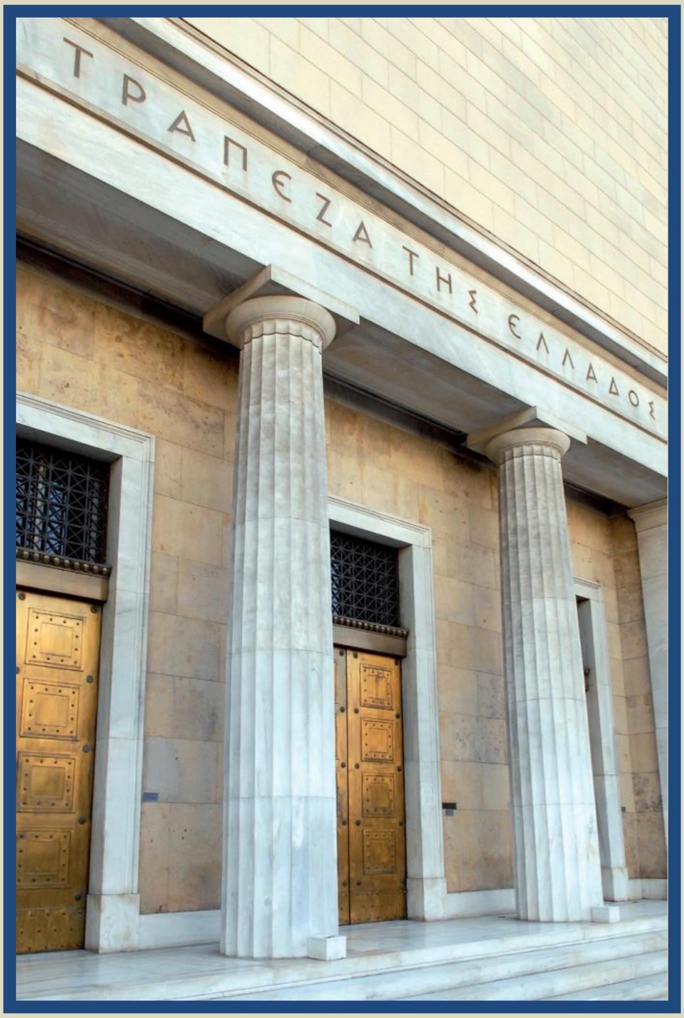
FINANCIAL STABILITY REVIEW



MAY
2022

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TABLE OF CONTENTS

I. EXECUTIVE SUMMARY

Economic activity in Greece significantly recovered in 2021, as real GDP grew by 8.3%, marking one of the best performances in the euro area. This rebound greatly offset the 2020 GDP contraction of 9% and confirmed expectations of a V-shaped recovery. Coupled with expectations of continued growth in 2022 and a positive long-term economic outlook, this development has contributed to the recent upgrades of Greece's credit rating by Standard and Poor's (S&P) and DBRS Morningstar,[1] thus bringing Greek government bonds to just one notch short of investment grade. Attaining the latter will mark the end of a cycle which began with the onset of Greece's sovereign debt crisis and, at the same time, will be a strong vote of confidence in Greece and help attract foreign investment.

Nonetheless, the Russian invasion of Ukraine has altered economic conditions, weakening short-term growth prospects. Inflationary pressures mainly fuelled by the energy crisis, compounded by the uncertainty surrounding the duration of the war and its impact on the real economy, are acting as a deterrent to economic decisions on the part of businesses and households.

The liquidity and asset quality of the Greek financial system improved in the course of 2021, underpinning the financing of the real economy. The continuation of the European Central Bank's (ECB) accommodative monetary policy measures ensured Greek banks' uninterrupted access to low-cost funding. In addition, the recent ECB Governing Council decision[2] to continue to accept Greek government bonds (GGBs) as eligible collateral in its monetary policy operations (coupled with their acceptance in reinvestments under the Pandemic Emergency Purchase Programme – PEPP), despite the gradual lifting of pandemic-related support measures, creates favourable financing conditions over the medium term.

Banks accelerated their balance sheet clean-up, achieving a substantial reduction in the stock of non-performing loans (NPLs). However, the persistently high legacy stock of NPLs remains a significant challenge, along with the potential emergence of new NPLs after the full withdrawal of pandemic-related support measures. The repercussions of the war constitute an additional source of uncertainty surrounding banks' asset quality, as a result of falling household disposable income and rising business operating costs.

In this context, banks' capital adequacy, which is directly affected by balance sheet clean-up and the phasing in of International Financial Reporting Standard 9 (IFRS 9), in conjunction with the low quality of regulatory capital, due to the high share of Deferred Tax Credits (DTCs), and structurally low operating profitability, is posing challenges to Greek banks. At the same time, the risk of a further strengthening of the sovereign-bank nexus is another area of concern. In this light, banks' initiatives to boost their capital base are a welcome step towards mitigating emerging pressures.

Increased financing of the real economy is a prerequisite for a sustained economic recovery and calls for a strong banking sector. Hence, efforts to address the above challenges must be stepped up in order to considerably boost the provision of credit to the real economy. In this light, the use of the Recovery and Resilience Facility (RRF) creates a positive outlook and can play a significant role in supporting financing, with a view to mitigating the economic impact of the COVID-19

[1] As of 30.4.2022, Greece's credit ratings are: BB+ (S&P), BBH (DBRS, equivalent to BB+), BB (Fitch), and BA3 (Moody's).

[2] https://www.ecb.europa.eu/press/pr/date/2022/html/ecb.pr220324~8b7f2ff5ea.en.html.

pandemic and rendering European economies more sustainable, more resilient and better prepared to address the challenges and the opportunities arising from the green and digital transition.

