €228.6 billion, December 2022: €227.1 billion), while debt securities issued also increased, by €3.1 billion (December 2023: €13.5 billion, December 2022: €10.4 billion).

In 2023, there was only a small increase in deposit rates, despite the substantial hikes in the Eurosystem's key interest rates and a larger increase (relative to deposits) in lending rates (see Chart III.16). Thus, the weighted average interest rate on deposits/repurchase agreements was 0.51% in December 2023 (December 2022: 0.09%). The average interest rate offered to households and non-financial corporations was 0.41% and 0.83% in December 2023, respectively (December 2022: 0.06% and 0.17%, respectively). It is worth noting that the increase in the weighted average interest rate on deposits/repurchase agreements relates almost exclusively to time deposits.

Chart III.16 Loan-Deposit Interest Rate Spread

(%)



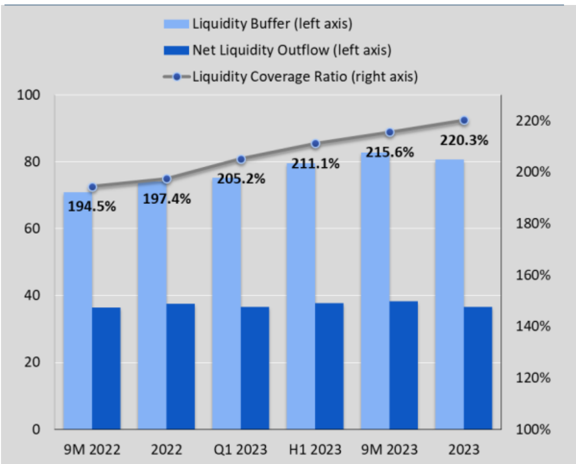
Source: Bank of Greece.

Bank liquidity indicators

Throughout 2023, Greek banks maintained a high level of liquidity. The Liquidity Coverage Ratio (LCR) continued its upward trend and closed at 220.3% (see Chart III.17), i.e. more than double the supervisory requirement of 100%. The LCR remained high despite the significant repayments of TLTRO III funding, due to an increase in deposits, which boosted banks' liquidity, and the release of encumbered assets mobilised as collateral to the Eurosystem's refinancing operations, which are now eligible for the banks' liquid buffers. The Liquidity Coverage Ratio for Greek banks remained significantly higher than the corresponding European average for banks in the Single Supervisory Mechanism (164.4% for significant institutions – SIs – and 204.7% for less significant institutions – LSIs – in Q4 and Q3 2023, respectively).[43] As TLTRO III repayments continue, the LCR of Greek banks could be impacted if the collateral released upon repayment does not qualify for inclusion in their liquidity buffers.

Chart III.17 Liquidity Coverage Ratio (LCR)

(% and EUR billion)



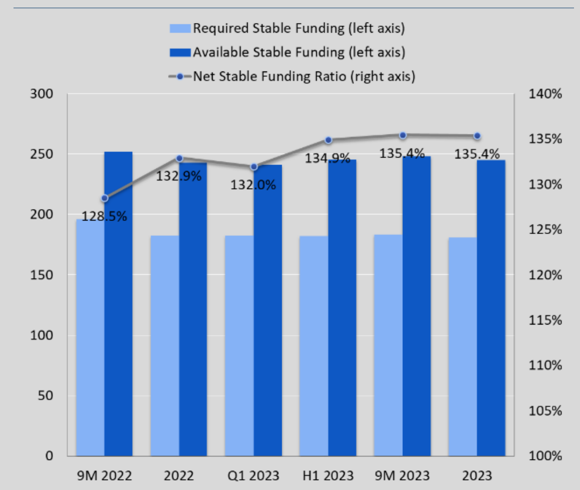
Source: Bank of Greece.

[43] Source: ECB Banking Supervision, Supervisory Banking Statistics.

In addition, the Net Stable Funding Ratio (NSFR) stood at 135.4% in December 2023, up from 132.9% in December 2022, reflecting adequate coverage of banks' long-term liabilities without excessive use of short-term funding (see Chart III.18). The rise in the ratio was due to an increase in retail time deposits, which partially offset a drop in Eurosystem funding, as well as to a reduction in required funding following the release of encumbered assets that qualify as high-quality liquid assets. The Net Stable Funding Ratio for Greek banks remained slightly above the corresponding average for banks in the Single Supervisory Mechanism (126.5% SIs and 130.5% LSIs in Q4 and Q3 2023, respectively).[44] The supervisory requirement for the NSFR is set at 100%.

Chart III.18 Net Stable Funding Ratio (NSFR)

(% and EUR billion)

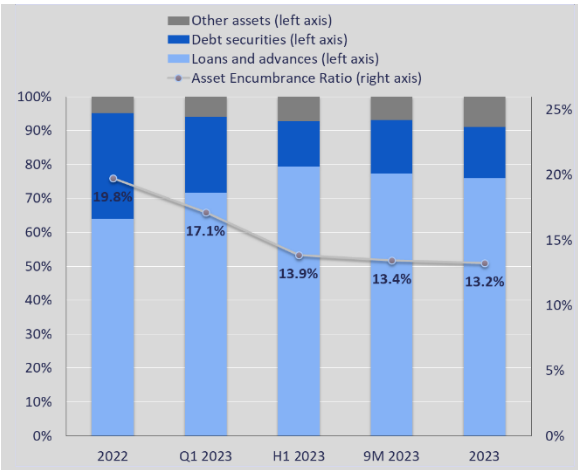


Source: Bank of Greece.

The Asset Encumbrance Ratio (AER) improved, as it decreased significantly to 13.2% in December 2023, from 19.8% at the end of 2022, remaining below the corresponding average of European Banking Authority banks (September 2023: 25.7%) (see Chart III.19). The decrease took place mainly in Q2 2023 following the release of encumbered assets in the context of a partial repayment of TLTRO III funding. Regarding the structure of encumbered assets, the largest decrease was recorded in debt securities, by €13.5 billion.

Chart III.19 Asset Encumbrance Ratio (AER)

(%)



Source: Bank of Greece.

The balance of the loan portfolio (net of provisions) of Greek banks in Q4 2023 amounted to €159.2 billion. The loan-to-deposit ratio for households and non-financial corporations decreased further (December 2023: 58.8%[45]), almost 44 percentage points lower than the average for banks in the Single Supervisory Mechanism (December 2023: 102.7%,[46] see Chart III.20).

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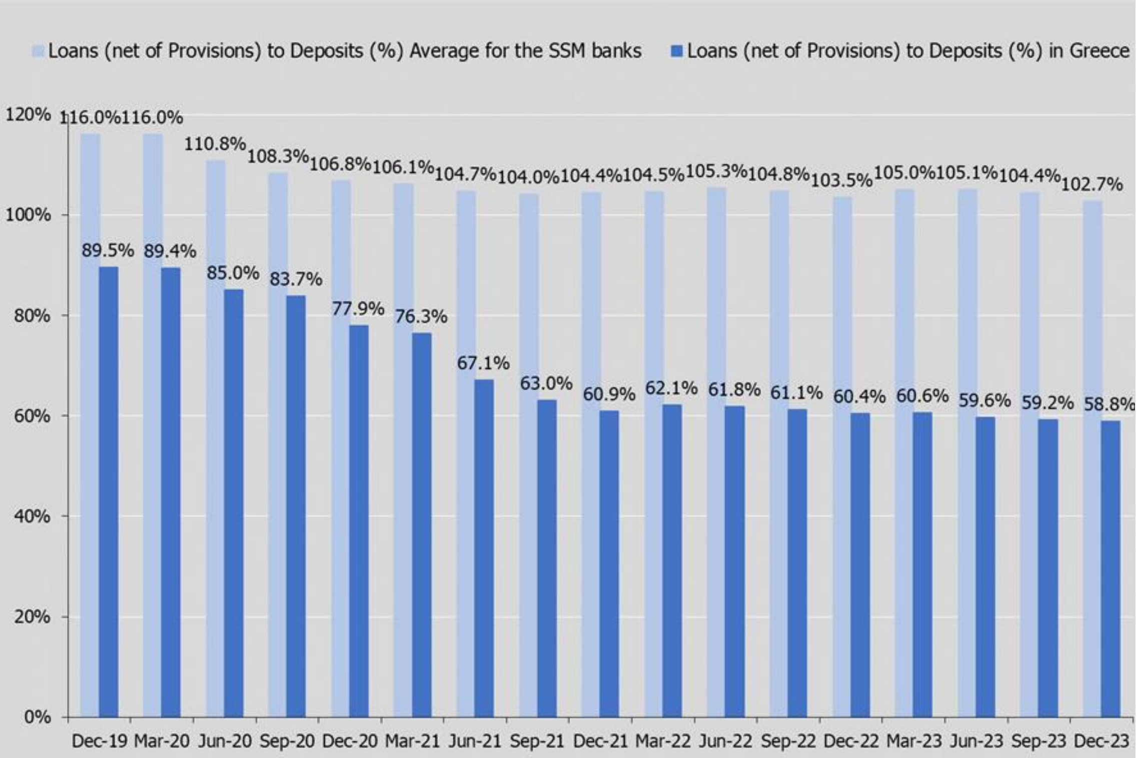
[44] Source: ECB Banking Supervision, Supervisory Banking Statistics.
[45] Source: ECB Banking Supervision, Supervisory Banking Statistics for SIs, Fourth quarter 2023, April 2024.
[46] Source: ECB Banking Supervision, Supervisory Banking Statistics for Sis, Fourth quarter 2023, April 2024.

Chart III.20 Loans (net of provisions) to Households' and Non-Financial Corporations' Deposits

(%)



Source: Supervisory Banking Statistics.

Minimum requirements for own funds and eligible liabilities

In anticipation of the 2025 deadline, Greek banks have implemented measures to ensure compliance with the Minimum Requirements for Own Funds and Eligible Liabilities (MREL). As a result, they have diversified their funding sources in recent years through the issuance of Additional Tier 1 (AT1) and Tier 2 instruments, and senior unsecured bonds. In this context, in 2023 (and early 2024), the significant Greek banks issued senior preferred bonds of a nominal value of €4 billion (of which €1.5 billion in 2024), as well as subordinated bonds of a nominal value of €2.2 billion (of which €1.3 billion in 2024). In line with the MREL framework and with a view to reducing reliance on ECB funding, subordinated debt issuances are expected to continue in the coming years.

2.3 MARKET RISK

The securities portfolio of Greek banks is mainly composed of Greek government donds, standing at around 92% as at December 2023. The largest share (about 83%) of the Greek government bonds portfolio held by credit institutions is composed of securities that are held to maturity and are valued at amortised cost, not at fair value. Thus, daily price changes do not affect their book values, while at the same time it should be noted that banks also apply interest rate risk hedging strategies.

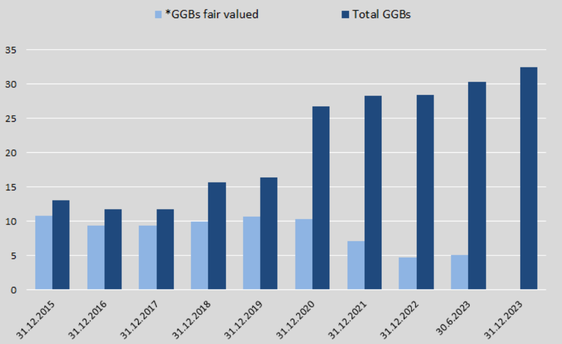
Exposure to Greek government bonds

The total amount of Greek government bonds (including Treasury bills) held by Greek banks in their portfolios in December 2023 amounted to €32.4 billion[47] (11.1% of their assets), up by approximately €2.1 billion (+6.9%) compared to June 2023.

The value of the portfolio of Greek government securities held by the banking sector in fair-valued[48] portfolios rose to €5.7 billion in December 2023, compared with €5.1 billion in June 2023 (see Table III.4 and Chart III.21), up by 10.4%. The value of this portfolio as a percentage of banks' total assets increased marginally to 1.9% from 1.8% in June 2023.

Chart III.21 Greek government bond portfolio

(EUR billion)



Source: Bank of Greece.
* GGBs fair valued: refers to Greek government bonds that are fair valued for accounting purposes (classified as: available-for-sale, fair value through P&L, held for trading purposes). From 1.1.2018 with the implementation of IFRS 9, it relates to GGBs fair valued through other comprehensive income, through P&L, and held for trading purposes).

It should be pointed out that in analysing the interest rate risk of the total Greek government bond portfolio, on the basis of its composition in December 2023, a potential increase in the general level of interest rates (risk-free rates) by 1 basis point (b.p.) (PV01) would result in a loss of €26.4 million for all Greek banks, compared with a loss of €21.5 million in June 2023. In the same vein, the effect of a potential increase in credit spreads by 1 b.p. (CS01) would lead to a loss of €30 million in December 2023, compared with a loss of €24.9 million in June 2023. However, it should be noted that the actual impact on banks' profits/capital would be limited to a loss of €1.9 million and €1.9 million respectively for the above-mentioned interest rate changes (PV01, CS01). This loss pertains only to the part of the Greek government bonds held at fair valued portfolios (Fair value through Profit and Loss or through Other Comprehensive Income – OCI), for which any value changes are directly reflected in the income statement or capital.

[47] The cut-off date for data in the "Market Risk" section is 31.12.2023. They consist in supervisory data submitted by credit institutions.
[48] Based on IFRS 9, the assets classified in the following portfolios are fair-valued: Held For Trading – HFT, Fair Valued Through Profit and Loss – FVTPL, Mandatorily Through Fair Value – MTFV and Fair Valued Through Other Comprehensive Income – FVTOCI.

Table III.4 Banking sector investments

(EUR million)	2021	2022	June 2023	2023	% Change 31.12.2023-30.06.2023
Total					
Greek government bonds	28,302.7	28,446.5	30,332.5	32,438.7	6.9%
of which Treasury Bills	*1,458.5*	*2,592.4*	*3,145.0*	2,982.7	-5.2%
Corporate bonds	2,679.5	3,419.7	3,574.1	3,331.6	-6.8%
Equities	679.0	470.6	493.6	546.5	10.7%
Mutual fund units/shares	138.5	280.7	406.0	423.3	4.2%
Participations	1,108.1	1,592.2	1,964.5	2,165.9	10.3%
Portfolios held at fair value					
Greek government bonds	7,098.6	4,786.5	5,127.4	5,660.2	10.4%
of which Treasury Bills	*1,458.5*	*2,433.2*	*2,960.9*	2,948.0	-0.4%
Corporate bonds	2,449.6	1,312.6	1,069.4	1,178.0	10.2%
Equities	679.0	470.6	493.6	546.5	10.7%
Mutual fund units/shares	138.5	280.7	406.0	423.3	4.2%

Source: Bank of Greece.

Exposure to corporate bonds

As at December 2023, the value of corporate bonds held by banks decreased from €3.6 billion to €3.3 billion, mainly as a result of a decrease in the carrying amount of corporate bonds held at amortised cost. However, the carrying amount of fair valued corporate bonds increased by 10% to €1.2 billion, from €1.1 billion in June 2023, due to bond purchases. Thus, fair-valued corporate bonds as a percentage of the banking sector's total assets increased marginally to 0.4% in December 2023, from 0.37% in June 2023.

Exposure to equities, mutual funds and participating interests

The value of equity securities, mutual funds and participating interests held by the banking sector during the second half of 2023 increased marginally as a percentage of total bank assets. Specifically, in December 2023, banks held equity securities, participating interests and mutual fund shares/units with a total value of €3.1 billion, i.e. 1.1% of the banking sector's total assets, compared with €2.9 billion at the end of June 2023, i.e. 1% of total assets (see Table III.5).

Exposure to foreign exchange risk

Banks' open foreign exchange position[49] amounted to €1.4 billion in December 2023, up by €412 million compared to June 2023. Greek banks mainly have open foreign exchange positions in US dollars (USD), amounting to €84 million, and in Japanese Yen (JPY), amounting to €37 million. In addition, Greek banks are exposed to the local currencies of their subsidiaries' host countries,

[49] For the calculation at system level, opposite positions in the same currency in different credit institutions are not netted. In addition, for the calculation of the open foreign exchange position, the larger of the buy (long) and sell (short) positions per currency is considered.

the foreign exchange risk of which is managed and hedged through positions in derivative products at the parent bank level. Compared to June 2023, the exposure in US dollars decreased by €247 million, while it increased in pound sterling by €91 million. It should be noted that the position in Bulgarian leva increased by €610 million due to an increase in a Greek systemic bank's participation in a foreign subsidiary, previously owned by another subsidiary of the group.

Interest rate sensitivity of debt securities and derivatives

An interest rate risk analysis of the banking sector's securities and derivatives portfolio shows that a 1 b.p. rise in interest rates (PV01) for fair-valued portfolios, whose fair value amounts to €10.1 billion as at December 2023, would cause a loss of €7.4 million at Greek banking system level. Regarding portfolios of securities and derivatives as a whole, i.e. assets valued both at fair value and at amortised cost, an increase of 1 b.p. in interest rates implies losses amounting to €21 million as at December 2023. Likewise, the effect of a rise in credit spreads by 1 b.p. (CS01) would result in a loss of €3.8 million for fair-valued portfolios, while for total portfolios the potential loss would amount to €42.5 million. Banks hold a portfolio of interest rate derivatives for hedging purposes, mostly simple in structure, which are typically cleared through central counterparties or involve bilateral transactions governed by standardised counterparty credit risk collateral exchange agreements, to mitigate the interest rate risk assumed.

Capital requirements for market risk

Total capital requirements for market risk decreased to €232.8 million in December 2023 (2.1% of total capital requirements), from €271.4 million at end-June 2023 (2.5% of total capital requirements). The decrease can be mainly attributed to lower capital requirements for commodity risk. 58% of capital requirements for market risk concern positions in trading debt instruments, 7% in equity securities, 29% in foreign exchange and 6% in commodities. Capital requirements to cover credit valuation adjustment (CVA) risk for the banking sector as a whole amounted to €39 million in December 2023, compared with €45.2 million in June 2023.

2.4 INTERNATIONAL ACTIVITY

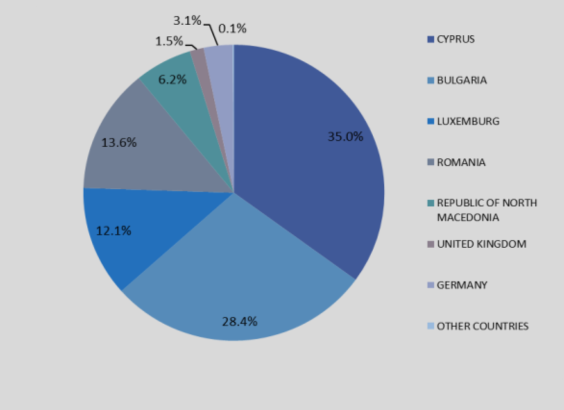
In 2023, significant developments were observed in terms of the international activities of Greek banking groups. On the one hand, Eurobank further strengthened its international presence by focusing on markets that are considered to be of strategic importance. In this vein, it completed the acquisition of BNP Paribas Personal Finance Bulgaria in May 2023 and announced in August that it had entered into an agreement for a significant increase of its participation in Hellenic Bank in Cyprus to 55.3%.[50] On the other hand, as part of its broader strategic cooperation with the Italian UniCredit Group, Alpha Bank announced in October 2023 its intention to merge their Romanian subsidiaries for a cash consideration of €300 million and retain 9.9% of the combined entity share

[50] According to Eurobank's announcements on August 23 and 25, the increase of Eurobank's participation from 29.2% to 55.3% in Hellenic Bank will take place after the completion of (a) the acquisition of a 7.2% stake from the transaction with Wargaming Group Limited and pension funds; and (b) the acquisition of a 17.3% stake from Poppy S.à.r.l and a 1.6% stake from Senvest Management LLC. For the completion of the relevant transactions, the approvals of the Central Bank of Cyprus and the European Central Bank are still pending.

capital.[51] In addition, Eurobank completed in November 2023 the sale of its subsidiary Eurobank Direktna in Serbia to AIK Banka a.d. for a cash consideration of €198 million.

Greek banks' assets abroad stood at €34.9 billion in December 2023, almost unchanged compared to December 2022, while the share of international activities in the banking sector's total assets on a consolidated basis increased to 11% in December 2023, from 10.8% in December 2022.[52]

Chart III.22 Distribution of Greek banking groups' assets abroad (December 2023, %)



Source: Bank of Greece.

Broken down by region, South-East Europe (SE Europe)[53] accounts for 83.2% of the total assets of international activities, mostly located in Cyprus and Bulgaria (see Chart III.22). Financial centres, namely Luxembourg, the United Kingdom and Germany, represent 16.7% thereof, led by Luxembourg. The share of SE Europe (where the highest number of business units and staff are concentrated) in Greek banks' deposits and loans abroad is even larger (88.9% and 83% respectively, see Table III.5).

Profitability of bank subsidiaries and branches abroad increased significantly to €661 million and accounts for 13% of banking groups' pre-tax profits on a consolidated basis. Subsidiaries in Cyprus and Bulgaria made a large contribution to profitability, with a smaller contribution from the activities in Egypt, the United Kingdom and Germany.

Loans in arrears[54] stood at €440 million in December 2023, from €486 million in December 2022 (down by 9% on a comparable basis[55]), representing 2.4% of the loan book. More specifically, as a percentage of total loans, the ratio of loans in arrears was 1.6% for corporate loans, 3.8% for consumer loans and 3.3% for mortgage loans. Corporate loans in arrears declined by 28%, while consumer loans in arrears increased by 4% and mortgage loans in arrears by 14% on a comparable basis. The provisioning coverage ratio of loans in arrears rose further to 98% (December 2022: 85%).

In terms of liquidity, the "loan-to-deposit" ratio increased marginally (December 2023: 70.3%, December 2022: 68.7%). More specifically, deposits grew by 10%, while lending increased by 13% compared to December 2022 on a comparable basis.

The outlook for international activities in the present conjuncture is surrounded by uncertainty, considering the increased geopolitical risks, the slowdown of economic activity in many Euro-

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[51] Earlier in 2023, Alpha Bank had announced the signing of an agreement for the acquisition of the activities of Orange Money Romania, which included a business transfer to Alpha Bank of the total consumer portfolio of Orange Money Romania, including the digital products of the credit card portfolio and its employees.

[52] According to supervisory data submitted for the activity of credit institutions abroad through branches and subsidiaries in the context of Bank of Greece Governor's Act 2651/20.01.2012. The analysis in this section concerns only the banking subsidiaries and branches abroad.

[53] The activity of Greek banks in SE Europe concerns the following countries: Bulgaria, Republic of North Macedonia, Cyprus and Romania.

[54] Defined as loans more than 90 days past due.

[55] For comparability reasons, the figures of Eurobank Direktna and NBG Malta for 2022 are not taken into account.

pean countries and the contractionary monetary and fiscal policy. It should be mentioned, however, that the international activities of Greek banking groups contribute to a diversification of their sources of income and to a reduction in concentration risk.

Table III.5 Key figures of Greek banking groups abroad (December 2023)

(EUR million)

Country	Assets	Gross Loans	Loans in arrears	% of loans in arrears	Deposits	Number of business units	Number of employees
SE Europe	**29,002**	**15,365**	**435**	**2.8%**	**23,432**	**436**	**7,680**
Bulgaria	9,910	6,601	187	2.8%	8,003	223	3,792
Republic of North Macedonia	2,150	1,570	62	3.9%	1,629	59	941
Cyprus	12,205	3,953	130	3.3%	10,238	23	965
Romania	4,737	3,242	57	1.8%	3,563	131	1,982
Financial centres	**5,816**	**3,145**	**4**	**0.1%**	**2,915**	**5**	**205**
Germany	1,078	834	1	0.1%	105	1	15
United Kingdom	523	385	0	0.0%	426	1	65
Luxemburg	4,215	1,927	4	0.2%	2,384	3	125
Other countries[1]	**48**	**0**	**0**	**0%**	**1**	**1**	**52**
TOTAL	**34,886**	**18,511**	**440**	**2.4%**	**26,349**	**442**	**7,937**

Source: Bank of Greece

[1] Other countries include Egypt.

3. RESILIENCE

3.1 PROFITABILITY

In 2023, Greek banks recorded profits after taxes and discontinued operations amounting to €3.8 billion, compared with profits of €3.4 billion in 2022 (see Table III.6). The rise in net interest income, stemming from the increase in ECB key interest rates, had a positive contribution to profitability, in contrast to the negative impact from a significant decline in income from financial operations and other income.

Table III.6 Financial results of the Greek banking sector

(EUR million)

	2022	2023	Change (%)
Operating income	**10,092**	**11,006**	**9.1**
Net interest income	5,613	8,505	51.5
- Interest income	7,439	14,196	90.8
- Interest expenses	-1,826	-5,692	>100
Net non-interest income	4,479	2,501	-44.2
- Net fee income	1,660	1,798	8.3
- Income from financial operations	1,795	306	-83.0
- Other income	1,024	397	-61.2
Operating costs	**-3,763**	**-3,905**	**3.8**
Staff costs	-1,812	-1,925	6.2
Administrative costs	-1,373	-1,365	-0.6
Depreciation	-577	-616	6.7
Net income (operating income less costs)	**6,329**	**7,101**	**12.2**
Impairment charges	-1,673	-1,690	1.0
Other impairment losses	-699	-381	-45.5
Non-recurring profits/losses	221	96	-56.7
Pre-tax profits (+)/losses (-)	**4,178**	**5,126**	**22.7**
Taxes	-1,091	-1,219	11.7
Profits (+)/Losses (-) from discontinued operations	346	-82	-
After tax profits (+)/losses (-)	**3,434**	**3,825**	**11.4**

Source: Financial statements for the four significant institutions (SIs) and supervisory data for the less significant institutions (LSIs).

More specifically, in 2023, the operating income of Greek banks increased by 9.1% compared to 2022. Net interest income rose significantly by 51.5%. Interest income was supported by the increase in key interest rates, as the biggest part of the loan portfolio carries variable interest rates. At the same time, a rise in interest expenses is due to an increase in the cost of (mainly term) deposits; higher interest expenses for derivative products; and a rise in the cost of funding through the issuance of bonds. Consequently, the net interest margin stood at 2.7%, substantially up compared to 2022 (1.7%), remaining higher than the average for banking groups in the Banking Union directly supervised by the ECB.

Net fee and commission income increased by 8.3%, supported by fees from portfolio management, financial guarantees given and repayments, which counterbalanced the decrease stemming from a reduction in fees from new loan disbursements and from debt issuance. As a result, core operating income (i.e. net interest income and net fee and commission income) grew substantially, by 41.7%. A significant decline in income from financial operations in 2023 is due to the fact that the corresponding income recorded in 2022 included non-recurring items, such as profits from transactions in Greek Government bonds and derivative and hedging products. The reduction in other income is also explained by the fact that gains from the carve-out and sale of the payment acquiring business by all four significant banks had been recorded in 2022.

Operating costs increased by 3.8%, mainly due to higher staff costs as a result of the implementation of voluntary retirement schemes. Higher operating income offset the increase in operating costs, and Greek banks' cost-to-income ratio improved in 2023 (2023: 35.5%, 2022: 37.3%), remaining at satisfactory levels and well below the European average (57.0%, see Table III.7).

Table III.7 Profitability indicators

(%)

	Greece		Banking Union[1]
	2022	2023	Dec 2023
Net interest margin	1.7	2.7	1.6
Operating costs / Total assets	1.2	1.2	1.3
Cost-to-income ratio	37.3	35.5	57.0
Cost of credit risk	1.0	1.1	0.5
Return on Assets (RoA)[2,3]	1.1	1.2	0.6
Return on Equity (RoE)[2, 3]	12.8	12.0	9.3

Sources: Financial statements for the four significant institutions (SIs) and supervisory data for the less significant institutions (LSIs), Single Supervisory Mechanism (SSM) - Supervisory Banking Statistics.

[1] Banking groups in the Banking Union directly supervised by the ECB.

[2] Indicators are calculated using total assets at the end of the corresponding period.

[3] RoA and RoE indicators are calculated using profits/losses after tax and discontinued operations.

The cost of credit risk[56] slightly increased in 2023 to 1.1% of net loans. In particular, impairment charges stood at €2.1 billion, compared with €1.7 billion in 2022.

As a result, Greek banking groups recorded profit after taxes and discontinued operations and the RoA and RoE ratios amounted to 1.2% and 12.0% respectively.

Regarding the profitability outlook, there are still challenges over the medium-to-long term. More specifically, the expected reduction in ECB key interest rates, combined with the current deceleration of new loan disbursements, could impact on banks' net interest income. However, in the medium term, banks' funding costs are expected to fall, strengthening demand for new loans. At the same time, persistently high inflation continues to put pressure on households' and businesses' financial situation and may increase banks' cost of credit risk.

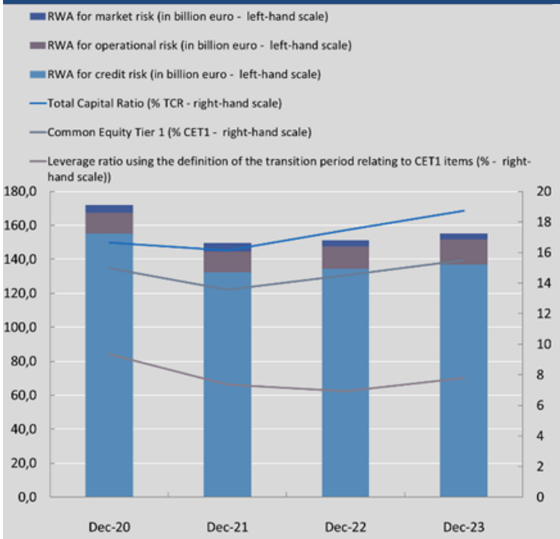
[56] Cost of credit risk is the ratio of credit risk provisions over loans after accumulated provisions.

3.2 CAPITAL ADEQUACY

The capital adequacy of Greek banking groups strengthened significantly in 2023, mainly due to an increase in regulatory capital which more than offset a rise in risk-weighted assets. Regulatory own funds were boosted mainly by internal capital generation initiatives and the issuance of capital instruments.

In particular, in December 2023, the Common Equity Tier 1 ratio (CET1 ratio) on a consolidated basis increased to 15.5%, from 14.5% in December 2022 (see Chart III.23), and the Total Capital Ratio (TCR) rose to 18.7%, from 17.5%, respectively. It is noted that these indicators are below the European Union average (December 2023: CET1 15.7% and TCR 19.7%).[57]

Chart III.23 Capital adequacy and leverage indicators, and breakdown of RWAs of Greek banking groups (December 2020-December 2023)



Source: Bank of Greece.

In more detail, Greek banks' prudential own funds increased by 10.1% in 2023 to €29.1 billion, as profits after tax and discontinued operations, combined with capital enhancement through share capital increases and issuance of bonds accounted for as equity, largely offset the negative impact from the phasing-in of IFRS 9 and the amortisation of Deferred Tax Credits (DTCs). Nonetheless, the quality of Greek banks' prudential own funds remains low: in December 2023, DTCs amounted to €12.9 billion, representing 44% of total prudential own funds (down from 52% in December 2022). Moreover, deferred tax assets (DTAs) of €2.6 billion are included in Greek banking groups' prudential own funds, accounting for approximately 9% of their total prudential own funds.[58] The main capital enhancement actions during 2023 were as follows:

- in February 2023, Alpha Bank issued an Additional Tier 1 instrument of €400 million;
- in April 2023, Attica Bank completed a €473 million share capital increase;
- in September 2023, Optima Bank completed a €150.9 million share capital increase along with the listing of the Bank's shares on the Athens Stock Exchange; and
- in September 2023, NBG issued a Tier 2 instrument of €500 million.

Risk-weighted assets increased by 2.5% in 2023 in December 2023 year-on-year. Specifically, the risk-weighted assets for credit risk increased by 1.8% due to Eurobank's transition from the Internal Ratings Based (IRB) Approach to the Standardised Approach for the calculation of capital requirements, an increase in securities positions and credit growth. Conversely, the completion by Alpha Bank and Eurobank of synthetic securitisation transactions of business loans had a downward effect. Risk-weighted assets for credit risk account for 88% of total risk-weighted assets, which is largely explained by the Greek banks' business model, focusing on traditional banking and mainly lending activities. At the same time, risk-weighted assets for operational risk,

[57] Source: Single Supervisory Mechanism – SSM.
[58] Although DTAs of €3.7 billion are not included in banks' prudential own funds, sufficient future profitability is needed in order for them not to pose risks to banks' capital base in the medium-to-long term.

which are calculated according to the Standardised Approach and are the second largest part of total risk-weighted assets (9.5%), increased by 11.9% compared to December 2022, because of a rise in operating income. Finally, risk-weighted assets for market risk dropped by 5.7% in 2023 compared to December 2022, still accounting for the smallest part of total risk-weighted assets (2.3%).

Furthermore, the leverage ratio[59] rose to 7.8% in 2023 from 6.9% in December 2022, mainly as a result of a marginal increase in Tier I Capital (up by €2.4 billion) and secondarily due to a decrease in the total leverage exposure measure.

The factors affecting the outlook for Greek banks' capital adequacy include: (a) possible constraints on internal capital generation capacity in an environment of steady or reduced key interest rates; (b) implementation of capital enhancement actions (e.g. synthetic securitisations, share capital increases by the less significant banks) and the cost of issuing capital instruments (Additional Tier 1, Tier 2) to meet regulatory capital requirements, including the cost of issuing MREL-eligible bonds; (c) portfolio quality and its impact on risk-weighted assets; and (d) the evolution of new loan disbursements to households and non-financial corporations.

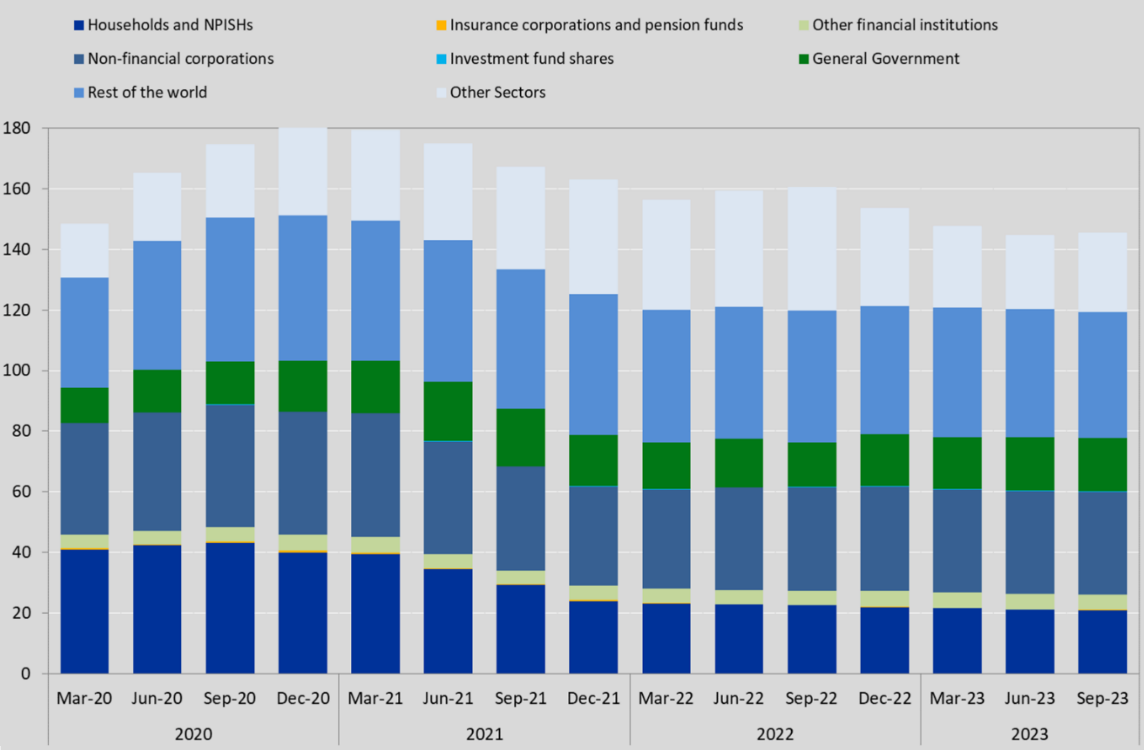
[59] Defined as a bank's Tier 1 capital (using the transitional definition of Tier 1 capital) to its Leverage Exposure measure as calculated according to CRR575/2013 and 2019/876.

4. INTERCONNECTEDNESS WITH OTHER SECTORS OF THE FINANCIAL SYSTEM

4.1 DIRECT INTERCONNECTEDNESS OF MFIS WITH OTHER SECTORS[60]

The total claims of Greek Monetary Financial Institutions (MFIs)[61] other than the Bank of Greece vis-à-vis other resident and non-resident sectors as a percentage of GDP decreased during the nine months of 2023. This was due to a simultaneous increase in nominal GDP and to a decrease in financial assets, i.e. mainly to a reduction of claims on other sectors[62] and, to a much lesser extent, of credit to households and non-profit institutions serving households (NPISHs). As a result, the value of MFI assets stood at 145.4% of GDP in September 2023 (see Chart III.24), compared with 153.6% in December 2022.

Chart III.24 Financial Assets of Greek Monetary Financial Institutions (MFI) by issuing sector (% of GDP) (March 2020 – September 2023)



Source: Bank of Greece (latest data available: September 30, 2023).

More specifically, the distribution of MFI assets reflects a significant decrease of claims on other sectors, which amounted to 26.1% of GDP in September 2023, from 32.2% of GDP in December 2022, and a decrease of claims on households and NPISHs to 21.0% of GDP in September 2023, from 22.0% in December 2022. It should be stated that claims on non-financial corporations stood at 33.9% of GDP in September of 2023, from 34.4% in December 2022. On the other hand, MFI claims on General Government increased to 17.5% of GDP in September 2023, from 17% in

[60] It is noted that the analysis of interconnectedness between different economic agents and markets helps to identify potential systemic vulnerabilities arising from the interconnections within the financial sector itself or between the financial and non-financial sectors.

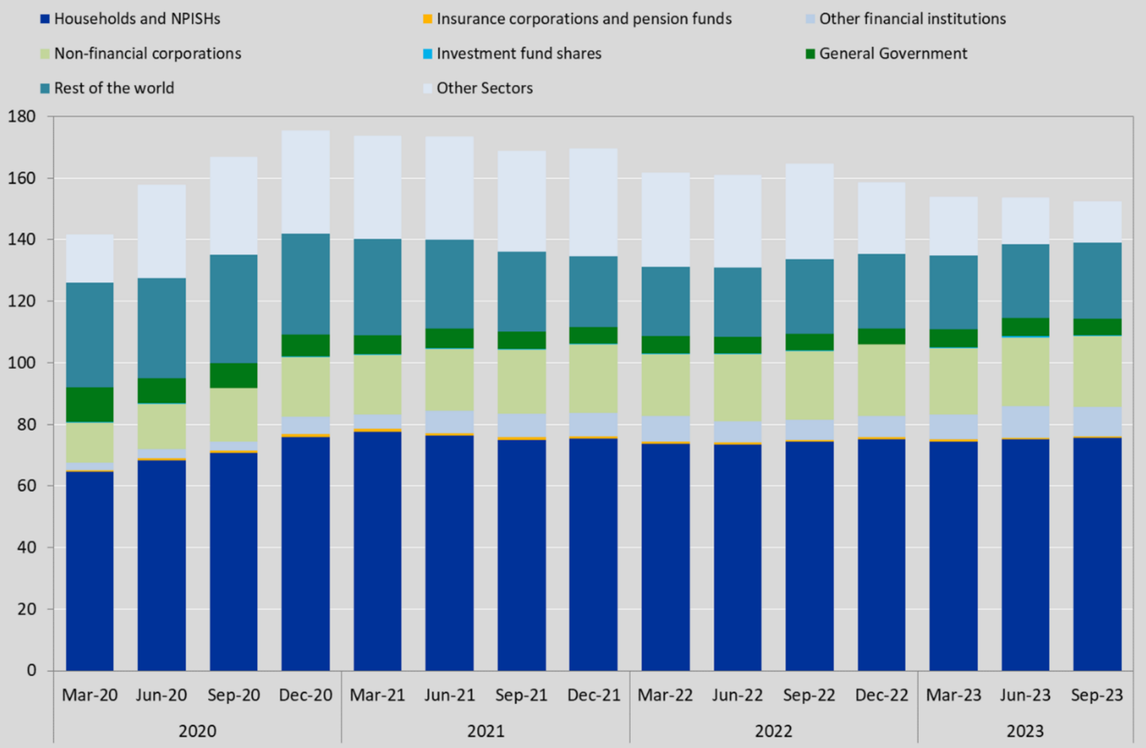
[61] The MFI sector comprises in general Central Banks, Credit Institutions (CIs), Electronic Money Institutions (EMIs), Other Financial Institutions accepting deposits and Money Market Funds (MMFs). The entities in this section exclude the Bank of Greece.

[62] Other sectors include technical insurance reserves, unlisted stocks and shares, deposits with the ECB and financial derivatives. The reduction observed in the nine months of 2023 is mainly due to a decrease in deposits with the ECB.

December 2022. Finally, MFI claims on the rest of the world[63] remained significant and stood at 41.5% of GDP in September 2023, from 42.5% of GDP in December 2022.

In the same vein, MFI liabilities as a percentage of GDP decreased to 152.6% in September 2023, from 158.6% in December 2022 (see Chart III.25).

Chart III.25 Financial Liabilities of Greek Monetary Financial Institutions (MFIs) by holding sector (% of GDP) (March 2020 – September 2023)



Source: Bank of Greece (latest data available: September 30, 2023).

The evolution of MFI liabilities as a percentage of GDP during the first nine months of 2023 is due to both an increase in nominal GDP and a significant reduction in liabilities to other sectors, as higher Eurosystem funding costs led many MFIs to make partial repayments of their borrowed funds through TLTRO III operations. On the contrary, there was an increase in liabilities to households and NPISHs, which rose to €146.3 billion (75.5% of GDP) in September 2023, from 143.3 billion (75.2% of GDP) in December 2022. Liabilities to non-financial corporations stabilised during the nine months of 2023 and amounted to 23% of GDP in September 2023. It should be noted that MFI liabilities to insurance corporations and pension funds (ICPFs) and investment funds (IFs) are close to just 0.6% and 0.3% of GDP, respectively.

[63] Rest of the world residents comprise natural/legal persons who do not reside/have their registered office in Greece, with a further breakdown into residents of euro area countries other than Greece and residents of other countries.

4.2 INDIRECT INTERCONNECTEDNESS OF BANKS WITH OTHER ENTITIES OF THE FINANCIAL SECTOR[64]

The holdings of securities issued by the General Government in Greece by all euro area sectors increased to €98.6 billion in December 2023, from €85.8 billion in December 2022. More specifically, holdings of securities issued by the General Government in Greece and held by euro area CIs rose to €34.8 billion in December 2023, from €27.6 billion in December 2022. Underlying this increase were the higher interest rate environment, the recovery of investment grade sovereign rating by the Hellenic Republic, as well as the continued growth of the Greek economy. In addition, euro area central banks' (CBs') holdings of securities issued by the General Government in Greece increased to €41 billion in December 2023, from €37.6 billion in December 2022.

Securities issued by the General Government and held by insurance corporations and pension funds (ICPFs) decreased to €3 billion in December 2023. It should be noted that the amounts of euro area holdings by money market funds (MMFs) and investment funds (IFs) remain at low levels (see Chart III. 26).

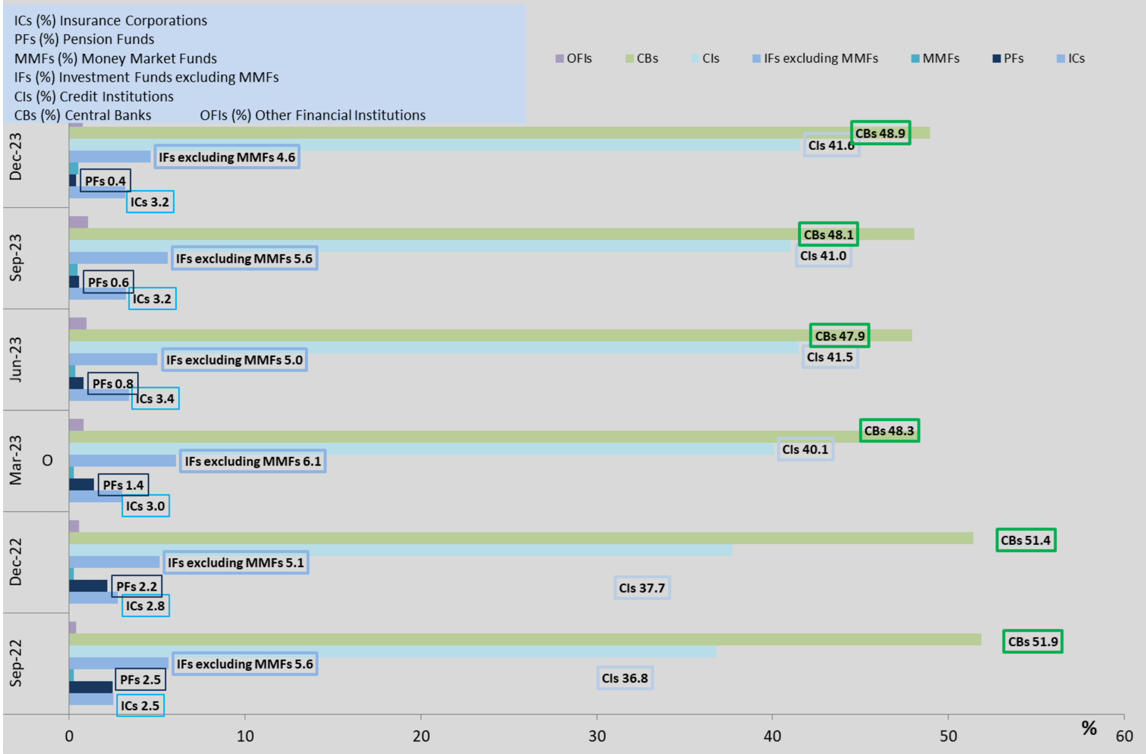
Chart III.26 Holdings of securities issued by the General Government in Greece: amounts and share (%) by sector (September 2022 – September 2023)

Source: ECB, Securities Holding Statistics (SHS) database.