This brings into sharper focus the importance of an appropriate macroprudential policy to avoid the build-up of systemic risks, taking into account prevailing macroreconomic and financial conditions. Implementing appropriate macroprudential policy measures, mainly in the form of capital buffers over the medium term, will help create sufficient macroprudential space that will positively affect financial stability.

This Financial Stability Review covers the entire financial system, focusing on an analysis of banking developments, given the particular relevance of the banking sector for the Greek economy, and includes several Special Features.

Special Feature I analyses trends in deposits during the COVID-19 pandemic by type of holder (i.e. households and businesses) and size of account balance.

Special Feature II discusses the changes introduced by the new bankruptcy code (Law 4738/2020), which overhauls the legal framework for addressing insolvency, collective satisfaction of creditors and discharge of debt for any person that undertakes an economic activity by providing economic actors with a second chance.

Special Feature III presents the main proposals formulated by the European Systemic Risk Board (ESRB), the European Banking Authority (EBA) and the ECB in the context of the review of the macroprudential policy framework of the European Union (EU), aimed at improving its operation and efficiency over the medium term.

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Liquidity conditions in the Greek banking sector continued to improve in 2021 on the back of higher private sector deposits and the Eurosystem's accomodative monetary policy, which maintained favourable financing conditions. Furthermore, improved asset quality facilitated access to money and capital markets. The upward trend in deposits continued throughout 2021, despite lower deposit rates, with the balance of business and household deposits reaching a ten-year high of €180 billion in December 2021.[3] The surge in deposits is associated with fiscal support measures, while real income was boosted by the dynamic economic rebound in 2021, as shown by the substantially higher number of paid employees (mainly in retail and tourism). Meanwhile, banks' liquidity improved, benefiting from their participation in the Eurosystem's Targeted Longer-Term Refinancing Operations (TLTRO III) and the acceptance of Greek government bonds as eligible collateral in Eurosystem refinancing operations, as well as from recent bond issuance on international markets. It should be pointed out that Greek banks' financing by the Eurosystem rose to €50.8 billion in December 2021, compared with €41.2 billion in December 2020.

In a similar vein, banks' asset quality improved further in 2021. The reduction in NPLs accelerated, bringing the NPL ratio (NPLs to total loans) down to 12.8% (from 30.1% at end-2020) and the total NPL stock to €18.4 billion, down by 61% or €28.8 billion (from €47.2 billion at end-2020).[4] In this respect, it should be pointed out that two significant banks achieved their opera-

[3] In March 2022, deposits declined slightly month-on-month.
[4] On-balance-sheet items.

tional targets of single-digit NPL ratios by end-2021, and given ongoing NPL management actions, the entire Greek banking sector should achieve single-digit NPL ratios by end-2022. Overall, NPLs have dropped by 82.8% or €88.8 billion from their March 2016 peak.

The NPL stock reduction in 2021 was mainly driven by loan securitisations – which, in the case of three significant banks, were accompanied by hive-downs – and direct loan sale agreements.[5] Such transactions made use of the Hellenic Asset Protection Scheme (HAPS) providing Greek State guarantees to senior tranches of NPL securitisations. This scheme was extended in 2021 by another 18 months,[6] thus offering the possibility of additional Greek State guarantees of up to €12 billion.[7] Nonetheless, the NPL ratio of the Greek banking sector remains elevated, well above the EU average (2.0% in December 2021[8]). As a result, banks must step up efforts towards reducing the NPL stock, particularly against the background of new emerging challenges.

The Russian invasion of Ukraine and the ensuing energy crisis have exacerbated inflationary pressures, negatively affecting household disposable income and business operating costs. Consequently, given the high degree of uncertainty surrounding the outcome and duration of the war, and the expected full withdrawal of pandemic-related support measures to borrowers in the course of 2022,[9] a new wave of NPLs cannot be ruled out, especially if the geopolitical crisis is prolonged or escalates further. This renders the swift and full recognition of any new NPLs on banks' balance sheets an immediate priority for improving the resilience of the banking sector.

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Banking sector resilience indicators declined in 2021, mainly as a result of NPL reduction strategies. More specifically, Greek banks posted elevated after-tax losses in 2021, amounting to €4.8 billion, compared with losses of €2.1 billion in 2020, mainly as a result of losses on NPL portfolio sales. Operating income fell by 10.4% year-on-year, on account of reduced net interest income and income from financial operations. However, net fee and commission income and other income increased. Operating expenses picked up marginally, negatively impacted by one-off expenditure, such as provisioning for voluntary exit schemes, hive downs and impairment of goodwill and other intangible assets. Overall, it should be noted that one-offs account for a substantial share of banks' profitability in 2021.

Accelerated balance sheet clean-up by means of NPL portfolio sales resulted in a higher cost of credit risk. In detail, loan-loss provisions totalled €8.5 billion in 2021 (compared with €5.6 billion in 2020), of which €7.2 billion reflect NPL portfolio sales by two significant banks.

Greek banking groups' capital adequacy declined in 2021 mainly as a result of losses on NPL portfolio sales and the phasing in of IFRS 9, which more than offset the positive impact of capital increases in the course of 2021. In particular, the Common Equity Tier 1 (CET1) ratio on a consolidated basis fell to 12.6% in December 2021 from 15% in December 2020, and the Total Capital Ratio (TCR) to 15.2% from 16.6%, respectively. These ratios are well below the average for credit institutions supervised directly by the ECB in the Banking Union (CET1 ratio 15.5% and

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[5] Securitisation transactions are presented in detail in Box V.1 Securitisations as a tool to effectively manage banks' non-performing loans (NPLs), which discusses securitisations as a tool for NPL reduction.

[6] The scheme was originally due to expire in April 2021.