[64] The analysis of the indirect interconnectedness of banks with other entities of the financial sector investigates whether – alongside the banking sector – there are changes in other sectors that hold securities issued by the General Government in Greece (i.e. Greek government bonds and T-Bills, as well as guarantees). In this context, the ECB's Securities Holding Statistics (SHSS) database provides information on securities and shares held by euro area investors (at country level), broken down by instrument type, issuing country and issuer sector.

Regarding the breakdown of securities holdings issued by the General Government in Greece per category[65] of financial corporations (FCs) of the euro area, the share of credit institutions grew to 41.6% in December 2023, from 37.7% at the end of 2022. Contributing factors included the higher interest rate environment and changes in the composition of the balance sheets of major international banks, which now provide services in the euro area through their subsidiaries.[66] On the other hand, the percentage of securities held by central banks amounted to 48.9% in December 2023, from 51.4% at the end of 2022, while a small increase was observed in the percentage of securities held by insurance corporations to 3.2% in December 2023, from 2.8% at the end of 2022. For the other institutions of the financial sector, [67] the exposure to securities issued by the General Government is significantly lower (Chart III.27).

Chart III.27 Percentage composition of euro area financial corporations' holdings of securities issued by the General Government in Greece (September 2022 – December 2023)



Source: ECB, Securities Holding Statistics database SHS.

[65] The SHS time series used in the analysis divides Financial Corporations (FCs) into credit institutions (CIs), Money Market Funds (MMFs), investment funds other than money market funds (IFs), Central Banks (CBs), financial vehicle corporations (FVCs), insurance corporations (ICs), Pension Funds (PFs) and Other Financial Institutions (OFIs).

[66] After the United Kingdom (UK) left the EU, UK-based international banks could no longer provide services to the EU through "passporting", i.e. the right to serve customers across the EU from their headquarters. For this reason, international banks relocated a significant part of their activities from London to financial centres in the euro area, through the establishment of new legal entities and the reorganisation of their corporate structures.

[67] Money Market Funds (MMFs), Pension Funds (PFs), Investment Funds (IFs) and Other Financial Institutions (OFIs). In general, market participants perceive reserves held by the central bank as carrying greater liquidity benefits than government debt holdings because they can be used to settle payments or meet margin calls at par.

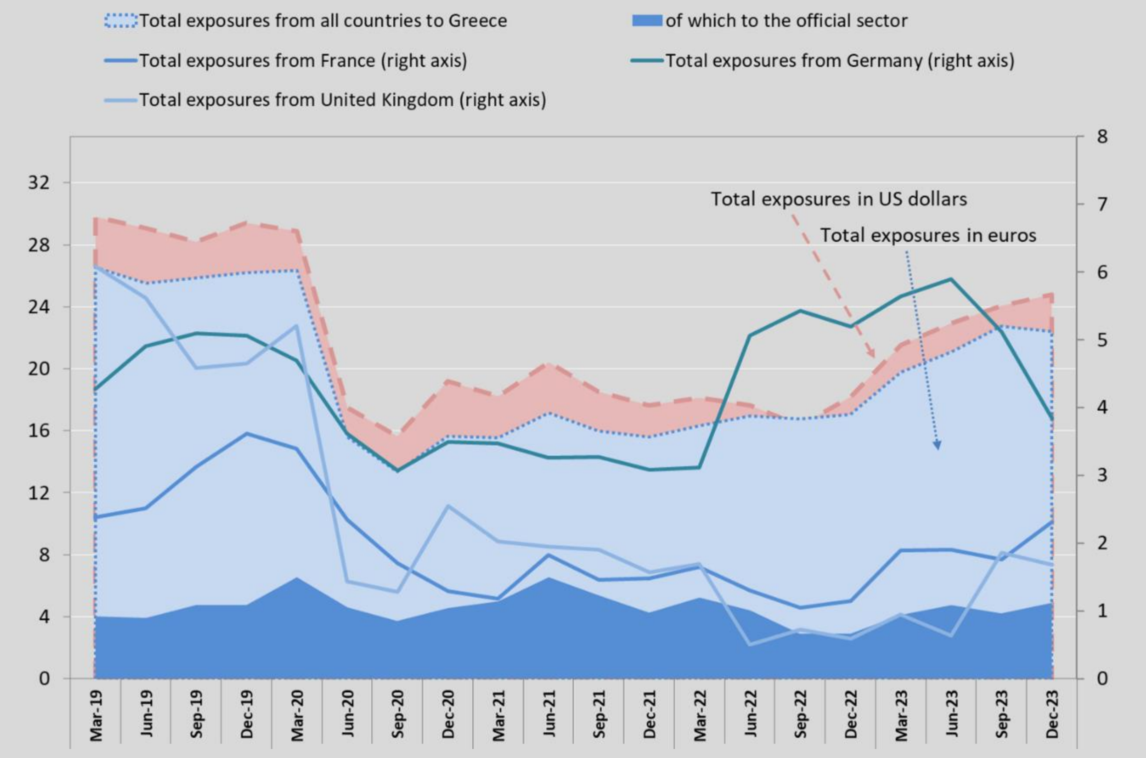
4.3 EXPOSURES OF GREEK BANKS ABROAD AND OF FOREIGN BANKS TO GREECE

The consolidated total exposures from all countries to Greece amounted to €22.4 billion in December 2023, up by 32% compared to December 2022 (December 2022: €17 billion). During 2023, both the exposures in USD and the corresponding euro positions rose, mainly due to an increase in asset valuations.[68,69]

Furthermore, total exposures from all countries to the official sector in Greece[70] grew significantly in 2023 regardless of the effect of the €/$ exchange rate and amounted to €4.9 billion in December 2023, from €2.9 billion in December 2022 (see Chart III.28). Following the end of net purchases under the ECB's Asset Purchase and Pandemic Emergency Purchase Programmes since July 2022 and April 2022 respectively, there has been an increase in holdings of official sector securities by new investors. During 2023, banks, non-financial corporations and households bought government bonds, while higher yields and the upgrade of the Hellenic Republic's sovereign rating to investment grade were key to attracting new foreign investors.[71]

Chart III.28 Total exposures of banks from all countries to Greece on a guarantor basis (March 2019 – December 2023)

(billion euro unless otherwise indicated)



Source: BIS database, Consolidated Banking Statistics.

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[68] Statistical release: BIS international banking statistics and global liquidity indicators at end-September 2023; Statistical release: BIS international banking statistics and global liquidity indicators at end-June 2023.

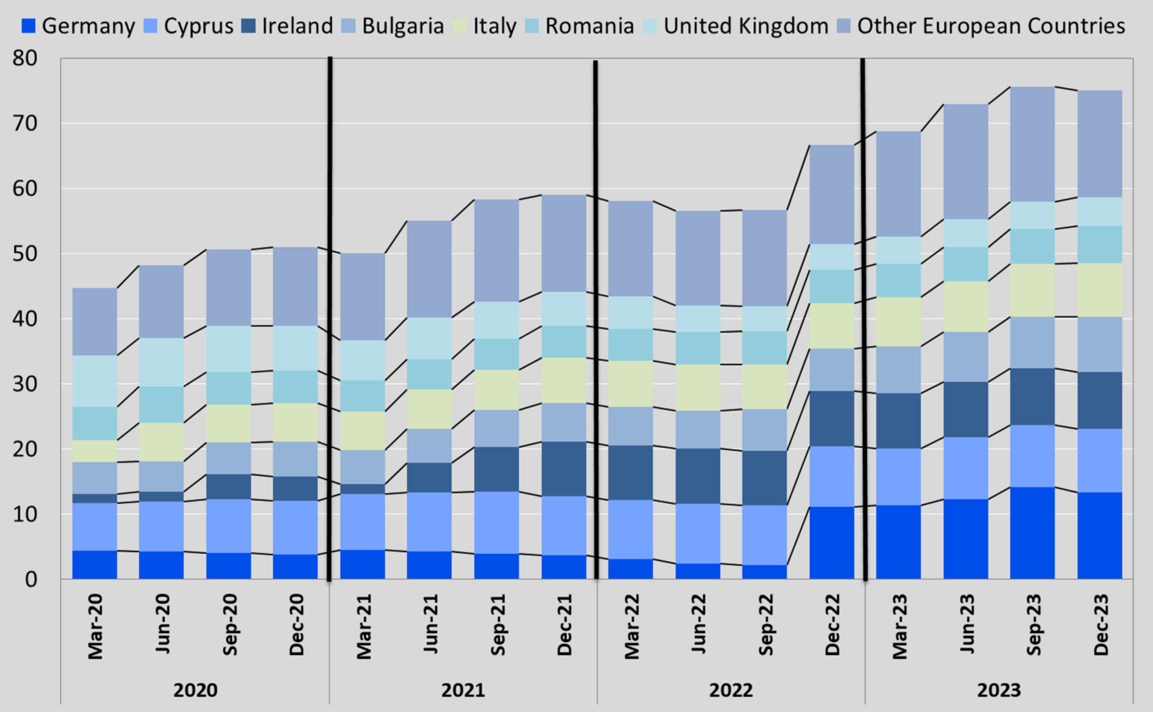
[69] Despite volatility, the EUR/USD exchange rate remained stable throughout 2023.

[70] https://www.bis.org/statistics/glossary.htm?&selection=272&scope=Statistics&c=a&base=term Official Sector: Bank for International Settlements (BIS) classification that is used in Consolidated Banking Statistics (CBS) and refers collectively to general government, central banks and international organisations.

[71] ECB Financial Stability Review, November 2023.

Regarding the exposures of Greek banks abroad, there was an increase in the exposures of Greek banks to Europe,[72] which reached €75 billion in December 2023, from €66.7 billion at the end of 2022. In particular, 2023 saw a significant increase in exposures to Germany,[73] reaching €13.3 billion in December 2023, from €11.1 billion in December 2022,[74] while exposures to Cyprus remained at a high level, rising to €9.8 billion in December 2023, from €9.3 billion in December 2022. A significant rise in exposures to Bulgaria was observed, which reached €8.4 billion in December 2023, from €6.5 billion in December 2022,[75] and to Italy, to €8.2 billion in December 2023, from €6.9 billion in December 2022. At the same time, a smaller increase was observed in exposures to Romania, to €5.7 billion in December 2023, from €5.1 billion in December 2022 (see Chart III.29).

Chart III.29 Evolution of exposures of Greek banks to Europe (2020 – 2023)
(billion euro)



Source: BIS database, Consolidated Banking Statistics.

[72] In addition to EEA countries, the following countries are included: Albania, Belarus, Republic of North Macedonia, Moldova, Montenegro, Russia, Serbia, Turkey, Ukraine, Switzerland (including the Bank for International Settlements) and the United Kingdom.
[73] It should be noted that the ECB's deposit facility rate increased from 2% on 21.12.2022 to 3% on 22.3.2023 and to 4% on 20.09.2023.
[74] Exposures to Germany also include exposures to the ECB.
[75] This is mainly due to the acquisition of BNP Paribas Personal Finance Bulgaria by Eurobank in May 2023.

IV. MACROPRUDENTIAL POLICY

The Bank of Greece, as part of its supervisory tasks, monitors developments in the financial system and identifies potential systemic risks. The Bank subsequently designs and implements measures to prevent the buildup of systemic risks and strengthen the resilience of the financial system. Macroprudential policy is the set of such measures, whose ultimate objective is to safeguard financial stability. Macroprudential measures pertain to the financial system as a whole or significant parts thereof, whereas microprudential supervision concerns individual financial institutions. In the current macroeconomic and financial environment, the importance of an appropriate macroprudential policy to avoid the buildup of systemic risks is gradually becoming apparent. In this context, the Bank of Greece enacted macroprudential borrower-based measures (BBMs) for loans and other credit to natural persons secured by residential real estate located in Greece. In the medium term, implementing appropriate macroprudential policy measures will help create sufficient macroprudential space that will positively affect financial stability.

1. SETTING THE COUNTERCYCLICAL CAPITAL BUFFER RATE

The countercyclical capital buffer (CCyB) aims to address the procyclicality of credit growth and leverage, i.e. to ensure an appropriate level of credit growth and leverage in both the upward and the downward phase of the business cycle. The CCyB rate ranges from 0% to 2.5%, calibrated in steps of 0.25 percentage points or multiples of 0.25 percentage points.[76] The CCyB consists of Common Equity Tier 1 (CET1) capital and is expressed as a percentage of the total risk exposure amount of credit institutions and investment firms that are exposed to credit risk.[77]

In an economic upswing, setting the CCyB rate at a level above 0% contributes to building up a capital buffer in excess of the minimum requirements applicable in the context of microprudential supervision, thus achieving the prevention and mitigation of excessive credit growth and leverage. Conversely, in an economic downturn, reducing the CCyB rate can encourage credit provision to the real economy, thereby softening the impact of the downturn.

The Bank of Greece assesses, on a quarterly basis, the intensity of cyclical systemic risk and the appropriateness of the CCyB rate for Greece, in accordance with Bank of Greece Executive Committee Act 202/1/11.3.2022, setting or adjusting the CCyB rate, if necessary. This rate was set for the first time in the first quarter of 2016 and maintained at 0% ever since.

The appropriateness of the CCyB rate is assessed taking into consideration the "standardised credit-to-GDP gap", as defined in Recommendation ESRB/2014/1, which reflects the deviation of the ratio of credit to GDP from its long-term trend. In more detail, initially the credit-to-GDP ratio is calculated as the sum of short-term and long-term debt securities and loans (i.e. credit), as reported in the financial liabilities of the private non-financial sector, to the sum of the figures of the last four quarterly observations of GDP (calculated in nominal values, non-seasonally adjusted). Subsequently, the long-term trend of the credit-to-GDP ratio is calculated by applying the Hodrick-Prescott filter. The "standardised credit-to-GDP gap" is the difference between the credit-to-GDP ratio and its long-term trend. A high positive value of the "standardised credit-to-GDP gap" indicates excessive credit growth relative to GDP growth, which poses increased risks to the financial system, thus requiring the setting of the CCyB rate at a level above 0%. In addition

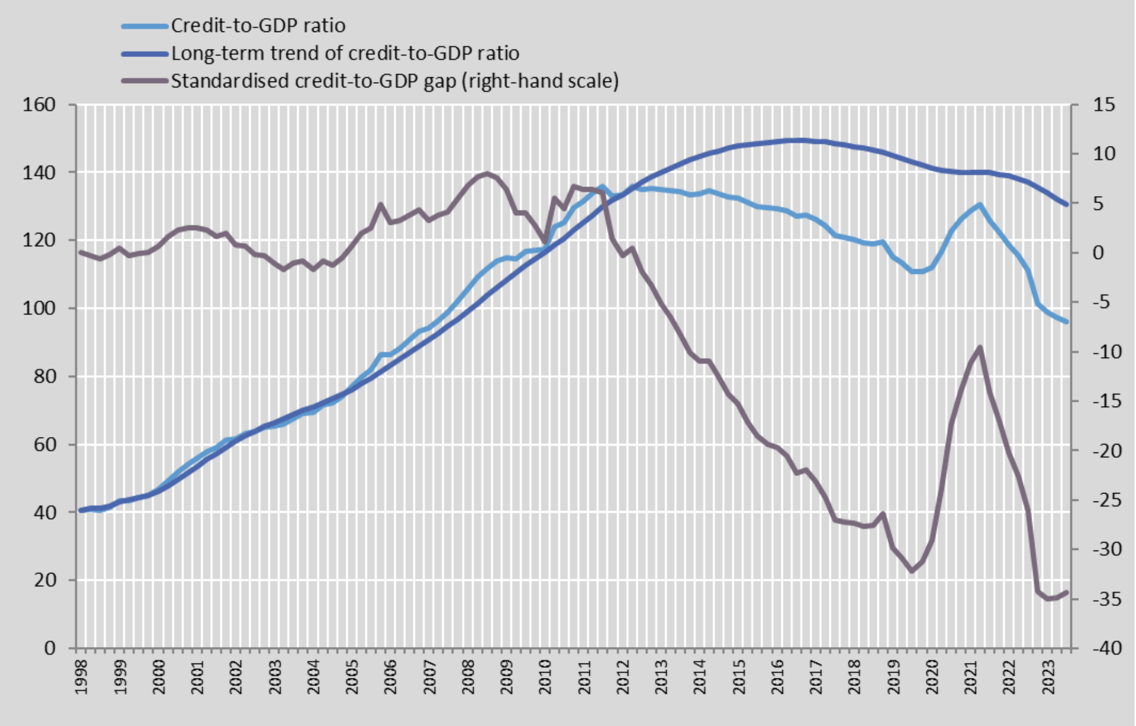
[76] For the purposes of para. 2 of Article 130 of Law 4261/2014, the designated authority may set the CCyB rate in excess of 2.5%, where justified on the basis of the considerations set out in para. 3 of Article 127 of Law 4261/2014.
[77] The total risk exposure amount is calculated in accordance with Article 92(3) of Regulation (EU) No 575/2013.

to the "standardised credit-to-GDP gap", the Bank of Greece also examines a number of additional indicators to monitor the build-up of cyclical systemic risk.[78] These indicators are grouped into six regions:

- Credit developments, where the credit to the domestic private sector to GDP ratio at current prices, the growth of loans to households and the growth of credit to non-financial corporations are monitored.
- Private sector indebtedness, where the growth of credit to the domestic private sector and the credit to non-financial corporations to GDP ratio, individuals' and private non-profit institutions' debt-to-income ratio and debt-service-to-income ratio at origination (DSTI-O) for loans collateralised by residential real estate are monitored.
- Potential overvaluation of property prices, where the rise in the price index of residential and commercial real estate (offices and stores) is monitored.
- The strength of bank balance sheets, where the net interest margin (NIM), the growth of risk-weighted assets, the leverage ratio and the loan-to-deposit ratio are monitored.
- External imbalances, as reflected in the evolution of the current account balance to GDP ratio.
- Potential mispricing of risk, where the ATHEX Composite Share Price Index and the FTSE/ATHEX bank index are monitored.

Chart IV.1 Standardised credit-to-GDP gap, credit-to-GDP ratio and long-term trend of credit-to-GDP ratio (Q1 1998 – Q3 2023)

(quarterly data; GDP non-seasonally adjusted; Hodrick Prescott one-sided filter)



Sources: ELSTAT, Bank of Greece and Bank of Greece calculations.

[78] For definitions, see Bank of Greece Executive Committee Act 202/1/11.3.2022.

In Greece, the "standardised credit-to-GDP gap" has remained in negative territory since 2012. In the third quarter of 2023, it stood at -34.3 percentage points, compared with -34.9 in the previous quarter (see Chart IV.1), mainly as a result of a rise in nominal GDP. It should be noted that the third quarter of 2023 is the last available quarter for the financial liabilities of the private non-financial sector before setting the CCyB rate for the second quarter of 2024. For this value of the "standardised credit-to-GDP gap", the benchmark buffer rate (buffer guide), as defined in paragraph 3(a) of recommendation B of Recommendation ESRB/2014/1, is zero.

The analysis of the additional indicators examined by the Bank of Greece points to emerging cyclical systemic risks in certain areas, such as residential real estate prices and the current account. Overall, however, it confirms that there is no excessive credit growth and leverage in Greece.

Consequently, the Bank of Greece maintained the CCyB rate at "zero percent" (0%) in 2023 and throughout the first and the second quarter of 2024. The CCyB rate was set at the lowest possible level and therefore does not affect the capital requirements for credit institutions.

2. IDENTIFICATION OF THE OTHER SYSTEMICALLY IMPORTANT INSTITUTIONS IN GREECE (O-SIIs) AND SETTING OF THE O-SII BUFFER RATE

An O-SII buffer aims to reduce moral hazard and strengthen the resilience of other systemically important institutions (O-SIIs).[79] In this context, moral hazard arises when an institution expects not to be let to fail given its systemic importance (too big to fail). Imposing additional capital requirements in the form of an O-SII buffer limits excessive risk-taking by a systemically important institution through higher capital requirements, thus reducing moral hazard by strengthening the systemically important institution's capital buffer to absorb potential losses and thereby limiting contagion risk.

The O-SII buffer consists of Common Equity Tier 1 (CET1) capital and its rate is set at a level of up to 3% of the total risk exposure amount.[80] The O-SII buffer is set on a solo, sub-consolidated or consolidated basis, as applicable, and its rate is reviewed at least once a year.

Under Law 4261/2014 (Article 124), the Bank of Greece is responsible for identifying O-SIIs among institutions authorised in Greece. O-SIIs are identified on an annual basis so as to consider the application of an O-SII buffer and the calibration thereof.

The Bank of Greece has adopted the European Banking Authority (EBA) guidelines in relation to the assessment of O-SIIs,[81] as they were adopted by Bank of Greece Executive Committee Act 56/18.12.2015. According to the EBA guidelines, the competent authorities should, for each bank falling under their jurisdiction, calculate relative scores indicating the systemic importance of each bank based on specific criteria. These criteria relate to size, importance for the economy, complexity/cross-border activity and interconnectedness of the institution with the financial system. These four criteria each consist of one or more mandatory indicators which will be used as a minimum by the competent authorities in calculating the score of each institution. The score of each institution is expressed in basis points (bps). Each competent authority sets a threshold in bps; institutions with a score equal to or higher than that should be identified as O-SIIs. This threshold can be set from 275 bps up to 425 bps to take into account the specificities of the Member State's banking sector and to ensure the homogeneity of the group of O-SIIs designated in this way based on the O-SIIs' systemic importance. The 350 bps is proposed as an indicative threshold. The competent authorities may designate further relevant entities as O-SIIs based on additional qualitative and/or quantitative indicators of systemic importance.

In calculating the systemic importance scores of Greek banks, the Bank of Greece used only the mandatory indicators (see Table IV.1) and selected a threshold of 350 bps.

[79] In contrast with Global Systemically Important Institutions – G-SIIs.
[80] It should be noted that the O-SII buffer may exceed 3% upon approval by the European Commission.
[81] EBA/GL/2014/10.

Table IV.1 Mandatory indicators for the scoring of O-SIIs in Greece

Criterion	Indicators	Weight
Size	Total assets	25%
Importance	Value of domestic payment transactions	8.33%
	Private sector deposits from depositors in the EU	8.33%
	Private sector loans to recipients in the EU	8.33%
Complexity/Cross-border activity	Value of OTC derivatives (notional)	8.33%
	Cross-jurisdictional liabilities	8.33%
	Cross-jurisdictional claims	8.33%
Interconnectedness	Intra-financial system liabilities	8.33%
	Intra-financial system assets	8.33%
	Debt securities outstanding	8.33%

As a result, the following institutions were identified as O-SIIs for 2023 at consolidated level:

- Alpha Services and Holdings S.A.
- Eurobank Ergasias Services and Holdings S.A.
- National Bank of Greece S.A.
- Piraeus Financial Holdings S.A.

and respectively the following institutions at solo level:

- Alpha Bank S.A.
- Eurobank S.A.
- National Bank of Greece S.A.
- Piraeus Bank S.A.

The above four credit institutions identified as O-SIIs represent approximately 95% of the total assets of the domestic banking sector.

Pursuant to Bank of Greece Executive Committee Act 221/2/17.10.2023, the Bank of Greece decided to set the O-SII buffer rate for 2024 as follows:

- at 1.25% for Eurobank Ergasias Services and Holdings S.A. at consolidated level, and
- at 1.00% for the following O-SIIs:
  - Alpha Services and Holdings S.A. at consolidated level and Alpha Bank S.A. at solo level,
  - Eurobank S.A. at solo level,
  - National Bank of Greece S.A. at solo and consolidated level, and
  - Piraeus Financial Holdings S.A. at consolidated level and Piraeus Bank S.A. at solo level.

3. ENACTING BORROWER-BASED MEASURES

Borrower-based measures aim to prevent the accumulation of systemic risks stemming from the property market and related to private sector (household or business) financing. The activation of BBMs helps curb the excessive easing of credit standards, thereby strengthening borrower resilience and reducing credit risk for the lenders.

The Bank of Greece is responsible for enacting macroprudential borrower-based measures under Article 133a of Law 4261/2014, which was inserted by Article 54 of Law 5036/2023 effective from 29 March 2023. In the context of its macroprudential mandate, the Bank of Greece may adopt a decision laying down, inter alia, the type of borrower-based measures, the ratios or features of credit to which caps apply, as well as the cap percentages, the types of loans to which borrower-based measures apply, and the terms and conditions of their implementation.

The Bank of Greece enacted macroprudential borrower-based measures (BBMs) for loans and other credit extended to natural persons and secured by residential real estate (RRE) located in Greece, by Executive Committee Act 227/1/08.03.2024 (Government Gazette B 1716, 15.03.2024), effective from 1 January 2025, thus allowing sufficient time for stakeholders to adjust to the new framework. More specifically, the cap on the loan-to-value ratio at origination (LTV-O ratio) is set at 90% for first-time buyers and 80% for second and subsequent buyers. Additionally, the cap on the debt service-to-income ratio at origination (DSTI-O ratio) is set at 50% for first-time buyers and 40% for second and subsequent buyers. It is noted that the debt service-to-income at origination (DSTI-O) ratio is the annual debt servicing costs of the total debt of the borrower divided by the borrower's total annual disposable income at the time of loan/credit origination. The loan-to-value at origination (LTV-O) ratio is the total amount of the loan or loan tranches secured by real estate property at the time of origination divided by the value of the real estate collateral at the time of origination.

More relaxed caps for first-time buyers were set to facilitate their access to the mortgage lending market. Furthermore, credit providers are allowed to exempt 10% of the total number of new loans approved and at least partially disbursed in each quarter at institution- or entity-level from each of the abovementioned caps. Compliance with the exemption quotas is evaluated separately for first-time buyers and for second and subsequent buyers. The abovementioned BBMs shall not apply to non-performing loans and forborne loans, portfolios of re-performing loans purchased by credit institutions from NPL servicers, as well as to loans and other credit disbursed under national housing policy or green transition programmes.

V. OTHER SECTORS OF THE FINANCIAL SYSTEM

1. STRUCTURE OF THE DOMESTIC FINANCIAL SYSTEM

In 2023, the structure of the domestic financial system showed no significant changes compared to 2022, with banks remaining the main pillar (see Table V.1). In particular, the assets of credit institutions amounted to 86.1% of the total assets of the financial system, with Greek commercial banks representing 84.7%, while cooperative banks and branches of foreign banks account for a mere 0.5% and 0.9%, respectively. The high level of concentration is evident from the share held by the four significant banks (95.8% of total banking assets).

Table V.1 Structure of the domestic financial system

(amounts in EUR million)

Assets	2019	%	2020	%	2021	%	2022	%	2023	%
Credit institutions	**247,267**	**87.1%**	**277,335**	**87.8%**	**302,678**	**87.9%**	**306,119**	**88.4%**	**294,417**	**86.1%**
Greek commercial banks	*240,691*	*84.8%*	*271,791*	*86.1%*	*296,403*	*86.1%*	*299,284*	*86.4%*	289,554	84.7%
Cooperative banks	*3,160*	*1.1%*	*1,727*	*0.5%*	*1,786*	*0.5%*	*1,750*	*0.5%*	1,620	0.5%
Foreign banks' branches	3,417	1.2%	3,818	1.2%	4,490	1.3%	5,085	1.5%	3,242	0.9%
Institutional investors	**28,250**	**10.0%**	**29,612**	**9.4%**	**32,875**	**9.5%**	**31,812**	**9.2%**	**38,635**	**11.3%**
Insurance companies	18,882	6.7%	19,976	6.3%	20,468	5.9%	18,698	5.4%	20,326	5.9%
Pension funds	1,612	0.6%	1,698	0.5%	1,887	0.5%	1,800	0.5%	2,158	0.6%
Collective investment undertakings	7,756	2.7%	7,938	2.5%	10,519	3.1%	11,314	3.3%	16,152	4.7%
Mutual funds	*4,797*	*1.7%*	*4,799*	*1.5%*	*6,606*	*1.9%*	*6,751*	*1.9%*	*11,237*	*3.3%*
Portfolio investment and real estate investment companies	*2,959*	*1.0%*	*3,139*	*1.0%*	*3,913*	*1.1%*	*4,563*	*1.3%*	*4,915*	*1.4%*
Other non-bank institutions	**7,770**	**2.7%**	**7,528**	**2.4%**	**7,184**	**2.1%**	**6,899**	**2.0%**	**7,440**	**2.2%**
Brokerage firms	739	0.3%	753	0.2%	807	0.2%	607	0.2%	818	0.2%
Leasing and factoring companies	6,746	2.4%	6,522	2.1%	6,186	1.8%	6,292	1.8%	6,618	1.9%
Consumer credit and venture capital companies	285	0.1%	253	0.1%	191	0.1%	0	0.0%	4	0.0%
Credit servicing firms	**484**	**0.2%**	**1,223**	**0.4%**	**1,535**	**0.4%**	**1,445**	**0.4%**	**1,294**	**0.4%**
Total	**283,772**	**100%**	**315,699**	**100%**	**344,272**	**100%**	**346,275**	**100%**	**341,786**	**100%**

Source: Bank of Greece.

Institutional investors[82] continue to be the second largest sector of the domestic financial system. In 2023, institutional investors' assets displayed a marginal increase compared to 2022 and represented 11.3% of the financial system, with the largest share held by insurance companies, with assets of €20.3 billion (5.9% of the system), as well as Undertakings of Collective Investment in Transferable Securities (UCITS), with assets of €16.1 billion (4.7% of the system). There was a notable increase in the assets of UCITS, due to the offering of new mutual funds products by banks as well as favourable stock market conditions.

Other non-banking institutions (namely, brokerage companies, leasing companies, factoring companies, and venture capital companies) continue to hold a small share of the market, standing at 2.2% of the entire financial system.

[82] This category is comprised of insurance companies, occupational insurance funds and undertakings of collective investment in transferable securities (UCITS).

Lastly, the share of credit servicing firms (CSFs) in the total assets of the financial system remains small, representing just 0.4% of the entire financial system, even though their role in the management of the non-performing private debt remains significant.

2. INSURANCE UNDERTAKINGS

2.1 KEY FIGURES[83]

In 2023, no significant changes were observed in the structure of the Greek private insurance market with 34 insurance undertakings[84] being active in the Greek private insurance market, a number reduced by 2 compared to December 2022. Insurance undertakings can be classified according to type of license as follows:

- 2 life insurance undertakings,
- 19 non-life insurance undertakings and
- 13 insurance undertakings (composites) writing both life and non-life business (including life insurance undertakings[85] underwriting only non-life business of “Accident” and “Sickness” classes).

Of the above 34 insurance undertakings, 31 are supervised in accordance with the European Directive “Solvency II”, which applies to all Member States since 1.1.2016, while 3 insurance undertakings are excluded, due to their size, from a lot of requirements related to all three pillars of Solvency II.[86] Of the 31 insurance undertakings that are subject to the provisions of Solvency II, 10 belong to insurance groups with their parent undertaking in other Member States and 5 to insurance groups subject to supervision by the Bank of Greece. In addition, 5 insurance undertakings, with their head offices in Greece, operate in other EU Member States via the freedom to provide services (see Table V.2).

Furthermore, according to the most recent data available by the European Insurance and Occupational Pensions Authority (EIOPA), in December 2022, 229 insurance undertakings with head offices in other EU Member States operated in Greece, either using the freedom of establishment (branches) or the freedom to provide services, the financial supervision of which is under the responsibility of the supervisory authorities of their home Member State.[87]

[83] In this chapter includes information and data with reference date of 31.12.2023.

[84] Excluding the mutual insurance undertakings referred to in the first sentence of para. 1 of Article 7 of law 4364/2016.

[85] The number stands at 13, due to the merger of Allianz Hellas Single Member Insurance SA, a member of the Allianz SE group, with European Reliance General Insurance Company Single Member SA on 1.6.2023 and the absorption of Interamerican Property & Casualty Insurance Company Single Member SA and Horizon Insurance Company Ltd by Interamerican Hellenic Life Insurance Company SA under the common name Interamerican Hellenic Insurance Company Ltd.

[86] Bank of Greece, based on the principle of proportionality, has allowed 3 insurance undertakings that meet the required size and operating criteria to be exempted from certain Solvency II provisions regarding the solvency requirements, the system of governance and public disclosure.

[87] For the year 2022, annual gross written premiums of these undertakings amounted to €288 million for the activity under the freedom of establishment and €1.085 million for the activity under the freedom to provide services, which correspond to 5% and 18% of the total Greek insurance market.

Table V.2 Number of Insurance Undertakings performing activities in Greece

	2019	2020	2021	2022	2023
Life Insurance Undertakings	2	2	2	2	2
Non-Life Insurance Undertakings	19	18	18	19	19
Insurance Undertakings writing both Life and Non-life business	17	17	16	15	13
Total	**38**	**37**	**36**	**36**	**34**
of which *Insurance Undertakings falling within the scope of Directive 2009/138/EC*	*36*	*35*	*34*	*34*	*31*
Branches of insurance undertakings established in other Member States	23	23	21	20	21
Insurance Undertakings established in other Member States pursuing business under the freedom of establishment or the freedom to provide services	244	253	215	229	N/A

Source: Bank of Greece.

It should be noted that these undertakings have a large market share in the civil liability insurance sector. In fact, in 2023 their market share (in vehicle count) increased to 21% from 20% in December 2022.

Financial figures presented below concern only 31 undertakings which are subject to financial supervision by the Bank of Greece according to Solvency II requirements.

The domestic insurance market is characterised by significant concentration, especially with regard to undertakings that carry out life insurance business and to undertakings that carry out both life and non-life insurance business. The 5 largest insurance undertakings hold 86% of the relevant market, in terms of technical provisions, while the 5 largest insurance undertakings operating in non-life insurance business, in terms of gross written premiums, hold a share of 61% of the relevant market.

Gross written premiums of the life insurance business[88] in 2023 amounted to €2.6 billion, up by 7% compared to2022. Of this amount, €1.1 billion is related to insurance products linked to investments (43% of total gross written premiums of life business, compared to 40% in 2022, recording a significant increase of 15%). In parallel, there was an increase of 9% in gross written premiums of insurance products with profit participation features, as well as a decrease of 7% in other life insurance business (see Chart V.1).

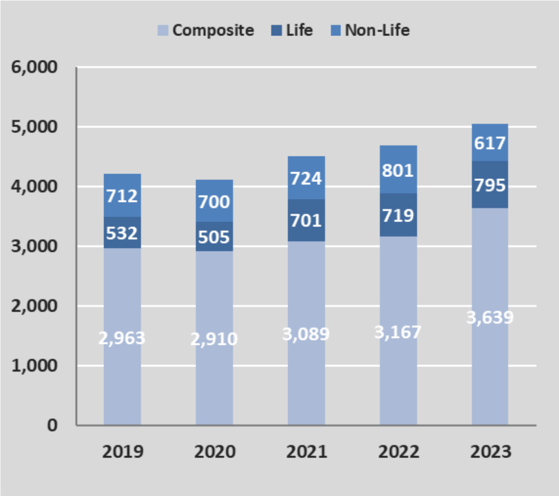
During the same period, non-life insurance premiums[89] amounted to €2.5 billion, up by 9% compared to 2022. The lines of business with significant market shares are third-party motor liability (31%), fire insurance (21%) and hospital expenses insurance (17%), with written premiums up by 3%, 13% and 11% compared to 2022. In 2023, claims incurred, without taking into account reinsurance recoveries, amounted to €2.0 billion for life insurance and €1.4 billion for non-life insurance, up by 17% and 48% respectively[90] (see Chart V.2).

[88] Including life insurance production of Composite insurance undertakings.
[89] Including non-life insurance production of Composite insurance undertakings.
[90] A change largely associated with the impact of Storm Daniel.

For non-life insurance, in 2023, the market loss ratio amounted to 55% (compared with 48% in 2022) and the expense ratio (administration expenses and commissions) amounted to 50% (compared with 48% in 2022).

Chart V.1 Gross Written Premiums per type of Insurance Undertaking

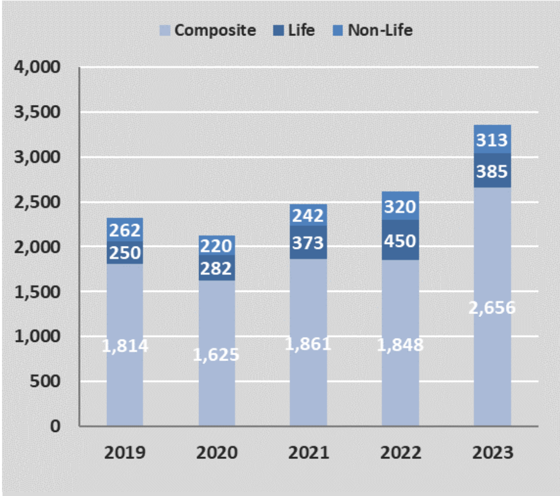
(EUR million)



Source: Bank of Greece.

Chart V.2 Claims Incurred per type of Insurance Undertaking

(EUR million)



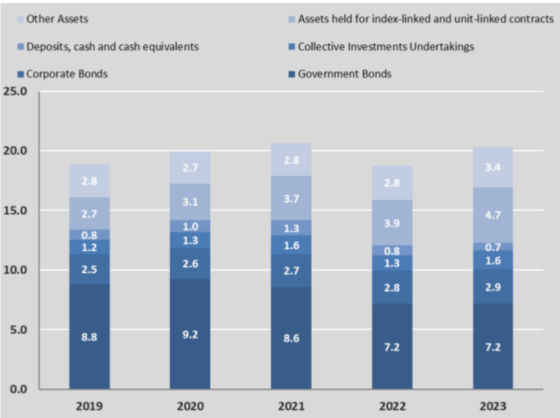
Source: Bank of Greece.

The total assets of insurance undertakings supervised by the Bank of Greece amounted to €20.3 billion in December 2023, increased by 8% compared to 31.12.2022. Of the total assets, €7.2 billion (35%) were held in government bonds and €2.9 billion (14%) in corporate bonds. As regards the credit rating of these assets, 98% of the government bonds and 87% of the corporate bonds were BB- and above. In addition, an amount of €4.7 billion (23%) related to unit- and index- linked insurance products (see Chart V.3).

As at 31.12.2023, the total liabilities of insurance undertakings stood at €16.6 billion (against €15.1 billion as at 31.12.2022), while total technical provisions amounted to €15.2 billion (against €13.7 billion as at 31.12.2022), of which €11.7 billion related to life insurance business and €3.5 billion to non-life business. Concerning life technical provisions, 37% refers to unit- and index-linked insurance products (against 33% as at 31.12.2022) (see Chart V.4).

Chart V.3 Insurance Undertakings' Assets Breakdown

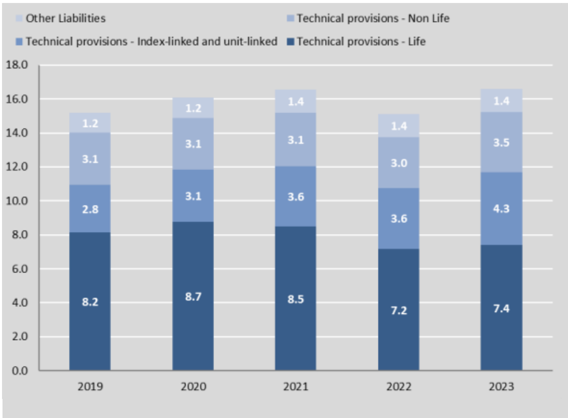
(EUR billion)



ource: Bank of Greece.

Chart V.4 Insurance Undertakings' Liabilities Breakdown

(EUR billion)



Source: Bank of Greece.

The total own funds of insurance undertakings amounted to €3.7 billion, up by 3% compared to the previous year. The total Capital Solvency Requirement (SCR)[91] amounted to €2.1 billion, and the respective total eligible own funds were €3.7 billion. Concerning the quality of the eligible own funds of the insurance market, 90% of these own funds are classified in the highest quality category (Tier 1). Moreover, the SCR coverage ratio for all insurance undertakings is significantly higher than 100% (see Table V.2 and Chart V.5). The Minimum Capital Requirement (MCR)[92] for the total insurance market amounted to €0.7 billion and the respective total eligible own funds amounted to €3.4 billion (see Table V.3 and Chart V.6).

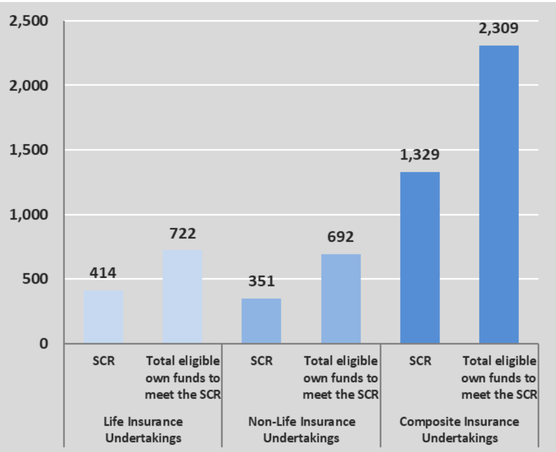
Table V.3
SCR, Total eligible own funds to meet the SCR and SCR Ratio
MCE, Total eligible own funds to meet the MCR and MCR Ratio

(EUR million)	2019	2020	2021	2022	2023
Solvency Capital Requirement (SCR)	1.899	1.940	2.094	1.954	2.095
Total eligible own funds to meet the SCR	3.403	3.602	3.984	3.606	3.723
SCR Ratio	179,2%	185,7%	190,3%	184,6%	177,8%
Minimum Capital Requirement (MCR)	691	703	714	676	735
Total Eligible own funds to meet the MCR	3.257	3.441	3.718	3.290	3.391
MCR Ratio	471,1%	489,5%	521,0%	486,9%	461,3%

Source: Bank of Greece.

Chart V.5 SCR and Total Eligible Own Funds to meet the SCR per type of Insurance Undertaking

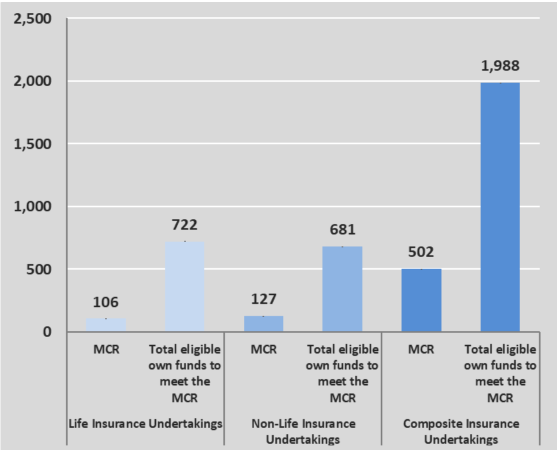
(2023; EUR million)



Source: Bank of Greece.

Chart V.6 MCR and Total Eligible Own Funds to meet the MCR per type of Insurance Undertaking

(2023; EUR million)

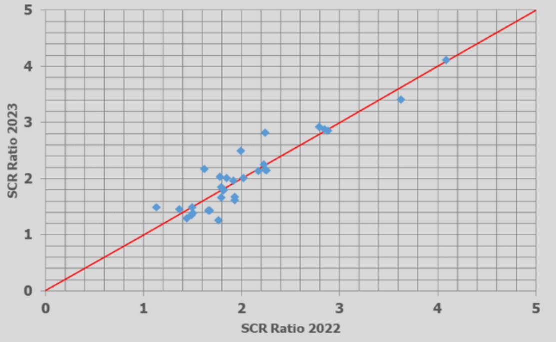


Source: Bank of Greece.

[91] The calculation of the Solvency Capital Requirement reflects the adequacy of own funds, so that an insurance undertaking has the ability to absorb losses at a confidence level of 99.5% with a time horizon of one year.
[92] The Minimum Solvency Requirement reflects the adequacy of own funds, so that an insurance undertaking has the ability to absorb losses at a confidence level of 85%, with a time horizon of one year, and represents a level of capital below which the interests of policyholders would be seriously jeopardised if the undertaking were allowed to continue operating.

Changes in SCR coverage ratio of insurance undertakings were observed, during 2023, however all undertakings remain solvent (see Chart V.7). Undertakings illustrated above the red line show an improvement in the SCR coverage ratio in 2023 compared to the relevant SCR coverage ratio of the previous year (42% of all insurance undertakings), while undertakings below the red line show a deterioration in their SCR coverage ratio.

Chart V.7 SCR coverage ratio 2023/2022



Source: Bank of Greece.

3. OTHER FINANCIAL INSTITUTIONS

3.1 LEASING COMPANIES – FACTORING COMPANIES – CONSUMER CREDIT COMPANIES

In 2023, the assets of leasing companies decreased marginally to €3.1 billion, down by 1% compared to the end of 2022. On the contrary, in 2023 the assets of factoring companies increased by 11.6% compared to December 2022 to €3.4 billion (see Chart V.8). In 2023, microfinance companies more than doubled their assets, which however remained very low (€4.5 million, from €2 million at end-2022). It should be noted that in 2023, two more microfinance institutions were authorised, with active institutions now totalling three.

Chart V.8 Evolution of assets of other financial institutions

(EUR billion)

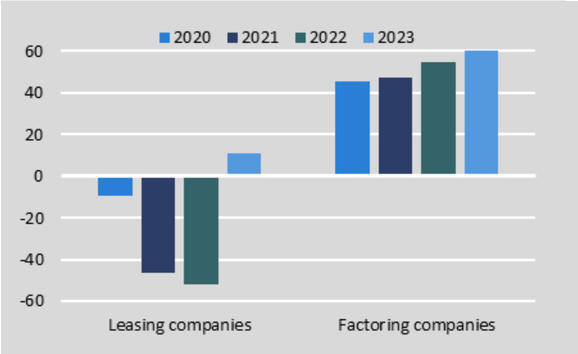
Source: Bank of Greece.

Turning to the interconnection of other financial institutions with credit institutions, their liabilities to credit institutions mainly concern borrowing from the parent groups. In 2023, their borrowing decreased and amounted to 14.7% of their liabilities, compared with 19.4% in December 2022.[93] At the same time, the receivables of other financial institutions from credit institutions increased significantly to €193.2 million in 2023, from €97.1 million in 2022, representing 3.0% of their assets in 2023, against 1.6% in 2022, due to an increase in the deposits they hold with the parent groups.