[7] The initial amount approved for the HAPS was €12 billion, while as at end-2021 guarantees granted stood at €18.7 billion.

[8] Source: EBA, *Risk Dashboard Q4 2021*.

[9] According to December 2021 data on significant institutions, loans amounting to €9.4 billion were still under some sort of protection or payment facilitation in the context of pandemic-related borrower support measures (e.g. "Gefyra" programme, banks' step-up programmes).

TCR 19.5% in December 2021). Taking into account the fully phased-in impact of IFRS 9, the fully-loaded CET1 ratio and TCR of Greek banking groups stood at 10.7% and 13.4%, respectively.

Furthermore, the quality of Greek banks' prudential own funds deteriorated further; in 2021, deferred tax credits (DTCs) amounted to €14.4 billion, i.e. 63% of total prudential own funds (up from 53% in 2020). This share accounts for 73% of total prudential own funds when taking into account a fully phased-in impact of IFRS 9 (from 63% in 2020). Moreover, deferred tax assets (DTAs) of €1.7 billion are included in Greek banking groups' prudential own funds (on a fully phased IFRS 9 basis), accounting for 8% of their total prudential own funds. It should be pointed out that, although DTAs of €5.1 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.

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The Bank of Greece, in its capacity as macroprudential authority, assesses developments in the financial system and identifies potential systemic risks. In more detail, it assesses the intensity of cyclical systemic risk and the appropriateness of the Countercyclical Capital Buffer (CCyB) rate, if necessary. In the absence of excessive credit growth signals, this rate was maintained at 0%, i.e. the minimum level, in 2021 and the first two quarters of 2022. Also, the Bank of Greece identified Other Systemically Important Institutions (O-SIIs) in Greece for 2021 in accordance with the relevant EBA guidelines and set the O-SII buffer rate at 0.75% for 2022.

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In 2021, the operating environment of the Greek insurance market did not change substantially. However, the low interest rate environment and the impact of the COVID-19 pandemic accelerated board decisions to proceed with mergers and acquisitions. The risks for insurance undertakings, as reflected in solvency capital requirements, have not changed markedly vis-à-vis 2020. Nonetheless, many insurance undertakings are reviewing their business model and investment reallocation framework, in order to address existing and emerging risks. In this vein, maintaining portfolio sustainability hinges on a reassessment of the macroeconomic environment and climate change impact management.

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 successful processing of transactions. As regards electronic means of payment, their use remained elevated in 2021, in terms of both transaction volume and value.

Currently, 23 credit servicing firms (CSFs) operate in Greece; these firms manage, either for the account of credit acquiring firms[10] or for the account of credit institutions, exposures worth €123 billion, including non-accrued interest. The bulk of these exposures (84%) are in arrears.

Despite an increase in liquidations and debt repayments in the second half of 2021, it is important to monitor the evolution of loans managed by credit servicing firms (CSFs), in order to assess the efficiency of their management. Particularly as regards non-viable borrowers, CSFs should effectively make the most of idle collateral, which should be redirected to new productive uses; on the other hand, viable borrowers should be offered effective restructuring solutions ensuring financial

[10] Article 1 Law 4354/2015.

soundness and allowing for the reintegration of their loans, under certain conditions, into banks' balance sheets.

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The Greek economy is expected to continue to grow in 2022, albeit at a slower pace. Heightened economic uncertainty, on the back of a high and persistent inflation as well as Russia's invasion of Ukraine, is denting the expectations of economic agents and negatively affecting their decisions. Consumption, investment and exports will continue to have a positive contribution, although the adverse impact of inflation on real household disposable income will contain private consumption growth. Rising production costs and lower consumption may negatively impact business profitability and, amid generalised uncertainty, lead to a postponement or even cancellation of investment decisions.

On the upside, the use of the European recovery instrument "Next Generation EU" (NGEU) in 2022 is expected to provide funding for major investment projects and structural reforms, thus positively contributing to sustained economic growth.

The banking sector is called upon to adapt to a highly volatile environment in order to ensure a smooth flow of credit to the real economy. There is no room for complacency as banks need to address the following challenges efficiently:

First of all, the high legacy stock of NPLs. Despite the marked reduction in the NPL stock of the Greek banking sector, the NPL ratio remains elevated (December 2021: 12.8%) and a multiple of the average of EU banks (December 2021: 2%[11]). By achieving their operational targets, banks will bring this ratio to single-digit levels by end-2022 and thus be on track towards the successful conclusion of a long-standing effort. However, in light of geopolitical tensions triggered by Russia's invasion of Ukraine and the ongoing energy crisis, which have fuelled widespread inflationary pressures across products and services, there will inevitably be indirect effects on asset quality in the Greek banking sector. The final impact on the financial situation of households and businesses cannot be accurately assessed at the current stage, but is clearly an area of concern.

Second, low operating profitability. Increased operating profitability and the ensuing internal capital generation capacity are prerequisites not only for higher capital adequacy, but also for the overall bolstering of the banking sector. Given the impact on banks' profitability from their ongoing balance sheet clean-up efforts, it is clear that higher profitability is inextricably linked with stronger financing. The phasing out of the ECB's emergency monetary policy measures to contain the impact of the COVID-19 pandemic will push up interest expenses, whereas further pressure will be exerted on banks as a result of increased debt issuance needs (Additional Tier 1, Tier 2 and main debt) to meet prudential capital requirements, including minimum requirements for prudential own funds and eligible liabilities (MREL). Banks' actions to cut operating costs, including by stepping up digitalisation, will mitigate the final impact on operating results.