In terms of income statements, in 2023, leasing companies posted pre-tax profits of €11.1 million, against losses of €52.1 million in 2022 that were due to increased provisions in the context of completed transactions of NPL sales. Likewise, factoring companies recorded increased pre-tax profits, which amounted to €60.3 million in the first half of 2023, compared with €54.5 million in 2022 (see Chart V.9), mainly due to an increase in net interest income.

Chart V.9 Evolution of pre-tax profits of other financial institutions

(EUR million)



Source: Bank of Greece.

[93] The above figures pertain exclusively to financial leasing companies and factoring companies.

Chart V.10 Other financial institutions – Performing and non-performing loans

(EUR billion (left-hand scale); percentages (right-hand scale)

Source: Bank of Greece.

NPLs (on-balance-sheet data), cumulatively for the three sectors, increased significantly to €788 million in 2023 (€430 million in December of 2022), mainly due to the sale of "Sunshine Leases Single Member S.A." by "Piraeus Bank S.A." to "Hellas Capital Leasing S.A"[94] in the third quarter of 2023, resulting in a significant increase of the ratio of NPLs to total loans to 12.4% in 2023, from 7.7% in December 2022 (see Chart V.10).

3.2 CREDIT SERVICING FIRMS (CSFs)

The Bank of Greece has authorised a total of 26 credit servicers to provide servicing management of loan and credit receivables, of which 23 are still active.[95] Up until today, none of the CSFs has applied for authorisation to refinance receivables. The activity of CSFs varies considerably, with 3 firms having a market share of 82.7% based on the total value of exposures under management and 15 firms showing minimum to zero activity (market share of less than 1%).

Cumulative data for CSFs – 2023

According to 2023 data, the total assets of CSFs amounted to €1.28 billion,[96] while total equity and liabilities, including provisions, stood at €754.2 million and €528.6 million, respectively. CSFs' profits amounted to €157 million, while total staff and senior management costs corresponded to 47% of total revenues.

[94] On 23 December 2022, "Piraeus Bank S.A." reached an agreement with Bain Capital Credit on the sale of 100% of the Group's leasing subsidiary "Sunshine Leases Single Member S.A." ("Sunshine Leases S.A"), including a portfolio of leasing Non-Performing Exposures (NPE) already classified as held-for-sale, with a gross book value of €0.5 billion. The NPL portfolio of Sunshine Leases had been classified as held for sale since September 2021. The sale and transfer of all issued shares of "Sunshine Leases S.A" from "Piraeus Bank S.A" to "Hellas Capital Leasing S.A" was completed in September 2023.

[95] Under Article 40 of Law 5072/2023 and Bank of Greece Executive Committee Acts 118/19.5.2017 and 225/1/30.1.2024, as currently in force.

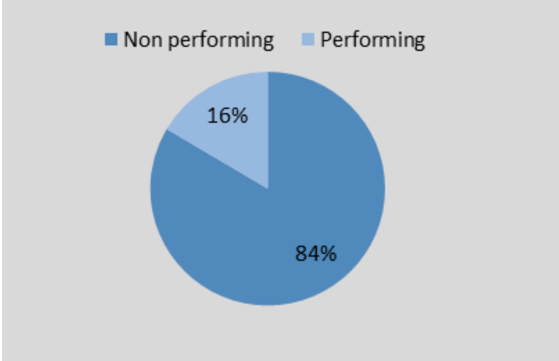
[96] All data as at 31.12.2023 are provisional and have not been audited by a statutory auditor.

According to 2023 data, total exposures under management[97] amounted to €88 billion, of which 79% were exposures serviced on behalf of credit acquiring firms[98] and the other 21% were exposures managed by CSFs on behalf of credit institutions.

The majority of exposures managed by CSFs on behalf of credit acquiring firms were transferred to them during the last three years in the context of credit institutions' NPL reduction strategy.

The portfolio of exposures under management during the first half of 2023 consisted mainly of non-performing exposures (84%) and, to a lesser extent, performing exposures (16%) (see Chart V.11).

Chart V.11 Portfolio structure (2023)
(%)



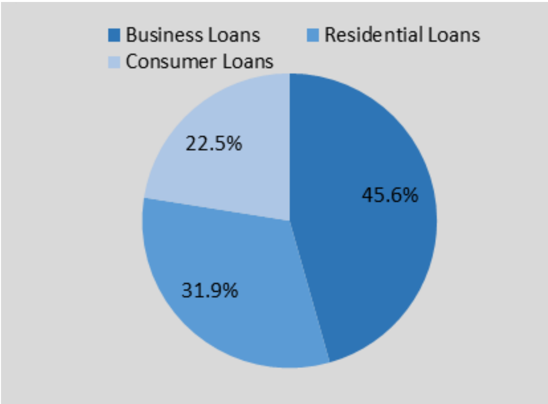
Source: Bank of Greece.

Management of exposures serviced on behalf of credit acquiring firms

The total amount of exposures managed by CSFs on behalf of credit acquiring firms stood at €69.3 billion according to December 2023 data. The portfolio includes mainly business loans (45.6%), followed by residential loans (31.9%) and consumer loans (22.5%) (see Chart V.12).

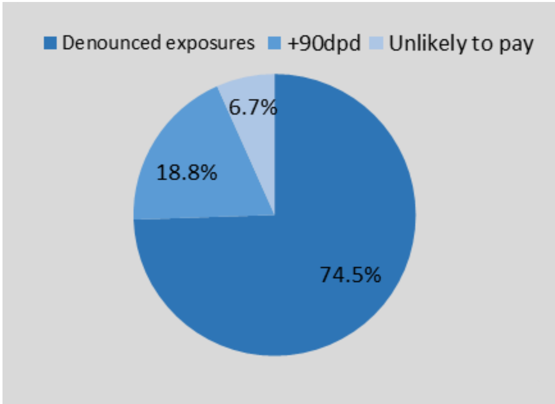
The exposures under management on behalf of credit acquiring firms are of poor credit quality, with 91% being non-performing exposures. Of the non-performing exposures that are under management, the bulk are denounced exposures (74.5%), while 18.8% are exposures that are past due by 90 days or more and 6.7% are unlikely to pay exposures (see Chart V.13).

Chart V 12 Exposures under management by portfolio (2023)
(%)



Source: Bank of Greece.

Chart V 13 Non-performing exposures under CSF management per category (2023)
(%)



Source: Bank of Greece.

Repayments, liquidation of collateral and write-offs of exposures managed by CSFs on behalf of credit acquiring firms stood at €3.02 billion in 2023. In particular, repayments of exposures amounted to €1.68 billion, liquidation of collateral to €0.72 billion and write-offs to €0.61 billion.

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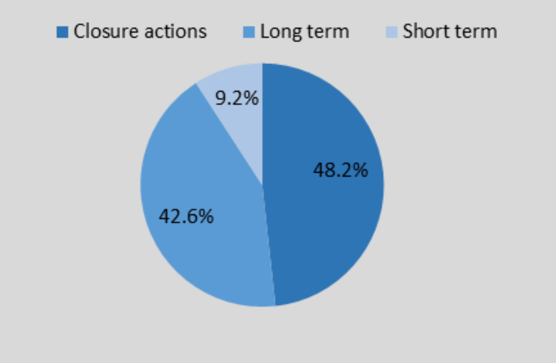
[97] Exposures include all debt instruments (loans and advances and debt securities), excluding off-balance-sheet exposures and write-offs. It should be noted that Bank of Greece Executive Committee Act 206/1/03.06.2022 modified data to be submitted by, *inter alia*, credit servicing firms to the Bank of Greece.

[98] Any discrepancies between the supervisory data analysed in this section of the Financial Stability Review and the data regularly published by the Bank of Greece on its website are mainly due to the different perimeter of each data release.

It is worth noting that there was no significant decrease in exposures under management, as net outflows were very small.

Lastly, modifications made until December of 2023 represent 27.7% of the total portfolio managed on behalf of credit acquiring firms. Resolution and closure actions accounted for the bulk of modified exposures (48.2%), followed by long-term (42.6%) and short-term modifications (9.2%) (see Chart V.14). It should be noted that, in December 2023, resolution and closure actions amounted to €9.28 billion, short-term modifications to €1.76 billion and long-term modifications to €8.19 billion.

Chart V 14 Breakdown of exposures under management that were modified (2023)

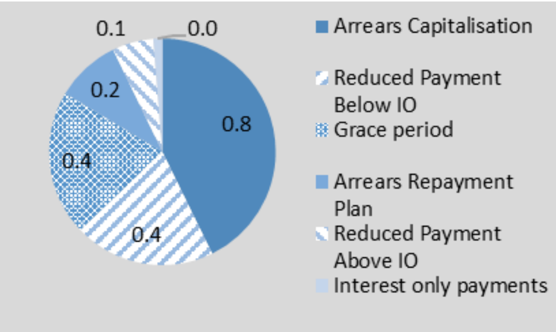


Source: Bank of Greece.

Capitalisation of arrears was the most common short-term modification[99] (accounting for 43% of short-term modifications – see Chart V.15a), while the most common types of long-term modifications[100] were partial debt write-down, split balance and extension of the loan term, accounting for 44%, 25% and 21%, respectively (see Chart V.15b).

Chart V.15a Short-term modifications (2023)

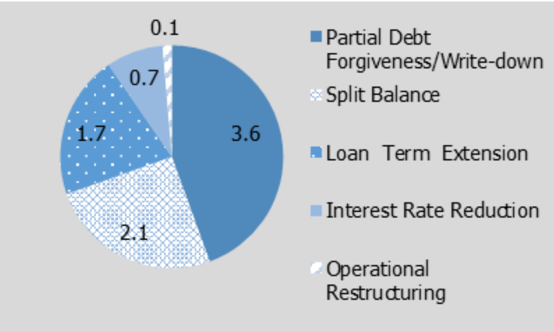
(EUR billion)



Source: Bank of Greece.

Chart V.15b Long-term modifications (2023)

(EUR billion)



Source: Bank of Greece.

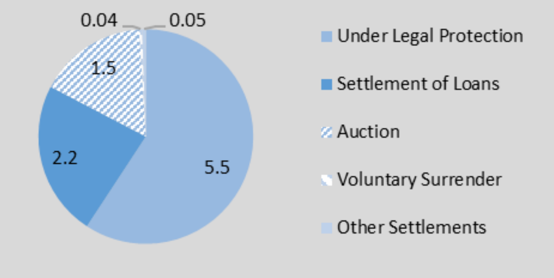
[99] Short-term modifications are those with a duration of less than two years, applicable to cases where the repayment difficulties are reasonably judged to be temporary.

[100] Long-term modifications are those with a duration of more than two years, based on conservative assumptions regarding the borrower's future repayment capacity throughout the repayment schedule.

At the same time, the most common types of resolution and closure actions[101] were settlement of loans under legal protection (59%) and settlements of loans (23%) (see Chart V.15c).

Chart V.15c Resolution and closure actions (2023)

(EUR billion)



Source: Bank of Greece.

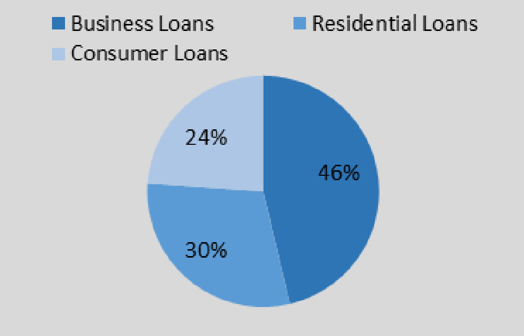
Management of exposures serviced on behalf of credit institutions

The total amount of exposures managed by CSFs on behalf of credit institutions stands at €18.7 billion at end-2023, with 57% of these exposures being non-performing exposures.

The portfolio of exposures managed on behalf of credit institutions consists mainly of business loans (46%), followed by residential loans (30%) and consumer loans (24%) (see Chart V.16).

Chart V.16 Breakdown of exposures under management on behalf of credit institutions (2023)

(%)



Source: Bank of Greece.

As at December 2023, repayments and liquidation of collateral managed by CSFs on behalf of credit institutions amounted to €1.76 billion, of which €1.63 billion were repayments and €0.13 billion were collateral liquidation.

Secondary market activity

From 2019 to December 2023, the transactions carried out on the secondary market concerned 101 loan portfolios, almost exclusively for business loans, with the total value of receivables amounting to €4.3 billion (value at the transfer date).[102] Overall, the secondary market is expected to continue to grow further in the near future with more players entering the market and more transactions being carried out in line with the targets set by the CSFs under the HAPS (Hercules).

New framework on credit servicers and credit purchasers – Law 5072/2023

The revised framework on credit servicers and credit purchasers was established by Law 5072/2023 which transposes, among other things, the relevant provisions of Directive 2021/2167[103] to the Greek legislation on the licensing and supervision of CSFs, as well as provisions on the supervision of credit purchasers. In particular, the new framework introduces (a)

[101] Resolution and closure actions include any change in the type of loan contract or termination of the contract.

[102] In detail, the transactions per year were as follows: a) 2019: 7 transactions with a total value of €106 million; b) 2020: 13 transactions with a total value of €93 million; c) 2021: 31 transactions with a total value of €538 million; d) 2022: 21 transactions with a total value of €1,530 million; and e) 2023: 29 transactions with a total value of €2,084 million.

[103] Directive (EU) 2021/2167 of the European Parliament and of the Council of 24 November 2001 on credit servicers and credit purchasers and amending Directives 2008/48/EC and 2014/17/EU.

additional licensing requirements for CSFs (e.g. internal governance and internal control mechanisms, a framework for sanctions, administrative and corrective measures, enhancement of protection and fair treatment of borrowers, including relevant procedures for recording and managing borrower complaints); (b) communication requirements regarding the transfer of assets from credit and financial institutions and credit purchasers; and (c) a framework for cross-border activities by credit servicers. Lastly, according to Article 40 of Law 5072/2023, CSFs that have been licensed under Article 1 of Law 4354/2015 (A' 176) and which carry out credit management activities are subject to a re-licensing process (by the end of June 2024), to ensure compliance with the provisions of the new framework.[104]

3.3 PAYMENT INSTITUTIONS, E-MONEY INSTITUTIONS, PAYMENT INITIATION SERVICE PROVIDERS AND ACCOUNT INFORMATION SERVICE PROVIDERS

Key figures

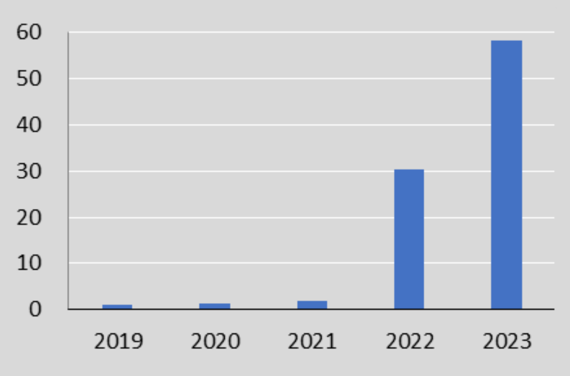
(a) Payment Institutions (PIs)

The Bank of Greece, under Law 4537/2018[105] and Executive Committee Act (ECA) 164/2/13.12.2019, as currently in force, has authorised 16 payment institutions (PIs) and one account information service provider (AISP).[106]

The total value of payment transactions carried out by PIs in 2023[107] stood at €58.2 billion, up by 92% compared to 2022 (€30.3 billion) and about 32 times higher than in 2021 (€1.8 billion, see Chart V.17). This substantial increase compared to previous years is due to four PIs that took over the divested merchant acquiring business of the four significant banks in 2022 and accounted for 94% of the total value of payment transactions.[108]

Chart V.17 Annual value of payment transactions by Payment Institutions

(EUR billion)



Source: Bank of Greece.

The increase in the value of payment transactions carried out by other PIs is also notable (2023: €3.5 billion, 2022: €2.3 billion), while one PI provides credits – ancillary to payment services – in accordance with the provisions of Law 4537/2018 (outstanding credit in December 2023: €318 thousand, December 2022: €761 thousand).

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[104] Following the publication of Law 5072/2023, the Bank of Greece issued Executive Committee Act 225/1/30.1.2024, which lays down terms and conditions for licensing of CSFs.

[105] Law 4537/2018 transposed to Greek law Directive (EU) 2015/2366 (Payment Services Directive II – PSD II) establishing the regulatory framework for payment services in the internal market.

[106] In accordance with Article 14 of Law 4537/2018, the Bank of Greece publishes on its official website a public register of authorised PIs and AISPs established in Greece (Supervised institutions (bankofgreece.gr)).

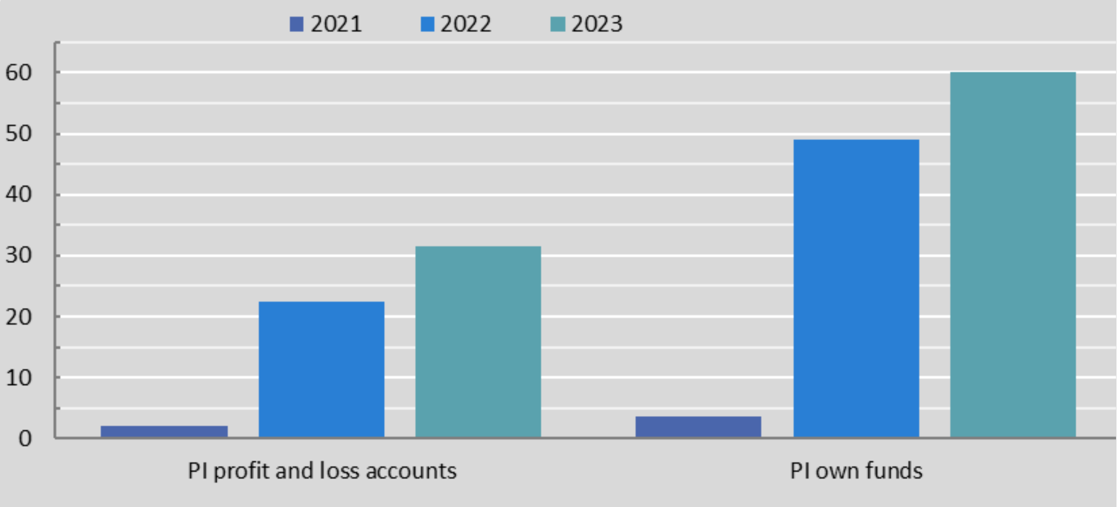
[107] Under the current regulatory framework, the total value of payment transactions refers to a 12-month period. In particular, the reference period for 2023 extends from 1.1.2023 to 31.12.2023.

[108] It should be noted that in 2022, four out of 16 authorised PIs took over the divested merchant acquiring business of the four significant banks, forging a new landscape for electronic payments, which are now provided to a considerable extent by PIs authorised by the Bank of Greece.

These developments have a positive impact on the own funds and profitability of PIs. In particular, PIs' total equity in December 2023 amounted to €60.1 million, up by 22% since December 2022 (€49.1 million) and significantly higher than in December 2021 (€3.7 million). The PI sector is also profitable, with pre-tax profits amounting to €31.5 million in 2023, compared with €22.5 million in 2022 and €2 million in 2021 (see Chart V.18).

Chart V.18 Profit and equity of Payment Institutions

(EUR million)



Source: Bank of Greece.

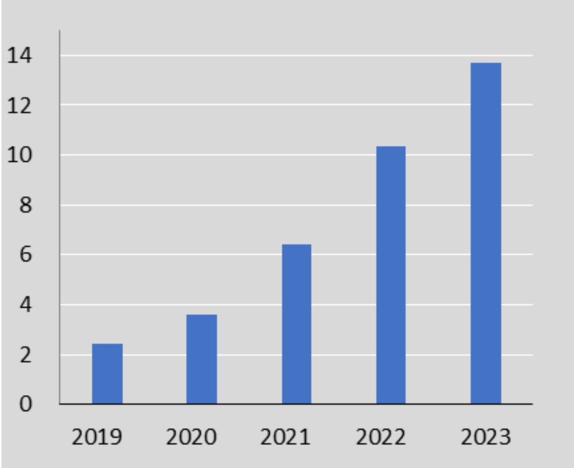
(b) Electronic Money Institutions (EMIs)

The Bank of Greece, under Law 4021/2011[109] and Executive Committee Act (ECA) 164/2/13.12.2019, as currently in force, has authorised four Electronic Money Institutions (EMIs).[110]

The total annual value of payment transactions carried out by EMIs in 2023 stood at €13.7 billion, up by 33% compared to 2022 (€10.3 billion, see Chart V.19). The increase in the volume of payments is mostly due to the expansion of activities by one EMI abroad under the EU passport regime.[111] This EMI accounts for 81.1% of the total value of EMI payments. In addition, the second EMI devel-

Chart V.19 Annual value of payment transactions by Electronic Money Institutions

(EUR billion)



Source: Bank of Greece.

[109] Law 4021/2011 transposed to Greek law the provisions of Directive 2009/110/EC on the taking up, pursuit and prudential supervision of the business of electronic money institutions.

[110] Bank of Greece Credit and Insurance Committee (CIC) decision no. 497/1/21.3.2024 granted authorisation to a fourth EMI.

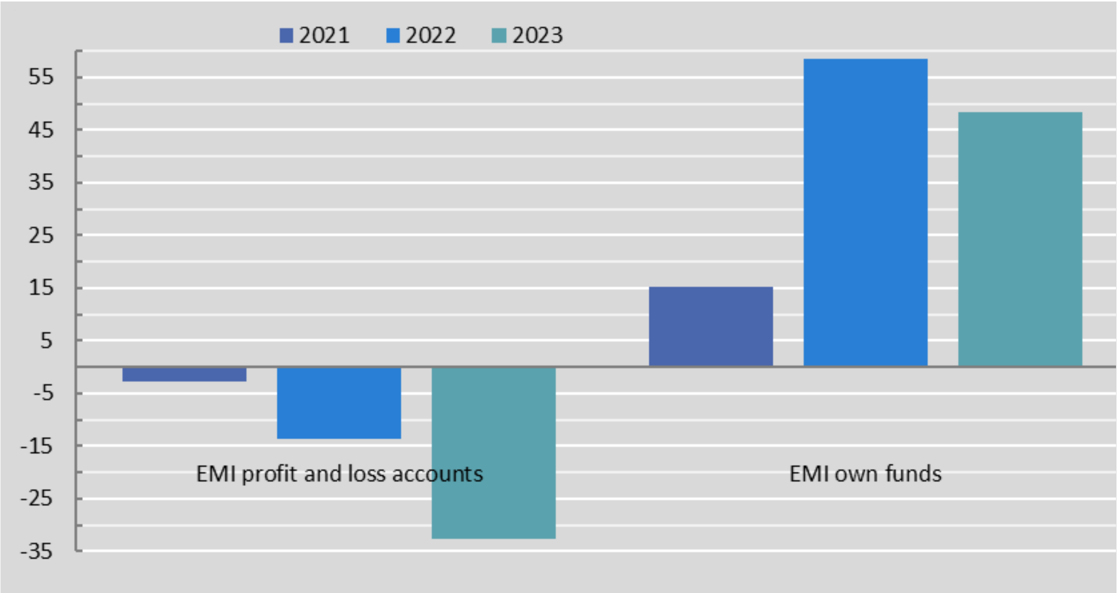
[111] An "EU passport" enables PIs and EMIs established in Greece to provide payment and electronic money services in another Member State of the EEA under the freedom of establishment or the freedom to provide services, as long as the services in question are covered by their authorisation and subject to the notification of the required information specified in the applicable regulatory framework to the Bank of Greece.

oped its operations in 2023, by means of implementing and offering e-money services.[112] On the other hand, the third EMI's operations remained almost unchanged between 2022 and 2023.