Third, banks' capital adequacy levels coupled with the low quality of their prudential own funds. Banks' capital adequacy remains at satisfactory levels, but faces significant challenges associated with the costs of implementing NPL reduction strategies and sufficient provisioning for credit risk arising from any new NPLs that may emerge, as well as the phasing in of IFRS 9

[11] Source: EBA, *Risk Dashboard Q4 2021*, available at: https://www.eba.europa.eu/sites/default/documents/files/document_library/Risk Analysis and Data/Risk dashboard/Q4 2021/1029360/EBA Dashboard - Q4 2021 for publication.pdf.

and the need to strengthen their intermediation function by extending more credit to the real economy. Against this background, the already significant share of DTCs will increase further.

Regarding the need to extend more credit to the real economy, it should be noted that banks have long supported the Greek economy, even in crisis times, by making the most of any support measures, in the form of both government recapitalisations and state guarantees. In this vein, NGEU funding, along with additional financing on the part of banks, will help support the economy to achieve sustainable growth over the long term. Overall financing will greatly depend on the availability of viable investment projects.

Consequently, banks should accelerate their business plans to provide credit to healthy enterprises, concurrently with the use of NGEU funds, and households, by applying prudent credit standards. At the same time, they have to further develop alternative income sources in the context of a more efficient management of savings. Accelerating banks' digitalisation would be a welcome step in this direction. Developing sustainable business models that allow satisfactory operating profitability will improve the banking sector's ability to cushion the impact of potential (endogenous or exogenous) shocks and will help safeguard financial stability.

II. MACROECONOMIC ENVIRONMENT, MONEY AND CAPITAL MARKETS

1. ECONOMIC ACTIVITY: DEVELOPMENTS AND PROSPECTS

Economic activity in Greece recovered vigorously in 2021, as coronavirus containment measures were lifted and the economy returned to normalcy. The recovery is mainly underpinned by higher private consumption, increased disposable income, higher gross fixed capital formation and stronger net exports. On the supply side, the tourism sector recouped most of its 2020 losses, while industry and construction also contributed significantly to the recovery. Business expectations remained elevated throughout the year, although the consumer confidence indicator deteriorated in the second half of 2021, possibly owing to the uncertainty of many households about the evolution of the pandemic and to inflationary pressures. The Purchasing Managers' Index (PMI) improved significantly, indicating high growth rates in manufacturing. Employment rates rose, particularly over the second half of 2021, whereas headline inflation posted positive average annual rates, mainly on the back of rising energy, raw material and food prices worldwide.

Table II.1 GDP and its main components (2018-Q4 2021)

Annual percentage changes (at constant market prices of 2015, seasonally adjusted data)

	2018	2019	2020	2021	Q1 2021	Q2 2021	Q3 2021	Q4 2021
Private consumption	1.7	1.8	-7.9	7.8	-4.5	14.6	10.8	9.7
Public consumption	-3.5	1.7	2.6	3.7	5.0	5.9	5.6	-0.8
Gross fixed capital formation	-4.3	-3.3	-0.3	19.6	14.6	19.3	19.3	24.1
Residential investment	22.5	16.9	14.6	26.5	28.7	11.6	70.2	5.9
Other construction	-15.9	-21.9	0.2	4.8	8.8	4.8	7.4	-7.7
Equipment	-0.4	3.0	-4.8	34.0	17.5	29.0	23.1	69.3
Domestic demand	**1.4**	**1.1**	**-3.5**	**7.1**	**-0.6**	**13.2**	**10.7**	**9.0**
Exports of goods and services	9.1	4.9	-21.5	21.9	-2.0	25.9	49.4	24.1
Exports of goods	9.7	2.0	4.2	9.7	9.0	17.0	9.6	4.1
Exports of services	8.6	7.4	-42.6	38.1	-15.8	50.1	97.7	63.2
Imports of goods and services	8.1	3.1	-7.6	16.1	-5.4	20.9	19.4	33.2
Imports of goods	7.1	2.0	-4.3	13.7	-3.2	17.6	12.2	29.8
Imports of services	11.1	6.2	-17.2	23.4	-12.7	30.1	41.6	43.4
Real GDP at market prices	**1.7**	**1.8**	**-9.0**	**8.3**	**-1.4**	**15.1**	**11.4**	**7.7**

Sources: Hellenic Statistical Authority (ELSTAT) and Bank of Greece.

In more detail, GDP increased sharply by 8.3% year-on-year, as fiscal support measures, the rollout of the vaccination programme, the adaptation of consumers and businesses to the new environment and the dynamic recovery of the tourism sector contributed to the economic rebound already since Q2 2021. Private consumption rose by 7.8% driven by the release of households' pent-up consumption demand and the rise in real disposable income, while public consumption rose by 3.7%.

Gross fixed capital formation increased by 19.6% in 2021 underpinned by significantly higher investment in equipment, mainly mechanical equipment-military weapon systems (41.1%). Other categories of equipment also posted notable increases, i.e. transport equipment-military weapon systems (31.9%) and ICT equipment (18.1%). Residential investment increased considerably by 26.5%, while other construction also rose by 4.8%.

Exports grew by 21.9% in 2021, mainly as a result of a 38.1% increase in exports of services driven by the recovery in tourist flows. Exports of goods rose by 9.7%. Imports grew by 16.1% on the back of higher imports of goods and services as a result of stronger demand and a recovery in international trade.

On the demand side, total gross value added increased by 7.5% in 2021, driven by almost all sectors of economic activity: "wholesale and retail trade - repair of motor vehicles and motorcycles - transport, warehousing and storage - accommodation, food and beverage service activities" rose by 19.4%, "professional, scientific and technical activities - administrative and support activities" by 11.7%, while "industry and construction" by 10.3%.

In 2021, the current account deficit shrank to €10.6 billion (5.8% of GDP) from €11.0 billion in 2020 (6.6% of GDP). This came mainly as a result of the continuing upward trend in exports of goods, the recovery in tourism activity and travel receipts, and higher net sea transport receipts. By contrast, the deficit in the balance of goods deteriorated – despite a continuing upward trend in exports – owing to a larger increase in imports in absolute terms than exports to meet production needs and needs resulting from stronger consumption and investment. Finally, foreign direct investment in Greece increased markedly in 2021 to €5.1 billion (2.8% of GDP).

The labour market strongly recovered, particularly over the last eight months of 2021. Paid employment increased by 1.4%, despite a considerable decline in Q1 2021. According to data from the ERGANI information system of the Ministry of Labour and Social Solidarity, 133,082 new jobs were created in 2021, compared with 93,003 in 2020. As a result, the unemployment rate fell to 14.7% from 16.3% in 2020, while the long-term unemployment rate fell (to 9.3%, compared with 10.8% in 2020), as did the rate of unemployment of persons aged 20-29 years (to 27.7%, compared with 29.5% in 2020). The latest available data (February 2022) show a pick-up in employment growth and significantly more people returning to the employment pool.

In the context of employment and income support, the following measures have been put in place in 2022: (a) the Employment Enhancement Mechanism "SYN-ERGASIA" will be continued up to May 2022; (b) suspensions of employment contracts in the food and beverage, sports and culture sectors will be extended; and (c) the reduction in the rate of social security contributions by 3 pps for the private sector will be extended. Furthermore, on the back of the 2% increase of the statutory minimum wage rate as of 1 January 2022 (from €650 to €663 per month) and the further increase as of 1 May 2022 (from €663 to €713 per month), minimum wage earners' income will improve, thus boosting private consumption.

Inflation based on the Harmonised Index of Consumer Prices (HICP) returned to positive levels in 2021, growing at an annual average rate of 0.6%, following a sharp decline in 2020 (by -1.3%).

Core inflation (HICP excluding non-processed food and energy prices) remained in negative territory in 2021. Soaring energy and good prices over the past few months have driven HICP inflation to higher levels, expected to persist throughout 2022.

According to Bank of Greece estimates, real GDP will continue to grow also in 2022, albeit at a slower pace. The war in Ukraine continues to create global supply bottlenecks, inflationary pressures on energy and macroeconomic uncertainty. Positive contributions will continue to come from consumption, investment and exports, and average inflation is expected to considerably pick up for the rest of 2021.

2. FISCAL DEVELOPMENTS

In 2021, the general government primary outcome showed a substantially lower deficit and debt-to-GDP ratio than expected in the Introductory Report to the 2022 State Budget, mainly driven by the strong pick-up in economic activity. According to 2018-2021 (provisional) fiscal data published in April 2022 by the Hellenic Statistical Authority (ELSTAT) in the context of the excessive deficit procedure, the general government primary deficit contracted to 5.0% of GDP in 2021, compared with 7.2% in 2020 and a projection of 6.2% of GDP, whereas the general government debt ratio declined to 193.3% of GDP in 2021 on the back of recovering economic activity, from 206.3% in 2020, and compared with a projection of 197.1% of GDP.

According to the 2022 Stability Programme, the general government primary deficit is expected to further decline to 2.0% of GDP in 2022 and the general government debt is expected to drop to 180.2% of GDP as a result of a substantial withdrawal of support measures taken in the context of the pandemic and a further improvement in economic growth. More specifically, the government support measures are expected to drop sharply to €4.1 billion (or 2.1% of GDP) in 2022, compared with €16 billion (or 8.8% of GDP) in 2021, due to the lifting of most of these measures.

In the first few months of 2022, interest rates around the world increased as most central banks adopted less accommodative monetary policies in an effort to curb inflationary pressures. Against this generalised trend, Greek government bond yields followed an upward path, being more sensitive to world volatility than other European government bonds due to their lower credit ratings and the less deep market for Greek bonds. However, the Greek government carried on with its issuing activity over the first four months of 2022 and two credit rating agencies, Standard and Poor's (S&P) and DBRS Morningstar, upgraded Greece's credit ratings, thus bringing Greek government bonds to just one notch short of investment grade.

On 24 March 2022, the ECB decided to continue to allow national central banks to accept as eligible collateral in Eurosystem refinancing operations Greek government bonds (GGBs) that do not satisfy the Eurosystem's minimum credit quality requirements but fulfil all other applicable collateral eligibility criteria, for at least as long as reinvestments under the PEPP continue until end-2024. Furthermore, the ECB Governing Council stressed that it maintains its discretion to deviate from the assessments of credit rating agencies if warranted, avoiding mechanistic reliance on their ratings.

As Greece is on its way out of enhanced surveillance, 2022 is a critical year for fiscal policy and safeguarding the credibility of its public finances achieved prior to the onset of the pandemic. Greece's fiscal performance and the sustainability of its public finances are vital parameters for government bond ratings, more than for any other European economy, as GGBs still fall short of investment grade. Therefore, the fiscal burden of emergency support measures and the large debt volume need to be addressed, taking into account that favourable financing conditions are gradually being reversed. Hence, as the economy returns to full swing and all restrictive measures are gradually being lifted, ensuring fiscal sustainability through the elimination of primary deficits becomes a central goal of economic policy. Restoring the fiscal balance also hinges on improving the current account balance, which posted a significant deficit during the pandemic.

Greece's inclusion in the new regime of post-programme surveillance automatically makes it subject to the fiscal rules of the Stability and Growth Pact (SGP), as these will be set out upon the completion of a public consultation launched in October 2021. Credible compliance with the SGP rules is a prerequisite for ensuring both the sustainability of public finances and the Greek government's continuous access to international markets. The country's compliance with the existing European fiscal governance framework has been significantly strengthened over the past decade as a result of the structural fiscal reforms that have been implemented.