In December 2023, the total equity of EMIs amounted to €48.4 million, down by €10.2 million year-on-year (€58.6 million, see Chart V.20), mainly due to losses incurred by the sector (in 2023 losses amounted to €32.7 million, compared with losses of €13.6 million in 2022). It is noted that the losses posted in this sector are mainly due to investment spending, particularly in the IT sector and in technology sectors in general, but also to ongoing expansion to other European markets. These losses were covered by the required capital increases.

Chart V.20 Losses and own funds of Electronic Money Institutions

(EUR million)



Source: Bank of Greece.

In addition, it should be noted that 284 PIs and 212 EMIs established in other Member States of the EEA have notified the Bank of Greece of their intention to provide payment services in Greece under the EU passport regime. The majority of these exercise the freedom to provide services without establishment. As regards the type of payment services provided, most of the above institutions are active in the issuance of payment instruments and/or merchant acquisition, the transfer of funds and the execution of remittances.

[112]In accordance with Article 10 of Law 4021/2011, electronic money means electronically stored monetary value as represented by a claim on the issuer which is issued on receipt of funds for the purpose of making payment transactions and which is accepted by a natural or legal person other than the electronic money issuer.

VI. FINANCIAL MARKET INFRASTRUCTURES

In 2023, payment, clearing and settlement systems operated smoothly, ensuring the effective and reliable functioning of the financial system, the implementation of the Eurosystem monetary policy and the maintenance of confidence in the euro.

1. PAYMENT SYSTEMS

1.1 TARGET-GR

The Greek component (TARGET-GR) of the Trans-European Automated Real Time Gross Settlement Express Transfer System (TARGET) functioned smoothly during 2023, with its operational availability reaching 100%. In 2023, the number of domestic and cross-border interbank and customer payment orders transmitted through the system came to 993.6 thousand, from 945.3 thousand in 2022. The corresponding value of payment orders reached €1.2 trillion, from €1.1 trillion, up by €55 billion (+4.8%) from the previous year.

1.2 DIAS INTERBANKING SYSTEMS S.A.

The multilateral net settlement system for retail payments DIAS fully responded to the requirements of the interbank and retail payment markets throughout 2023, with its operational availability reaching 100%. In 2023, the number of payment transactions processed by the system rose by 38.66 million in relation to 2022 (+10.5%). Per interbank payment service provided (see Table VI.1), credit transfer transactions increased by 10% and POS payments to Greek government agencies by 25% compared to 2022. In addition, direct debit transactions rose by 7.2%. On the contrary, ATM transactions decreased by 1.4% and electronic cheques clearing transactions by 5%. In line with the increased number of transactions, the corresponding total value reached €450 billion, up by 10.5%. Data analysis shows increasing familiarity of users with the execution of electronic payment transactions.

Table VI.1 Transactions of DIAS payment system

(in million transactions)

Type of transactions	2023	2022	2021
Credit transfers and other fund transfers	342.30	310.96	281.64
Direct Debits	28.00	26.10	23.39
Cheques	2.10	2.21	2.31
ATM withdrawals	5.80	5.88	6.26
POS payments	28.03	22.42	15.81
Total	**406.23**	**367.57**	**329.4**

Source: DIAS.

DIAS maintains its operational efficiency, ensuring the provision of safe and quick payment services in line with users' increased needs.

1.3 ATHENS CLEARING OFFICE (ACO)

The Athens Clearing Office (ACO) processed 29 thousand less cheques in physical form (-18.9%) than those submitted for netting in 2022.

The daily average number of cleared cheques in 2023 was 487 (-18.3%), from 596 in 2022. In line with the decrease in the number of cleared cheques, their value fell by €4 billion (-27%), with their daily average value falling to €42.8 million (-26.4%) in comparison to 2022. (See Table VI.2).

Table VI.2 ACO cheques processing

(number of transactions and value in EUR million)

	2023	2022	2021	Change 2023 -2022	Change 2022 -2021
Number of cheques submitted for clearing	125,177	154,433	179,006	-18.9%	-13.7%
Value of cheques submitted for clearing	487	596	688	-27.0%	+15.2%
Daily average number of cheques submitted for clearing	10,986	15,040	13,056	-18.3%	+13.4%
Daily average value of cheques submitted for clearing	42.75	58.07	50.21	-26.4%	+15.6%

Source: ACO.

2. PAYMENT CARDS

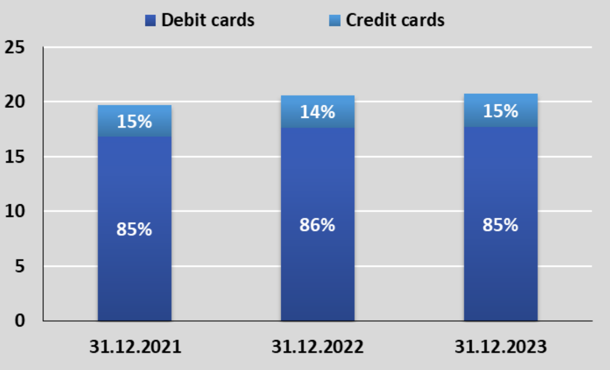
Payment cards have proven once again a popular payment instrument, as reflected in the growing volume and value of payment transactions in 2023.

2.1 NUMBER OF PAYMENT CARDS

In December 2023, the total number of active payment cards in circulation reached 20.7 million, slightly increased by 0.1% in comparison to December 2022 (See Chart VI.1).

Chart VI.1 Number of cards per card type

(million)



Source: Bank of Greece.

Looking to the different types of cards, the number of debit cards slightly increased by 0.1% to 17.6 million. A marginal decrease of 1% has been recorded in the number of pre-paid[113] cards, which reached 2.3 million in December 2023. The number of credit cards rose by 4% to 3.1 million. Notably, the number of virtual cards rose by 8% to 136 thousand, from 126 thousand in December 2022.

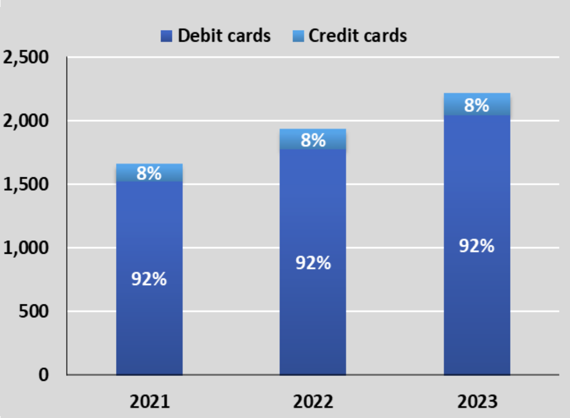
[113] For the purposes of this Review, debit cards comprise prepaid cards and cards that can be used for cash withdrawals but not for purchases. Credit cards comprise virtual cards and delayed debit cards.

2.2 TRANSACTIONS WITH PAYMENT CARDS

The total number of card payment transactions reached 2,211 million in 2023, from 1,930 million in 2022, up by 15%. (See Chart VI.2). In the same vein, the value of card payment transactions rose to €103 billion, up by 9% from €94 billion in 2022 (See Chart VI.3).

Chart VI.2 Number of card transactions

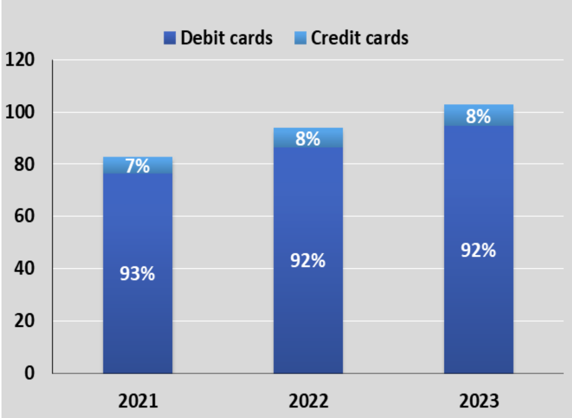
(million)



Source: Bank of Greece.

Chart VI.3 Value of card transactions

(EUR billion)



Source: Bank of Greece.

The number of debit card payment transactions rose to 2,042 million, from 1,775 million in 2022, up by 15%. Debit cards continue to account for 92% of the total number of payment transactions with all types of payment cards. In the same vein, the number of credit cards increased by 9% to 169 million, from 154 million in 2022. Credit card payments represented 8% of the total number of card payments.

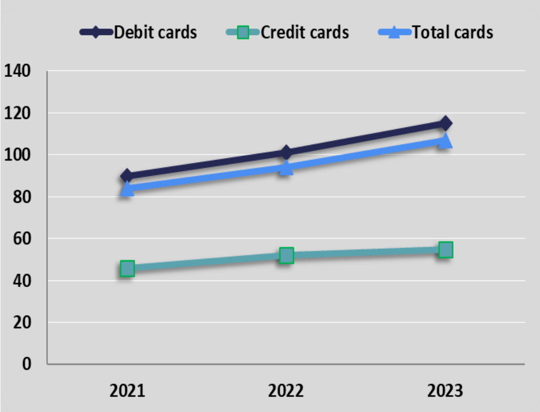
In 2023, the average number of transactions per card increased by 14% to 107 transactions, from 94 transactions in 2022 (See Chart VI.4). A breakdown by card type shows that the change in the average number of transactions per card is due to a significant increase in the average number of transactions per debit card to 115, from 101 transactions in 2022.

In line with the increase in the average number of transactions per card, the average value of transactions per card edged upwards by 9% to €4,948 from €4,556 in 2022. (See Chart VI.5).

The rise in the average value per transaction is mainly due to the increased number and value of debit card transactions. In particular, the average transaction value per debit card rose by 9% reaching €5,365, from €4,898 in 2022, whereas the average transaction value per credit card rose by 2% to €2,547, from €2,501 in 2022.

Chart VI.4 Average number of transactions per card type

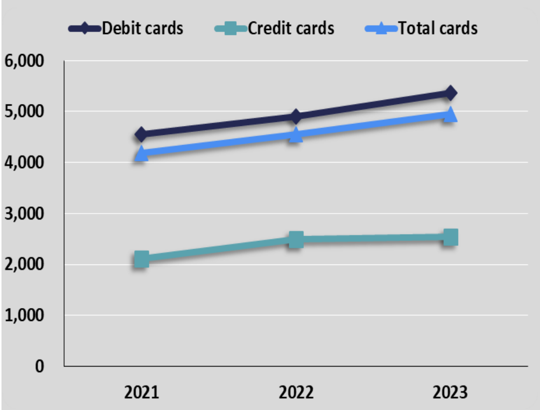
(transactions)



Source: Bank of Greece.

Chart VI.5 Average value of transactions per card type

(EUR)

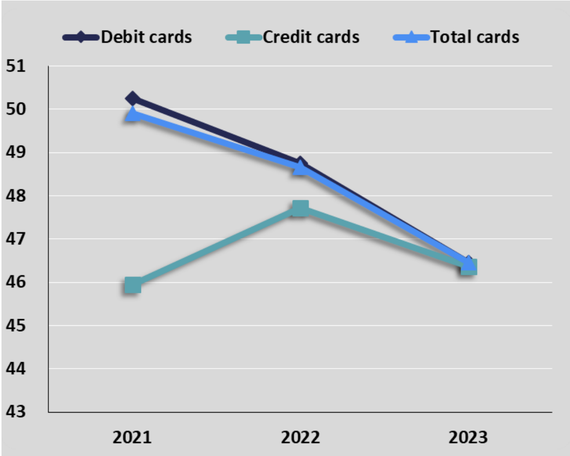


Source: Bank of Greece.

The average value per (both credit and debit) card transaction continued to fall in 2023, to €46, from €48, down by 4.5% (see Chart VI.6). The wider use of debit cards even for low-value purchases of products and services seems to be the reason behind the continuous decline in the average value per transaction.

Chart VI.6 Average value per card transaction

(EUR)



Source: Bank of Greece.

2.3 PAYMENT CARD TRANSACTION FRAUD

Turning to the number of fraudulent transactions in card payments in 2023, a substantial increase of 43% has been recorded compared to 2022 (see Table VI.3). In the same vein, the number of fraudulent transactions as a percentage of the total number of transactions, i.e. the fraud to transaction ratio, increased by 25% in comparison to 2022, with one fraudulent transaction per 5.4 thousand transactions, but remains low (0.02%).

In line with the number of fraudulent transactions, their value increased by 46% in comparison to the previous year (See Table VI.4). Even though, the value of fraudulent transactions as a percentage of the total value of transactions remains low (0.02%), with €1 fraud value per €4.3 thousands transaction value, significantly up by 34% in comparison to 2022.

Table VI.3 Fraud to transaction ratio – Volume

(transactions)

Period	Number of transactions	Number of fraudulent transactions	Fraud to transaction ratio
2023	2,210,865,672	410,345	0.02%
2022	1,929,643,889	287,356	0.01%
2021	1,657,644,753	392,390	0.02%

Source: Bank of Greece.

Table VI.4 Fraud to transaction – Value

(EUR)

Period	Value of transactions	Value of fraudulent transactions	Fraud to transaction ratio
2023	102,709,542,581	23,770,874	0.02%
2022	93,891,177,722	16,237,522	0.02%
2021	82,716,394,764	13,441,849	0.02%

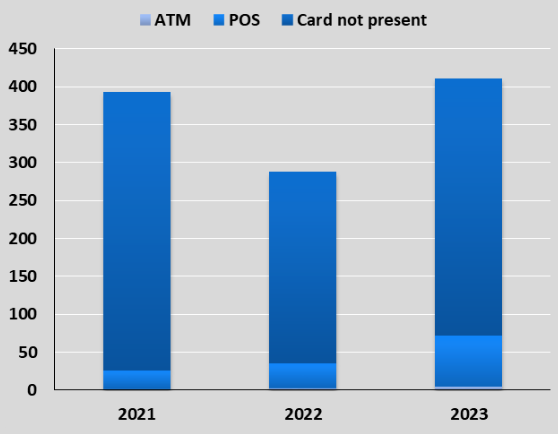
Source: Bank of Greece.

The examination of fraud per card type (see Charts VI.7 and VI.8) reveals a significant increase in the volume and value of card not present (CNP) fraudulent transactions by 34% and 35% respectively. More specifically, the number of fraudulent CNP transactions increased to 337 thousand from 251 thousand in 2022, while their corresponding value rose to €17.5 million from €13 million in 2022. In addition, an increase has been recorded in the number and value of fraudulent POS payment transactions by 106% and 142% respectively. The number of fraudulent POS transactions increased by 68 thousand from 33 thousand in 2022, while their corresponding value rose to €4.2 million from €1.7 million in 2022. Finally, a significant increase has been observed in fraudulent ATM transactions. In more detail, the number of fraudulent ATM transactions increased to 5 thousand from 3 thousand in 2022, up by 58%, and their corresponding value rose to €2 million from €1.5 million in 2022, up by 35%.

The increase in the value of fraudulent ATM and POS transactions in comparison to 2022 is mainly due to the rising number of illegal ATM and POS transactions with lost/stolen payment cards. In particular, the value of fraudulent ATM transactions with lost/stolen cards was €1.9 million, up by 42% from €1.3 in 2022, whereas the value of fraudulent POS transactions with lost/stolen cards reached €3.8 million, up by 117% from €1.7 million in 2022.

Chart VI.7 Number of fraudulent transactions per transaction type

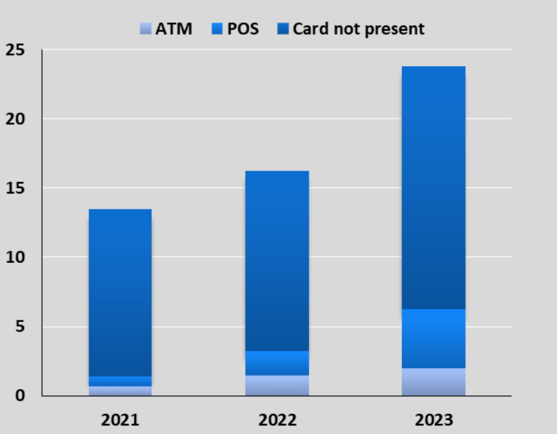
(thousand transactions)



Source: Bank of Greece.

Chart VI.8 Value of fraudulent transactions per transaction type

(EUR million)

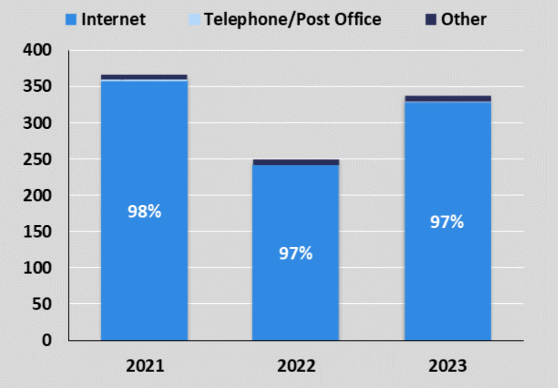


Source: Bank of Greece.

With respect to fraudulent CNP transactions, the majority of fraud incidents concerned remote transactions via the internet (see Charts VI.9 and VI.10), notably cross-border transactions with foreign entities, as in previous years.

Chart VI.9 Number of fraudulent CNP transactions

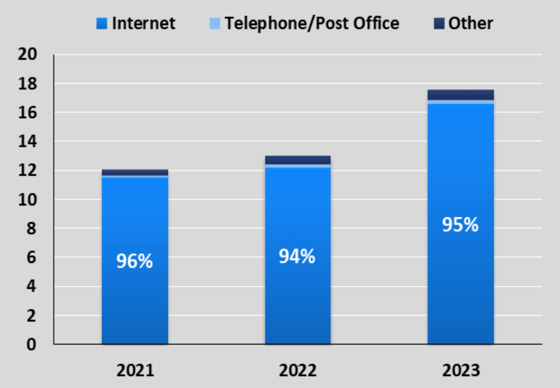
(thousand transactions)



Source: Bank of Greece.

Chart VI.10 Value of fraudulent CNP transactions

(EUR million)

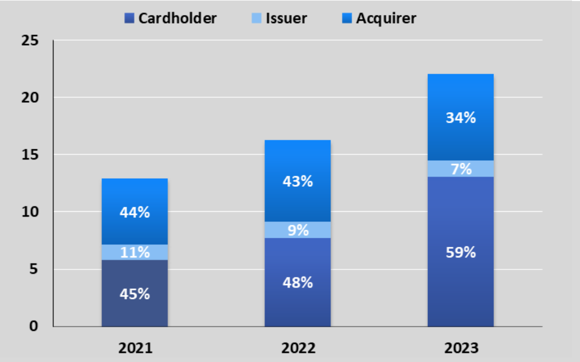


Source: Bank of Greece.

The financial losses arising from fraudulent transactions were borne by the parties involved in the card transaction chain according to their degree of fault. In 2023, according to the allocation of losses among the three parties participating in the card transaction chain (see Chart VI.11), the majority of losses was borne by the cardholders and the card acquiring payment service providers (59% and 34% respectively). Card issuing payment service providers were charged 7% of total losses.

Chart VI.11 Allocation of fraudulent transaction loss

(EUR million)



Source: Bank of Greece.

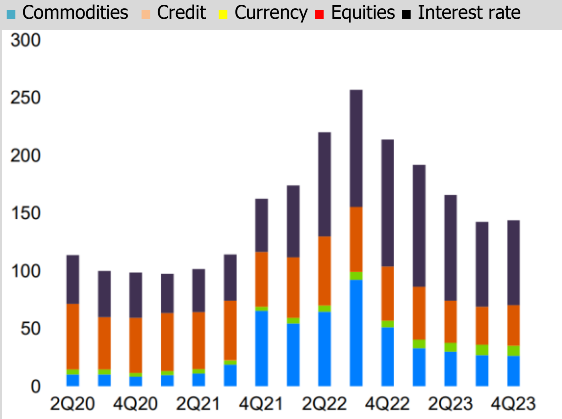
3. CENTRAL COUNTERPARTIES

3.1 EUROPEAN DEVELOPMENTS

Margins collected by European Union (EU) central counterparties (CCPs) for commodity derivatives transactions stabilised at a lower level in the second half of 2023, after falling in the first half of the year, in line with the decline in energy prices and the general reduction of market volatility. Similarly, margins for equity and interest rate derivatives transactions edged lower during the same period compared to the first half of 2023, in line with expectations of future interest rate stabilisation in Europe and the US. Therefore, the total margins for all types of derivatives in the second half of 2023 reached a two–year low.

Chart VI.12 Initial margins collected by EU CCPs by asset class

(EUR billion)



Note: Outstanding amounts of initial margin required and excess collateral received by EU27 CCPs for derivatives.

Source: ESMA.

***

On 7 February 2024, the European Council and the European Parliament reached a provisional political agreement on the revision of the EMIR[114] regulation on European market infrastructures. The revision aims to make central clearing within the EU more attractive, strengthen the EU's strategic autonomy and ensure its financial stability. To this end, it includes various legislative measures to improve clearing services in the EU. More specifically, it aims, among other things, at:

• streamlining and shortening the supervisory processes for the authorisation of new activities or services, as well as the validation of changes to the risk models of central counterparties;

• strengthening the role of the European Securities and Markets Authority (ESMA) in the supervision of central counterparties; and

• requiring systemically important market participants subject to a clearing obligation to have an operationally active account at an EU CCP.

The provisional agreement enhances cooperation, coordination and information sharing between national competent authorities and ESMA (which will have an increased coordination role in emergency situations), while ensuring an appropriate division of tasks between national authorities and ESMA. In addition, ESMA will co-chair the supervisory colleges together with the national competent authorities, with the latter maintaining the ultimate decision-making powers.

Regarding the obligation for an operationally active account at an EU CCP, such an account should, inter alia, include operational requirements to handle a large volume of counterparty's

[114] Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories.

transactions at short notice. To this end, the counterparty should have systems and resources available to keep the account permanently operational.

In order to monitor the implementation of this new requirement, a Joint Monitoring Mechanism is created, which shall be composed of representatives from the European Supervisory Authorities (ESAs), the European Systemic Risk Board (ESRB), the European Central Bank (ECB – including the Single Supervisory Mechanism), the central banks that issue the most important currencies, etc.

The practical operation of the active account will be monitored for a period of 18 months. Within 18 months of the entry into force of the revised regulation or at any point in time in the event of a financial stability risk, ESMA – in cooperation with the European System of Central Banks and the ESRB – should report to the European Parliament, the Council and to the Commission regarding the effectiveness and implications of the active account, including any quantitative limits on transactions to be cleared through it.

3.2 ATHENS EXCHANGE CLEARING HOUSE (ATHEXCLEAR)

The Athens Exchange Clearing House (ATHEXClear) provides clearing services and acts as a central counterparty for the clearing of transactions on the Athens Exchange (securities and derivatives markets, securities lending facility) and of transactions in derivatives on the Energy Exchange.