Amidst the pandemic, restoring fiscal equilibrium by eliminating large primary deficits and reducing public debt should top the priority lists of EU Member States. The new fiscal governance framework must be more effective in terms of achieving the above priorities, providing Member States with greater flexibility to avoid episodes of procyclical budgetary adjustment, which compound rather than mitigate economic cycle fluctuations.

Higher inflation largely due to the large increases in the energy and food components put pressure for additional fiscal measures aimed at further bolstering households' disposable income in order to soften the impact on vulnerable households from (in particular energy) price increases. In this context, a package of about €1 billion targeted the most vulnerable social groups in 2021; this was significantly expanded in 2022, as higher inflation was further compounded by Russia's invasion of Ukraine, and is expected to reach €4.3 billion according to the 2022 Stability Programme. The bulk of measures (€0.63 billion in 2021) is financed by additional income under the Energy Transition Fund without implying any costs for the state budget.

The most efficient and sustainable manner to boost income in the medium- to long-term is economic growth via investment and structural reforms. Emphasis must therefore be placed on the implementation of the National Recovery and Resilience Plan (NRRP) "Greece 2.0" and deploying the resources provided through the Recovery and Resilience Facility (RRF) of the NGEU. As regards structural reforms, one of the major opportunities opening up as a result of the pandemic crisis is the acceleration of the digital transformation of public administration. The timely completion of the digital transition will create significant benefits, as the digital transformation increases the efficiency of existing fiscal policies by improving tax compliance and public expenditure management, thereby creating mechanisms to rein in the shadow economy and combat tax and social security evasion.[12]

[12] See Bank of Greece, *Monetary Policy Interim Report 2021 – Executive Summary and Boxes*, December 2021, Box V.2, available at www.bankofgreece.gr/Publications/Inter_NomPol2021_en_Summary_Boxes.pdf.

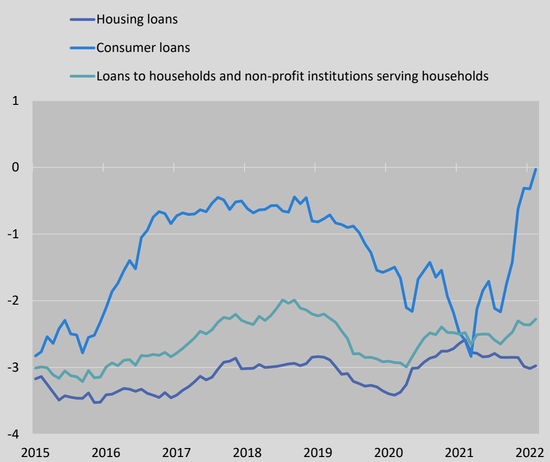
3. FINANCIAL CONDITION OF HOUSEHOLDS

3.1 DEVELOPMENTS IN HOUSEHOLDS' CREDIT AND INDEBTEDNESS

The annual rate of change in household lending by domestic Monetary Financial Institutions (MFIs) remained in negative territory also in 2021 (December 2021: -2.4%, December 2020:-2.5%) (see Chart II.1). Specifically, the annual rate of change in housing loans deteriorated (December 2021: -3%, December 2020: -2.7%), while the annual rate of change in consumer loans improved (December 2021: -0.3%, December 2020: -2.2%).

Chart II.1 Finance of households and non-profit institutions serving households from domestic monetary financial institutions (2015-February 2022)

(twelve-month rate of change)



Source: Bank of Greece.

The rates arise from the changes in balances adjusted for loan write-offs, impairment of debt securities, exchange rate differences and reclassifications.

According to the results of *Bank Lending Survey*,[13] the terms and conditions of household lending remained almost unchanged in 2021. The demand for housing loans increased to some extent owing to the improvement of consumer confidence in a low interest rate environment, while the demand for consumer loans remained unchanged. According to the findings of the survey, the terms and conditions for the supply of housing loans are expected to loosen in 2022, to some extent, while the terms and conditions of consumer loans are not expected to change significantly.

The index of household debt for 2020, as expressed by the ratio of household debt to gross domestic product, stood at 59.7%, against an EU average of 53.4% (see Chart II.2). It should be noted that in the EU-27 ranking, Greece occupies the eleventh position, with the index of household debt deviating slightly from the EU average. The index is expected to improve for 2021, owing to the substantial GDP growth on an annual basis (8.3%) and the decrease of household indebtedness.

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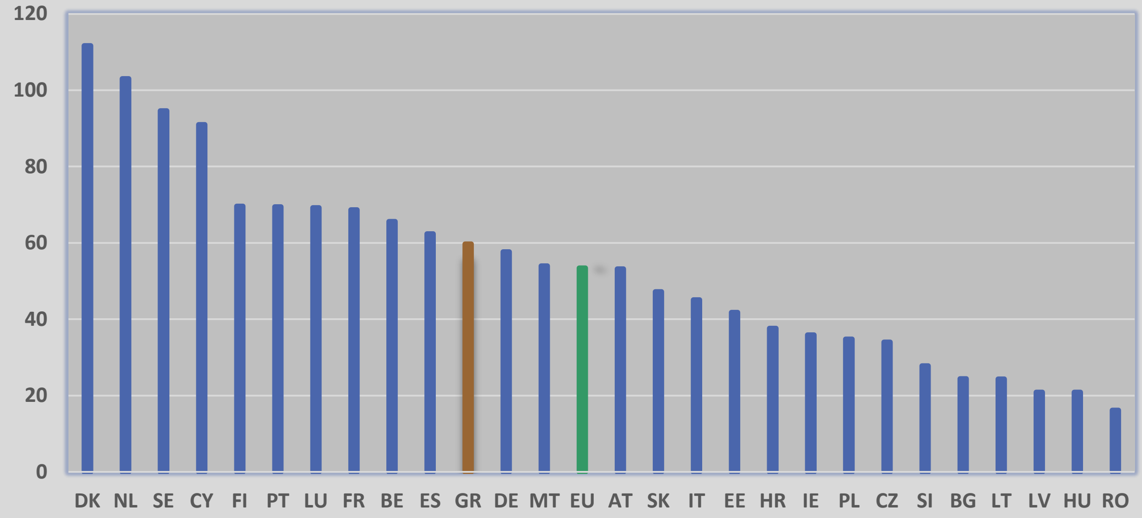
[13] Bank Lending Survey.

Chart II.2 Household debt in Greece and the European Union (2020)



Source: Eurostat.

Household debt as percentage of GDP includes debt securities and loans held by households and non-profit institutions serving households.

3.2 INTEREST RATE RISK FOR HOUSEHOLDS

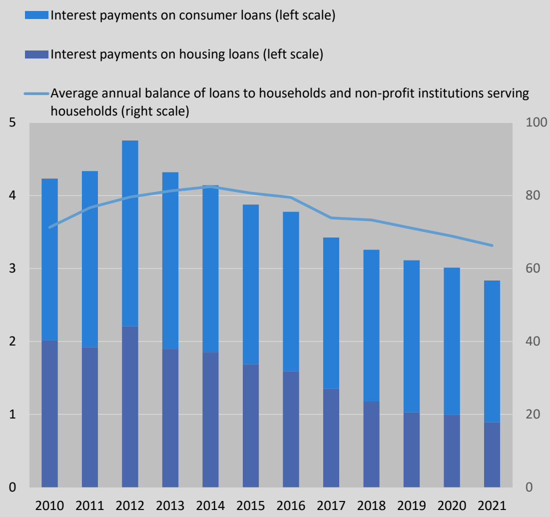
Extremely low lending rates facilitated households to meet their debt obligations in 2021 and helped to avoid negative effects on financial stability. Interest payments as a percentage of gross domestic household income declined further, due to the decrease in the outstanding balances of housing and consumer loans, as well as the reduction of the interest cost of housing loans (see Chart II.3).

In the first quarter of 2022, the weighted average interest rate of all outstanding loans remained almost unchanged at 3.5%. In particular, the average interest rate on the outstanding balances of housing loans with a maturity of over five years and the corresponding interest rate on consumer and other loans to households and non-profit institutions serving households remained virtually unchanged at 1.9% and 6.3%, respectively.

The accommodative monetary policy of the Eurosystem is expected to be reversed in the medium term, taking into account the recent surge of inflationary pressures. However, the interest rates on housing loans are expected to remain low for the rest of 2022, with only a small effect on household debt servicing cost.

Chart II.3 Household debt and interest payments on consumer and housing loans (2010 – 2021)

(as percentage % of gross disposable income)



Sources: Bank of Greece and Hellenic Statistical Authority.

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

2. The household finance includes housing and consumer loans that are on the balance sheets of domestic credit institutions και credit servicing firms (CSFs).

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

4. The weighted average interest rate per category of existing loans of domestic credit institutions was used for the calculations.

3.3 HOUSEHOLD INCOME RISK

The evolution of households' disposable income is a key determinant of the relative ease of servicing their loan obligations. According to provisional data from the Hellenic Statistical Authority (ELSTAT), gross disposable income rose from €118.7 billion in 2020 to €125.6 billion in 2021, up by 5.8%. It should be noted that household income was boosted by fiscal measures to address the pandemic, totalling about €2 billion for 2021, which at the same time contributed to the protection of employment and the reduction of the unemployment rate. Real GDP[14] grew by 8.3% in 2021 compared to the previous year, offsetting much of the sharp decline observed in 2020. The final consumption expenditure of households showed a significant increase of 8.9% for 2021[15] compared to 2020.

The unemployment rate fell significantly from 16.3% in 2020 to 14.7% in 2021, with employment prospects remaining positive, owing to the lifting of restrictions and the gradual return to normal business operations. The household income support is also reflected in the increase in deposits observed in 2021, although at a slower pace compared to 2020.

Regarding the pressures on household income, the harmonised index of consumer prices (HICP) recorded a positive growth rate and stood at 0.6% in 2021, after declining in 2020 (-1.3%). In addition, since the beginning of 2022 there has been a resurgence of inflation (up by 9.1% in April 2022 compared to April 2021) due to significant increases in food prices, transport and energy costs, but also the disruption of global supply chains. Russia's recent invasion of Ukraine has exacerbated inflationary pressures through rising energy prices and the spread of price increases across all goods and services.

Overall, it is becoming clear that for 2022, household disposable income will be challenged by the withdrawal of most fiscal support measures, inflationary pressures and geopolitical developments that cause uncertainty in consumer and investment decisions. However, there are factors that still have a positive effect, which is reflected in the economic growth projections for 2022 and the boost to employment from the resilience of individual sectors, such as construction activity and exports.

3.4 HOUSE PRICE RISK

The growth rate of apartment prices accelerated to 7.1% in 2021 on an annual basis, compared with 4.5% in 2020. In fact, in the fourth quarter of 2021 apartment prices across the country increased by 9.1% year-on-year. For 2021, the highest annual rate of price increase is observed for newly built apartments compared to old ones (over five years old), up by 7.4% and 6.9%, respectively. The geographical breakdown shows that the largest increase for the whole 2021 was recorded in Athens (9.1%).