During 2023, derivatives and securities lending transactions cleared by ATHEXClear increased significantly comparted to the previous year in terms of their average daily volume and value.

More specifically, during the period under review, the average daily volume of transactions overall in the derivatives market and securities lending facility amounted to 44,386 transactions, up by 27% compared to the previous year (2022: 35,029 transactions), as shown in Table VI.5 and in Chart VI.13. This change is mainly due to an increase observed in Stock Futures contracts.

Chart VI.13 Daily Average Traded Volume in the Derivatives Market by type of contract and in the Securities Lending Facility

(number of transactions, in thousands)

Source: Monthly Statisical Bulletin Derivatives – lending, Hellenic Exchanges – Athens Exchange S.A.

Table VI.5 Daily Average Traded Volume in the Derivatives Market by type of contract and in the Securities Lending Facility

	Index Futures	Index Options	Stock Futures	Stock Options	Lending (Multilateral/Bilateral)	Total
2018	2,573	326	53,063	47	670	56,679
2019	2,461	255	39,093	85	872	42,767
2020	1,698	147	38,154	62	1,121	41,182
2021	1,205	152	46,238	71	567	48,233
2022	1,162	87	33,064	39	678	35,029
2023	1,579	144	42,188	54	421	44,386

Source: Monthly Statistical Bulletin Derivatives – lending, Hellenic Exchanges – Athens Exchange S.A.

Similarly, the average daily value of transactions reached €23.4 million in 2023, the highest value registered since ATHEXClear licensing (2014), showing a significant increase of 73% compared to the previous year (2022: €13.5 million), a change attributed to an increase in the average daily value of both Index Futures and Stock Futures (see Table VI.6 and Chart VI.14).

Table VI.6 Daily Average Traded Value in the Derivatives Market by type of contract

(EUR million)

	Index Futures	Index Options	Stock Futures	Stock Options	Total
2018	10.23	1.30	6.48	0.01	18.03
2019	10.11	1.04	8.24	0.03	19.42
2020	5.81	0.51	6.02	0.03	12.37
2021	5.02	0.64	8.32	0.06	14.03
2022	4.88	0.37	8.24	0.03	13.51
2023	8.12	0.83	14.43	0.04	23.42

Source: Monthly Statistical Bulletin Derivatives – lending, Hellenic Exchanges – Athens Exchange S.A.

Chart VI.14 Daily Average Traded Value in the Derivatives Market by type of contract

(EUR million)

Source: Monthly Statistical Bulletin Derivatives – lending, Hellenic Exchanges – Athens Exchange S.A.

4. CENTRAL SECURITIES DEPOSITORIES

4.1 DEVELOPMENTS IN THE REGULATORY FRAMEWORK

The EU Digital Operational Resilience Act for the financial sector (DORA[115]), which entered into force on 16 January 2023 and will apply as of 17 January 2025, aims to strengthen the security of information and communication technology (ICT) used by financial entities (credit institutions, payment and electronic money institutions, investment firms, central securities depositories, etc.) and more generally ensure digital operational resilience across the financial sector. [116]

DORA achieves the harmonisation and enhancement of the rules/requirements related to the digital operational resilience of 21 different financial entities. These rules have been established through various EU legislative acts (e.g. CRR/CRD for credit institutions, EMIR for CCPs and trade repositories, CSDR for CSDs, Solvency II for insurance undertakings).

With regard to central securities depositories and central counterparties, the CSDR[117] and EMIR[118] Regulations respectively, as well as the relevant technical regulatory standards, have established a number of requirements regarding the management of ICT risks as part of operational risks (see Table VI.7), with DORA further enhancing and specifying these requirements.

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[115] Regulation (EU) 2022/2554 of the European Parliament and of the Council of 14 December 2022 on digital operational resilience for the financial sector and amending Regulations (EC) No 1060/2009, (EU) No 648/2012, (EU) No 600/2014, (EU) No 909/2014 and (EU) 2016/1011.

[116] Digital operational resilience is the ability of firms and organisations to cope with any kind of disruption to their smooth operation and threats related to ICT.

[117] Regulation (EU) No 909/2014 of the European Parliament and of the Council of 23 July 2014 on improving securities settlement in the European Union and on central securities depositories and amending Directives 98/26/EC and 2014/65/EU and Regulation (EU) no. 236/2012.

[118] Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories, as currently in force.

Table VI.7 Articles of the EMIR and CSDR Regulations and their regulatory technical standards (RTSs) related to digital operational resilience

Builing block of DORA Regulation	Main elements of the buiding block*	CCPs		CSDs	
		EMIR	RTS 153 on requirements for central counterparties	CSDR	RTS 392 on requirements for central securities depositories
ICT Risk management	Arrangmenents (policies, procedures and systems) on risks to which the entity is exposed to	Article 26(1)			Article 48(1)
	Operational risk framework / policy	Article 28 (regarding the risk committee)			Article 70(1)
	Risk management policy		Article 4		
	Information security framework/strategy		Article 9(3)		Article 70(9), Article 75(5)
	Appropriate IT tools, reliable, resilient and secure systems (to ensure security / integrity / confidentiality)	Article 26(6)	Article 9	Article 45(1)	Article 75
	Business continuity policy	Article 34(1)	Article 17		L2 - Article 76(1)
	Contingency plans	Article 34 (business continuity plan)			
	Crisis management and communications		Article 22		Article 78(4)
	Disaster recovery plan	Article 34(1)	Article 19		Article 76(1), Article 78
	Maximum recovery time for critical functions of 2h		Article 17(6)		Article 78(2)
Incident Reporting	Reporting of operational incidents to competent authorities			Article 45(6)	Article 41(h)
	Procedures to record, monitor and resolve operational incidents				Article 71(4)
	Breaches in physical and electronic security measures				
Testing	Testing of IT tools, systems and procedures	Article 49		Article 45(5)	Article 75(6)
	Penetration testing				
Third party risk	Outsourcing - the entity remains fully responsible	Article 35(1)		Article 30(1)	
	Outsourcing is governed by a written agreement			Article 30(2)	
	Outsourcing - report to competent authorities on the outsourcing	Article 35 (requirement for the competent authority's approval)			
	Identify critical service providers and manage dependencies		Article 18(3)		Article 68(1), (2)
	Inform competent authorities on dependencies with critical service providers				Article 68(5)
	Robust arrangements for the selection and substitution of IT third party service providers				Article 75(9)
	Due diligence when outsourcing to third party service providers				
	Outsourcing to third party service providers located in a third country				

* The different elements of the building blocks (column 2) are illustrative and not exhaustive.
relevant provisions are missing in the EU financial services legislation
relevant provisions exist in the EU financial services legislation
the existing relevant provisions partially cover the requirements.
Sources: Impact assessment report accompanying the DORA proposal of the European Commission and processing of data by the Bank of Greece.

Consequently, DORA introduces additional requirements and rules for central securities depositories and central counterparties in the following areas:

- Management and classification of ICT-related incidents and reporting to the competent authority of those classified as major. On a voluntary basis, the infrastructures can also notify the competent authority of cyber threats that they consider significant.
- Performance of digital operational resilience testing, for the purpose of assessing preparedness for handling incidents, identifying weaknesses, deficiencies and gaps in digital operational resilience, as well as promptly implementing corrective measures. CSDs and CCPs should perform vulnerability assessments before any deployment of new applications and ICT services or redeployment of existing ones. In addition, they should conduct

advanced testing by means of Threat-Led Penetration Testing (TLPT) at least every three years.[119]

- Management of risks arising from ICT third-party providers,[120] which includes, among other things, adoption of a relevant strategy and a policy for the use of ICT services, as well as maintaining a register of information on all contractual arrangements. Additionally, specific requirements are introduced for the contractual arrangements with ICT third-party providers.
- Promoting information-sharing arrangements on cyber threat information and intelligence[121] between financial entities with the aim of raising awareness of cyber threats, limiting or preventing their spread and strengthening defence capabilities, threat detection techniques, mitigation strategies, as well as response and recovery stages.

4.2 THE BANK OF GREECE SECURITIES SETTLEMENT SYSTEM (BOGS)

In 2023, the operation of the Securities Settlement System of the Bank of Greece ("System for Monitoring Transactions in Book-Entry Securities", hereinafter "BOGS") was uninterrupted, and the volume of transactions settled in it increased significantly compared to 2022.

Specifically, the average daily volume of transactions in 2023 showed an increase of 36% compared to the previous year, reaching 292 transactions, up from 215 transactions in 2022 (see Table VI.8 and Chart VI.15). The average daily value of transactions settled in BOGS in 2023 (buy/sell transactions, repos in securities, internal transfer of securities, etc.) amounted to €14.2 billion, significantly up by 39% compared to 2022 (€10.3 billion). In particular, the average daily value of buy/sell transactions settled in BOGS in 2023 amounted to €582 million, compared with €474 million in 2022, up by 23%, reflecting the favourable environment created in the Greek market by the upgrades of Greece's credit rating in 2023, which led to an increase in investment placements in Greek government bonds.[122]

[119] "Threat-led penetration testing (TLPT)" is defined as a framework that mimics the tactics, techniques and procedures of real-life threat actors perceived as posing a genuine cyber threat, that delivers a controlled, bespoke, intelligence-led (red team) test of the financial entity's critical live production systems.

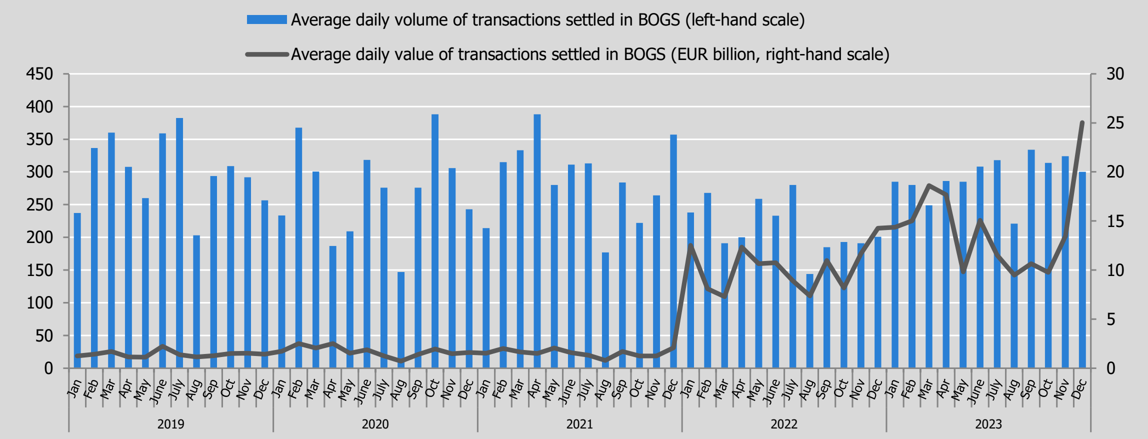
[120] "ICT third party risk" is defined as the ICT risk that may arise for a financial entity in relation to its use of ICT services provided by ICT third party service providers or by subcontractors of the latter, including through outsourcing arrangements.

"ICT third party service provider" means an undertaking that provides ICT services.

[121] A "cyber threat" is any potential circumstance, event or action that could damage, disrupt or otherwise adversely impact network and information systems, users of such systems and other persons.

[122] See Bank of Greece, *Governor's Annual Report 2023*.

Chart VI.15 Average daily volume and value of transactions settled in BOGS (2019-2023)



Source: Bank of Greece.

Table VI.8 Average daily value and volume of transactions settled in BOGS

	Average daily value (in million euro)					Average daily transaction volume				
	2019	**2020**	**2021**	**2022***	**2023***	**2019**	**2020**	**2021**	**2022***	**2023***
January	1,260.33	1,733.54	1,544.38	12,516.03	14,371.10	237.45	233.41	214.00	238.00	285.00
February	1,438.64	2,519.11	2,009.14	8,091.21	15,029.70	336.65	367.75	315.00	268.00	280.00
March	1,703.39	2,069.01	1,663.07	7,294.69	18,597.92	360.10	300.73	333.00	191.00	249.00
April	1,146.08	2,506.32	1,518.04	12,348.19	17,674.95	307.60	186.85	388.00	200.00	286.00
May	1,139.99	1,529.67	2,061.32	10,653.34	9,828.65	260.17	209.24	280.00	259.00	285.00
June	2,236.98	1,881.47	1,575.82	10,755.71	15,065.65	359.00	318.55	311.00	233.00	308.00
July	1,375.03	1,252.75	1,322.85	8,912.50	11,502.07	382.39	276.00	313.00	280.00	318.00
August	1,143.18	726.86	799.06	7,365.34	9,480.23	203.36	147.00	177.00	144.00	221.00
September	1,279.68	1,394.42	1,719.40	10,975.04	10,650.59	293.90	276.00	284.00	185.00	334.00
October	1,503.12	1,957.54	1,255.66	8,176.61	9,780.11	308.83	388.00	222.00	193.00	314.00
November	1,525.55	1,483.11	1,252.64	11,691.87	13,450.57	292.00	306.00	264.00	191.00	324.00
December	1,429.29	1,606.98	2,080.48	14,253.90	25,026.42	256.60	243.00	357.00	201.00	300.00
Monthly average values	**1,431.77**	**1,721.73**	**1,566.82**	**10,252.87**	**14,204.83**	**300.00**	**271.00**	**288.00**	**215.25**	**292.00**

Source: Bank of Greece.

* As of January 2022, transactions in the special purpose Greek government Treasury bill (Law 4254/14, Article 1, subpara. C.4) are included in transactions data.

Since February 2022, in compliance with the CSDR and its provisions on preventing and addressing settlement fails, BOGS has been publishing annual reports on the number and details of the transactions that failed to settle. According to the 2023 annual report, transactions that failed to settle on the intended settlement date, mainly due to a lack of securities, accounted for 0.9% of the total value and 11.7% of the total volume of transactions. These percentages are significantly lower than those of 2022, which stood at 1.73% of the total value and 18.22% of the total volume of transactions.

4.3 THE DEMATERIALISED SECURITIES SYSTEM OF THE COMPANY "HELLENIC CENTRAL SECURITIES DEPOSITORY"

In 2023, settlement activity in the Dematerialised Securities System managed by Hellenic Central Securities Depository (ATHEXCSD) showed a significant increase, in terms of both the value of settled stock transactions and the daily number of settled transactions. More specifically, the average daily number of settled stock transactions in 2023 reached 37,066, up by 23% compared to 2022 (30,126 transactions) (see Table VI.9 and Chart VI.16). At the same time, the average daily value of settled stock transactions in 2023 increased by 50% year-on-year to a decade high of €111 million, compared with €73.9 million in 2022 (see Table VI.9 and Chart VI.16).

Table VI.9 Average daily number and value of settled transactions in the Hellenic Central Securities Depository

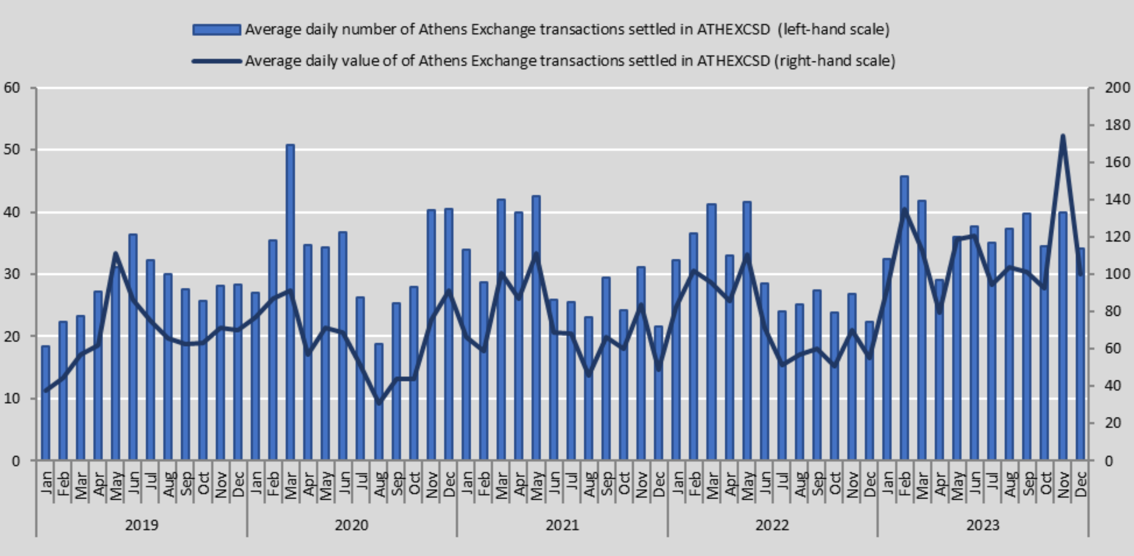
	Equities	Pref. Rights	Corporate bonds	ETFs	Government Debt	Alternative market (Stocks)	Total
Average daily number of transactions settled in ATHEXCSD							
2018	20,324	7	41	2	0	11	20,385
2019	27,383	40	64	3	0.49	32	27,523
2020	32,700	7	64	3	0.21	206	32,982
2021	29,939	56	75	2	2	312	30,386
2022	29,404	12	131	2	0	576	30,126
2023	36,172	29	166	8	0	691	37,066
Average daily cash value of transactions settled in ATHEXCSD (in thousand euro)							
2018	54,962.4	0.7	657.4	47.5	0.0	6.9	55,674.9
2019	66,273.4	23.3	959.4	44.1	39.8	20.8	67,360.8
2020	64,474.5	2.4	760.8	40.0	10.2	119.7	65,407.7
2021	70,247.6	23.5	985.6	17.0	84.7	296.8	71,655.0
2022	72,481.4	12.3	977.1	16.4	0.0	409.0	73,896.2
2023	109,501.1	17.5	888.0	85.7	2.5	543.5	111,038.2

Source: AxiaNumbers Monthly Statistical Bulletin, Hellenic Exchanges – Athens Stock Exchange.

[1] Stock market transactions are the transactions of the Athens Stock Exchange that were settled in the Dematerialised Securities System, calculated by the single count method (purchases only).

Chart VI.16 Average daily number and value of settled transactions in the Hellenic Central Securities Depository (2019-2023)

(number of transactions in thousands and value in EUR million)



Source: AxiaNumbers Monthly Statistical Bulletin, Hellenic Exchanges – Athens Stock Exchange.

In compliance with the CSDR and its provisions on measures to prevent and address settlement fails since February 2022, ATHEXCSD has been issuing annual reports on the number and details of the transactions that failed to settle. According to the 2023 annual report, transactions that could not be settled either due to lack of securities or a lack of cash were scarce, accounting for 0.08% of the total value and 0.02% of the total volume of transactions.

SPECIAL FEATURE I
AN OVERVIEW OF NATIONAL FRAMEWORKS FOR POSITIVE NEUTRAL BUFFER RATES

Evangelia Kardara

Katerina Lagaria

The immediate releasability of the countercyclical capital buffer (CCyB) and the systemic risk buffer (SyRB) in the event of an unexpected shock or turmoil is what sets them apart from other macroprudential tools. The former was introduced as part of the "Basel III" international framework,[123] whereas the latter is exclusively European. They are both laid down in the provisions of Directive 2013/36/EU (Capital Requirements Directive – CRD)[124] and have been transposed by Member States by relevant legislative acts.[125]

This special feature looks into the latest trend in terms of these two buffers, i.e. a more proactive and forward-looking use of the CCyB and, to a lesser extent, the SyRB in European Union (EU) Member States and European Economic Area (EEA) countries. In more detail, in the context of monitoring other countries' macroprudential policy measures, it was necessary to delve into the theoretical background of the positive neutral CCyB rate, as well as provide an overview of the manner in which it has been implemented in EU Member States and EEA countries. Special reference is made to the case of Italy, where the Banca d'Italia has implemented a SyRB with cyclically neutral characteristics.

1. General background

The positive neutral CCyB rate refers to a positive rate (i.e. a level above zero) of the CCyB which is activated at an early stage in the economic and financial cycle, when cyclical systemic risks are neither elevated nor subdued, i.e. in a standard risk environment. This macroprudential tool enables institutions to absorb losses and maintain a smooth flow of credit to the real economy during a period of financial turmoil (which may ensue from a period of excessive credit growth).[126] A cyclically neutral activation of the CCyB ensures there is sufficient capital headroom in a standard risk environment, i.e. prior to the emergence of systemic risks associated with periods of excessive credit growth. In particular, the activation of a (core) SyRB under standard conditions may be in order in the event of shocks which are completely unexpected and are not related to the phase of the economic and financial cycle (e.g. a global health crisis like the COVID-19 pandemic).

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[123] The "Basel III" international framework has been implemented in the EU by means of the provisions of Regulation (EU) No 575/2013 (Capital Requirements Regulation – CRR), which have direct effect, and Directive 2013/36/EU (Capital Requirements Directive – CRD IV), which has been transposed into Member States' national legislations. It was adopted in 2010 by the Basel Committee on Banking Supervision (BCBS) and lays down international regulatory standards on banks' capital adequacy and liquidity. It is a continuously evolving framework of minimum capital requirements aiming at strengthening the resilience of credit institutions around the globe. In particular, in order to address systemic risks relating to the banking sector, it has introduced three innovative macroprudential tools, the capital conservation buffer (CCoB), the CCyB and the capital surcharge for global systemically important banks (G-SIBs).

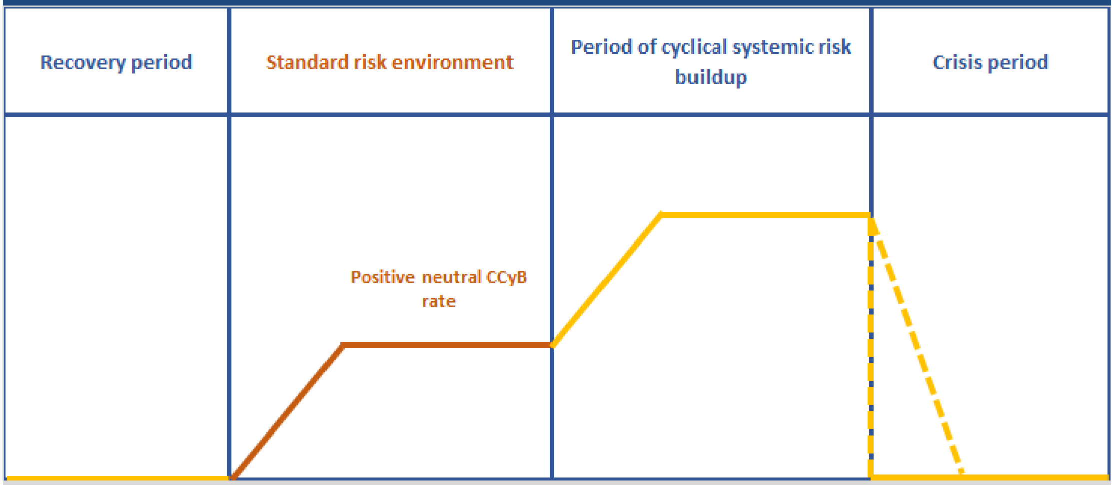
[124] See the provisions of Articles 130, 136-139 and Articles 133-134 of Directive 2013/36/EU on the CCyB and the SyRB respectively.

[125] In Greece, they are set out in the provisions of Chapter 6 "Capital buffers and other macroprudential policy measures" of Law 4261/2014.

[126] Periods of credit growth have often been associated with the buildup of systemic risks in the economy, see BCBS, Guidance for national authorities operating the countercyclical capital buffer.

As shown in Chart 1, the activation and gradual increase of a CCyB commences during the phase of the economic and financial cycle where systemic risks are at a standard level (i.e. in a standard risk environment). In the following phase of the cycle, if there is a buildup of cyclical systemic risks, the CCyB rate may be raised in order to ensure a sufficient level of capital buffers, which may be immediately released if there is an unexpected financial or economic shock. It should be noted that the CCyB rate may be either partially (gradually) or fully released, depending on the severity of the shock.

Chart 1 – Stylised representation of a positive neutral CCyB rate framework



Source: Bank of Greece.

Building up a CCyB at an early stage of the economic and financial cycle is important for the following reasons:[127]

- Systemic risks and financial imbalances may not be identified in time on the basis of available statistical data and/or the type of shock may be completely new and, as a result, not included in the existing time series of econometric data used in order to select and calibrate macroprudential tools.
- Under the provisions of Directive 2013/36/EU,[128] the CCyB rate is activated or increased with an implementation time lag, i.e. twelve months following the publication of the relevant decision.
- Early activation and gradual buildup make it easier for banks to adjust to a higher capital requirement, as they can raise the required funds without resorting to drastic measures or reducing their lending to the real economy.

Given that the "Basel III" [129] framework neither provides for the use of a positive neutral CCyB rate, nor rules it out, the Basel Committee on Banking Supervision (BCBS) publicly declared[130] its explicit support for the cyclically neutral approach adopted in several jurisdictions, pointing out the benefits from its use. However, it acknowledged that it is not a fit-for-all approach. Finally, it stated that it will continue to monitor the effectiveness of macroprudential tools included in the

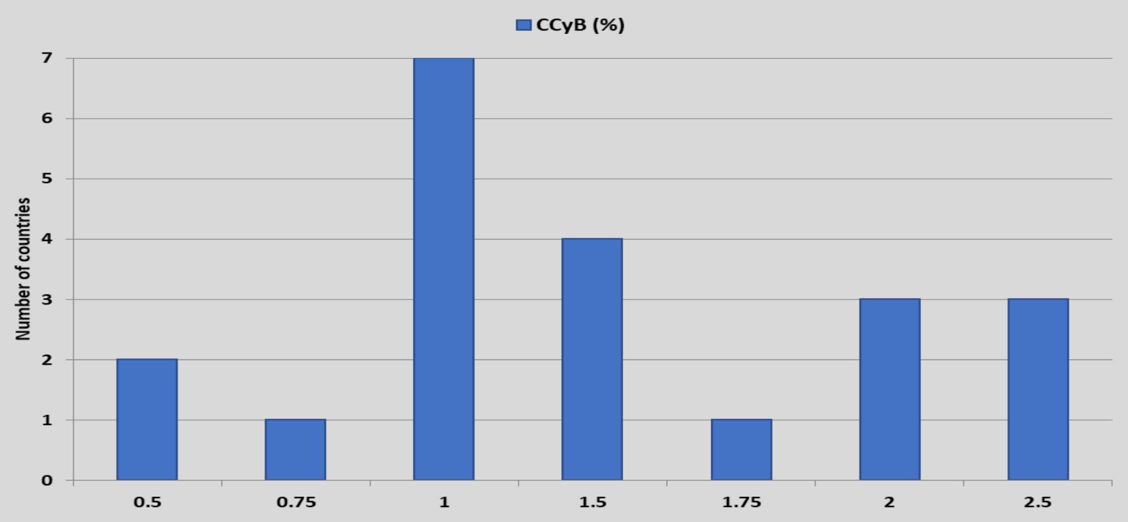
[127] See Sweden's Finansinspektionen, Memorandum: Finansinspektionen's approach to setting the countercyclical capital buffer.
[128] Article 136(5).
[129] See Basel III: A global regulatory framework for more resilient banks and banking systems - revised version June 2011.
[130] See BCBS, Newsletter on positive cycle-neutral countercyclical capital buffer rates.

"Basel III" framework in terms of whether they mitigate systemic risks, particularly the likelihood and the impact of financial crises.

2. Overview of national frameworks for positive neutral CCyB rates in EU Member States and EEA countries

Most EEA countries have activated the CCyB, and a general upward trend in CCyB levels has been visible over the past two years (in the wake of the COVID-19 pandemic). In more detail, to this day[131] 21 EEA countries have announced or already implemented a positive CCyB rate ranging from 0.5% to 2.5%.[132] More specifically, 11 EEA countries have announced or already implemented CCyB rates above 1%, six of which at levels between 2% and 2.5%, whereas only three countries have CCyB rates lower than 1% (see Chart 2).

Chart 2 – Breakdown of CCyB rates by number of countries



Source: Bank of Greece.

Three countries[133] restored their CCyB rates to pre-pandemic levels, whereas 15[134] countries raised their CCyB rates to levels above those applicable prior to the pandemic. The only country that has kept its CCyB rate unchanged at 0.5% since end-2019, i.e. in the course of the pandemic and in the post-pandemic period, is Luxembourg. Also, two countries[135] raised their CCyB rates, albeit at lower-than-pre-pandemic levels.

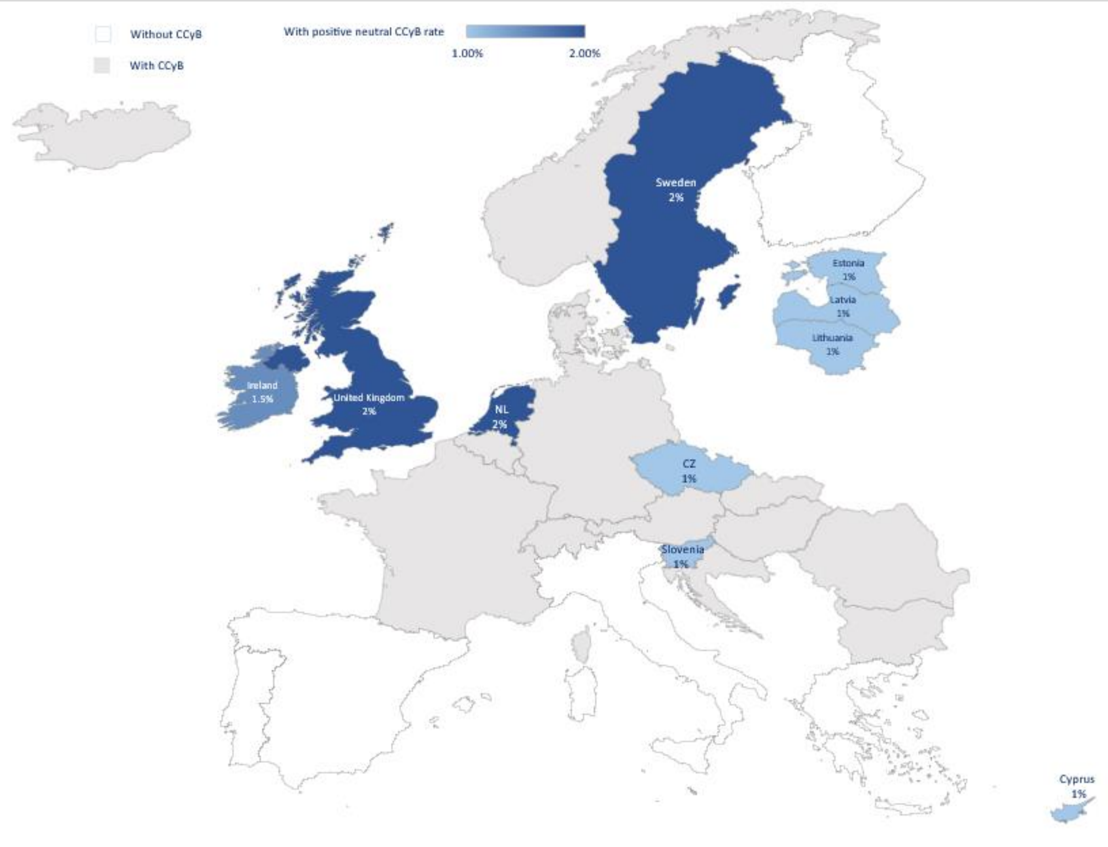
As regards the rationale behind these macroprudential measures put forward by national designated authorities, ten out of the 21 countries with positive neutral CCyB rates have activated or increased their CCyB rates in order to address the buildup of cyclical systemic risks, such as e.g. expanding credit growth, rising real estate prices or mounting private debt. However, in all other countries the reason behind CCyB activation was not heightened cyclical systemic risks, but a

[131] Cut-off date for data included in this special feature is 28.3.2024.
[132] Belgium (1%), Bulgaria (2%), Croatia (1.5%), Cyprus (1%), Czech Republic (1.75%), Denmark (2.5%), Estonia (1.5%), France (1%), Germany (0.75%), Hungary (0.5%), Iceland (2.5%), Ireland (1.5%), Latvia (1%), Lithuania (1%), Luxembourg (0.5%), Netherlands (2%), Norway (2.5%), Romania (1%), Slovakia (1.5%), Slovenia (1%), Sweden (2%). See Countercyclical capital buffer rates.
[133] Czech Republic, Lithuania, and Norway.
[134] Belgium, Bulgaria, Croatia, Cyprus, Denmark, Estonia, France, Germany, Hungary, Iceland, Ireland, Latvia, Netherlands, Romania, Slovenia.
[135] Slovenia and Sweden.

decision to proactively use the CCyB to create a buffer at an early (neutral) stage of the economic and financial cycle when cyclical systemic risks are neither elevated nor subdued.

In 2024, nine EEA countries have announced or already implemented a positive neutral CCyB rate (see Chart 3). More specifically, Lithuania and the Czech Republic activated a positive neutral CCyB rate prior to the pandemic, in 2017 and 2019 respectively. In the post-pandemic period, Estonia and Sweden announced positive neutral CCyB rates in 2021, Ireland, Cyprus and the Netherlands in 2022, and finally Latvia and Slovenia in 2023. All these countries' CCyB rates range from 1% to 2%. It is quite common for the positive neutral CCyB rate to be gradually built up (phased in) over the course of a period of 1-2 years.

Chart 3 – Countries with positive neutral CCyB rates



Source: Bank of Greece.

Looking at the similarities of national positive neutral CCyB frameworks, most countries have been following the same categorisation of periods for buffer activation and release, such as those depicted in Chart 1. Also, despite the fact that the definition of the standard risk environment may differ slightly depending on the country, almost all countries take into account macroeconomic developments, credit market developments, as well as banking sector conditions.[136] All countries with a positive neutral CCyB activated it following an assessment of their respective banking sectors in terms of capital adequacy and profitability, in order to ascertain that banks have adequate and sustainable capital levels.

[136] See ECB, A positive neutral rate for the countercyclical capital buffer – state of play in the banking union.

The heterogeneity of positive neutral CCyB frameworks mainly lies in the calibration methods used by competent or designated authorities, which result in significant discrepancies in the CCyB rates applicable in each country. Calibration methods are based on the analysis of statistical data on losses, as well as on stress tests, impact assessments of buffer releases during the pandemic, as well as expert judgement.

Estonia and the Czech Republic have activated positive neutral CCyB rates of 1%, but are the only countries that raised them further to 1.5% and 2%[137] respectively, in recognition of the buildup of cyclical systemic risks and of the need to maintain higher capital buffers in order to have sufficient macroprudential space.

It is worth mentioning that the positive neutral CCyB rate may be reviewed over time as more experience is gained. A case in point is Cyprus, which raised its positive neutral CCyB rate from 0.5% to 1%. In addition, Estonia explicitly mentions that its positive neutral CCyB rate will be reviewed every 2-3 years.

Special mention must be made to the diversified use of the CCyB in Denmark and Norway. These two countries follow an early buildup approach, which is similar to the positive neutral CCyB rate. The difference is that the designated authorities in these countries have not set an explicit target for the level of the positive neutral CCyB rate in order for this to be set apart from the applicable CCyB rate.

Outside of the EEA, several other countries have also adopted a positive neutral CCyB framework, including the UK, which was the first country to have adopted a cyclically neutral segment for the CCyB in 2016.[138] The positive neutral CCyB rate was initially set at 1%, but was subsequently raised to 2% in 2019. The Bank of England justified this upward revision by the need to ensure that the capital requirements framework is better suited to address macroeconomic developments and further strengthen the resilience of the financial system.

Two noteworthy cases of non-European countries with positive neutral CCyB rates are Australia and Canada. Australia set its positive neutral CCyB rate at 1% of risk-weighted assets. This activation was part of a broader review of its capital requirements framework in order to provide more flexibility to the macroprudential authority throughout the cycle, drawing on the pandemic experience. Finally, Canada has set a capital buffer rate, similar to a positive neutral CCyB rate, of up to 4% of risk-weighted assets, which is reviewed biannually and concerns its 6 largest banks.[139] This buffer is aimed at protecting banks against external systemic vulnerabilities such as pandemics, conflicts or political unrest.

3. Introduction of a systemic risk buffer with cyclically neutral characteristics in Italy

On 8 March 2024 the Banca d'Italia launched a public consultation on its intention to activate a 1% sectoral systemic risk buffer for all credit and counterparty credit risk exposures in Italy to be phased in as follows: 0.5% on 31 December 2024 and 0.5% on 30 June 2025.

The introduction of this macroprudential measure follows a clearly positive neutral approach, as shown in the relevant consultation document. It is pointed out that building a macroprudential

[137] The Czech Republic revised its CCyB rate downwards to 1.75%. This rate entered into application on 1 April 2024.
[138] See Bank of England, Financial Stability Report, December 2021.
[139] Canada has named this buffer the Domestic stability buffer.

capital buffer at the current juncture will mitigate the risk of procyclicality. Italian banks' profitability stands at a historical high (2023: €32 billion), despite weak credit activity. As a result, the Banca d'Italia expects a negligible impact on the real economy (potentially due to slower growth rates), but at the same time substantial benefits from the immediate releasability of the SyRB if a serious shock were to hit the Italian economy.

Special mention is made to the flexibility of this particular macroprudential tool, which will be reviewed on a regular basis (every 2 years). As stipulated in the relevant European legislative framework, which has been transposed into Italian law, the SyRB may be used to address systemic risks not covered by other capital buffers. In this vein, the SyRB is particularly suitable for mitigating the adverse effects from unexpected events which may not be related to the economic and financial cycle (e.g. a pandemic).

Following the entry into force of the Italian SyRB, only three EEA countries, including Greece, have yet to implement releasable buffers, i.e. a CCyB or a general SyRB.[140] In Greece, the CCyB was set for the first time in the first quarter of 2016 and maintained at 0% ever since.[141]

[140] Greece, Spain and Portugal. The latter has activated a 4% sectoral SyRB on retail exposures, which will enter into application on 1.10.2024.
[141] For a more detailed presentation of the use of the CCyB in Greece, see Chapter IV "Macroprudential Policy".

SPECIAL FEATURE II
THE USE OF NEW TECHNOLOGY IN THE SETTLEMENT OF TRANSACTIONS

Daniela Marcelli

The emergence and ongoing development of new technologies in the financial system, especially of distributed ledger technology (DLT), can bring about significant changes, among other things, to the settlement of financial transactions.

Clearing and settlement processes play a critical role in the economy as they ensure the efficient and secure transfer of financial assets between buyers and sellers. Moreover, they are the critical underpinnings for the conduct of monetary policy and the maintenance of financial stability. These processes include transaction confirmation, matching and the final transfer of securities and funds.

The existing "traditional" procedure for the settlement of transactions involves various parties and infrastructures (such as intermediaries, custodians, payment systems, central securities depositories, central counterparties, etc.) and is based on a centralised technical infrastructure where market participants are connected to a central database and transactions between them are cleared and settled centrally. Consequently, there is a need for messaging instructions, matching, reconciliation and clearing until the final settlement of transactions, all coordinated centrally.

In recent years, an increasing number of financial market participants are exploring the use of DLT technology or testing and experimenting with this technology[142] in order to improve existing operations and processes in the financial sector and to explore new business opportunities.

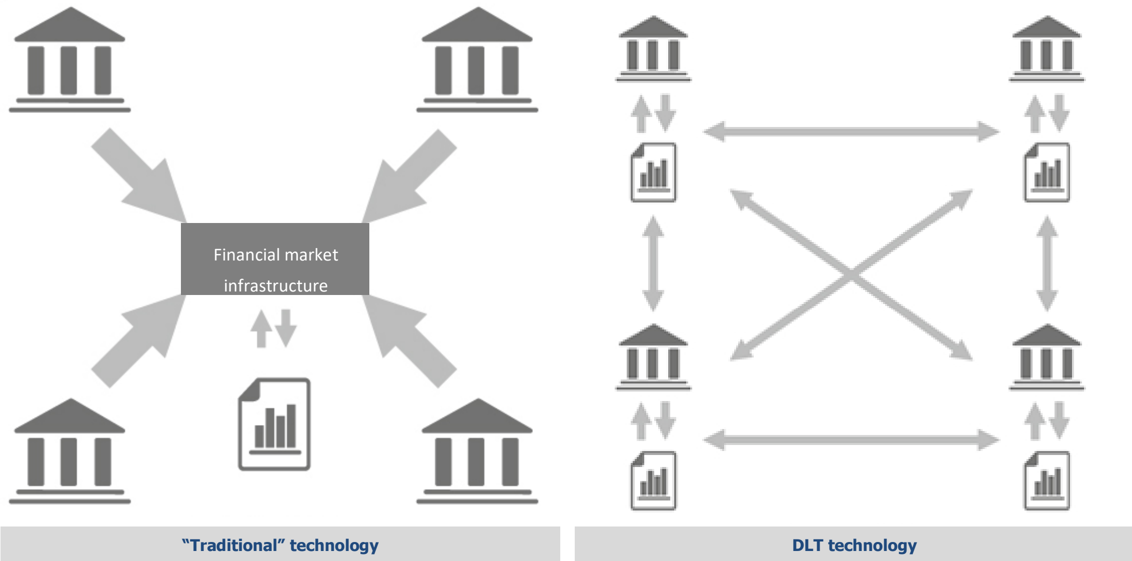
This technology allows participants in a DLT network to register assets (of any kind, not only financial ones) in the form of digital tokens. These tokens can be exchanged among the participants without the need for a trusted third party to manage the accounts. Participants in a DLT platform can execute transactions without the need for intermediaries, validate data and update a common "ledger" (like a common "book", according to the terminology used in traditional technology) without relying on central coordination.

In more detail, a digital token is a unit of digital information, which can take the form of a digital representation of a real asset (tokenised asset), such as a security registered in a central securities depository, or can be the asset itself (e.g. a security) issued directly as a digital token on the DLT platform (native asset).

On these platforms, transactions can be executed using smart contracts technology. Smart contracts are self-executing applications (contracts) – the terms of which are embedded in a code – and can trigger a process when certain pre-defined conditions are met.

[142] See: European Banking Authority (2023), "Box 10: Digitalisation trends at banks", Risk Assessment Report, December; and Bank for International Settlements, "Blueprint for the future monetary system: improving the old, enabling the new", BIS Annual Economic Report 2023.

Chart 1 Schematic illustration of different technologies



Potential benefits and challenges

The main potential benefits from the use of DLT technology stem from the distributed nature of this technology, which allows participants in a DLT platform the shared operation of the platform (without the need for intermediaries and central coordination) and direct access to data and transaction history, as well as the possibility of automated processes through smart contracts.[143]

These features can lead, among other things, to a) simpler and more seamless trade settlement processes; b) minimisation of file reconciliation (in central securities depositories and intermediaries) and transaction confirmation processes; c) increased transparency and improved ability to control transactions; d) lower transaction costs due to reduced reliance on intermediaries; and e) shorter settlement cycles.[144]

In addition, the use of DLT technology can bring about the development of new applications in areas of the financial system that present inefficiencies and a need to improve processes (such as cross-border payments), can enhance the efficiency and resilience of trading and settlement of transactions in financial instruments not listed on organised markets and not settled in financial infrastructures, as well as facilitate access to trading for retail investors. Finally, banks are exploring innovative ways of transferring funds/deposits in the form of digital tokens (tokenised deposits) between customers of the same bank or group of banks.

However, there are also challenges that can arise from the use of DLT technology. Its application to financial processes (trading, settlement, etc.) is still at an early stage and there is considerable uncertainty regarding the future landscape of potential DLT networks, to be used for payments and settlement of financial instruments. The development of multiple DLT networks, as well as their coexistence with existing financial infrastructures, may lead to market fragmentation. The

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[143] See "Central bank money settlement of wholesale transactions in the face of technological innovation", *ECB Economic Bulletin*, Issue 8/2023.

[144] See Bank for International Settlements, "On the future of securities settlement", *BIS Quarterly Review*, March 2020.

use of DLT technology can shorten settlement cycles, but this could increase overall liquidity requirements making it more challenging to find the cash and/or securities needed for settlement.

Additionally, the legal and operational risks associated with the trading and settlement of securities (or other financial instruments) in the form of a digital token must be carefully analysed. Finally, it should be noted that some of the benefits mentioned above can also be achieved with infrastructures using traditional technologies, and that the cost of switching from one technology to another can entail a significant burden for market participants.

Eurosystem exploratory work

In an effort to contribute to digital innovation while ensuring the role of central bank money as an anchor of stability for the financial system, the Eurosystem is exploring initiatives by various financial market stakeholders related to the use of new technologies, in particular DLT technology, for payments and securities-related transactions settlement. The aim is to gain further insights into how interaction/interoperability could be facilitated between infrastructures that are based on "traditional" technology and those using DLT technology for the settlement of transactions in central bank money. A key objective of this exploratory work is to find optimal ways in which transactions executed on DLT platforms can be settled in central bank money, because alternatives such as private money or cryptocurrencies cannot provide the same level of security. The ability to settle transactions in central bank money could facilitate innovation, as it may be a response to some market participants who are reluctant to adopt DLT technology in the absence of a suitable solution for settlement in central bank money.

The Eurosystem's exploratory work includes experiments, in which mock transactions will be settled within a test environment, and trials, where a limited number of real transactions will be settled. The trials and experiments will be conducted between May and November 2024 with three Eurosystem solutions that allow transactions on DLT platforms to be settled in central bank money in the TARGET[145] system managed by the Eurosystem.

In December 2023, the European Central Bank published on its website the Eurosystem's invitation[146] to market participants to explore new technologies for the settlement of transactions in central bank money. Participation takes place in two waves with corresponding application deadlines on 31.1.2024 and 30.4.2024. Experiments and trials to be conducted between May and November 2024 are expected to help determine how and in which form central bank money settlement could be offered in a scenario where DLT technology is widely adopted.

However, the implications of a widespread adoption of DLT technology on the market structure, including the risk of market fragmentation, as well as other challenges such as those described above, require further analysis and investigation.

[145] See https://www.bankofgreece.gr/en/main-tasks/payment-systems-and-settlements/the-target-system

[146] See ECB, "Call for expression of interest: exploring new technologies for wholesale central bank money settlement".

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