Despite volatility over the last two years because of the pandemic and the recent increase in energy costs, construction costs and the effects of the war in Ukraine, the outlook of the Greek real estate market remains positive. On the one hand, the expected very good course of tourism and, on the other hand, the prospect of an easing of geopolitical instability in a reasonable period of time, maintain the positive medium-term and long-term outlook, which is reflected in the values

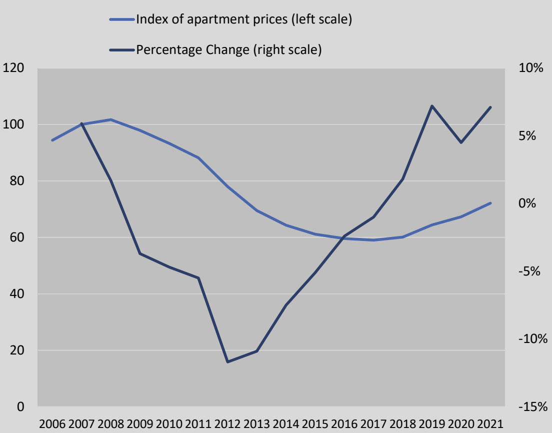
[14] According to ELSTAT's first GDP estimate in 2021.
[15] At current prices, according to annual provisional ELSTAT data.

and the relatively low returns on rental housing. Although the European Commission's recommendation to reduce permanent residence permits for investors (golden visa or golden passport) may have a partial effect on demand, it is estimated that investment interest will remain strong, especially in certain prime locations in Attica and other tourist areas.

In addition, it should be pointed out that prices are still far from 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 followed a steady downward trend, reaching a low in 2017 (59). Since then, the index of apartment prices has been steadily rising, reaching 72.1 in 2021 (see Chart II.4).

Chart II.4 Index of apartment prices and percentage change (2007=100)

(percentages %)



Source: Bank of Greece.

Box II.1 Loans collateralised by residential real estate – Overview of disbursements Q4 2021

The Bank of Greece collects on a quarterly basis data on loan disbursements collateralised by residential real estate properties. The reporting perimeter encompasses all credit institutions and leasing companies.

The data collection is based on ESRB Recommendation 2016/14 on closing real estate data gaps (as amended by ESRB Recommendation 2019/3), endorsed by Bank of Greece Executive Committee Act 175/1/2020.[16] The ESRB Recommendation intends to establish an EU-wide harmonised framework of working definitions and a reliable set of key indicators, most relevant for financial stability purposes, for monitoring developments in the residential real estate (RRE) and commercial real estate (CRE) markets. A well-structured monitoring framework will help national authorities to identify the build-up of systemic risks and assess the potential need for setting and calibrating borrower-based measures (BBM), i.e. macroprudential instruments that target borrowers and foster prudent lending practices.

This box covers only the data regarding loans collateralised by residential real estate property focusing on the Q4 2021 submission, also providing an overview of FY 2021 figures. For the purposes of the above Executive Committee Act, a residential real estate (RRE) loan refers to a loan to a natural person secured by a residential real estate property, regardless of the purpose of the loan. In this regard, mortgages, renovation and consumer loans secured by residential real estate, as well as loans to self-employed persons and sole proprietorships secured by residential real estate are included in the reporting perimeter.

[16] For more information, see Bank of Greece Executive Committee Act 175/1/2020 (in Greek).

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

The main conclusions can be summarised as follows:
(a) Loan disbursements collateralised by residential real estate property remain low both as an absolute figure (€782 million in FY 2021) and compared with the levels prior to the fiscal crisis.

(b) Quarterly figures show a gradually accelerating trend for disbursements.

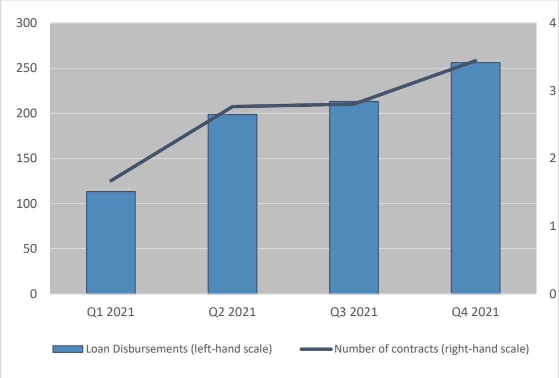
(c) The analysis of key indicators (i.e. LTV-O, LTV-C, DSTI-O, LSTI-O, LTI-O, DTI-O)[17] shows that banks so far maintain prudent lending standards.

Analysis of key figures and indicators

In the fourth quarter of 2021, the sum of loan disbursements secured by residential real estate at banking sector level amounted to €256.4 million, up by 20% quarter-on-quarter, corresponding to 3,444 new contracts (see Chart 1). For the year 2021, loan disbursements amounted to €781.7 million, which corresponds to 10,685 new contracts. The average disbursement amount stood at €73.2 thousand in 2021.

Chart 1 RRE loan disbursements and number of contracts (2021)

(million euro and thousand contracts)



Source: Bank of Greece

The market share of the four significant institutions in the disbursements of loans secured by residential property amounted to 95.3% in the fourth quarter of 2021. The less significant commercial banks and the cooperative banks had a share of 3.6% and 0.7%, respectively. Finally, the share of foreign branches accounted for 0.4%.

The weighted average loan-to-value ratio at origination (LTV-O) stood at 64.5% in the fourth quarter of 2021 (see Table 1). The ratio for "owner-occupied" and "buy-to-let" loan categories stood at 64.8% and 75.1% respectively. In fact, 25% of disbursements had a LTV-O of less than or equal to 50%, while 90% of disbursements had a 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) amounted to 69.7%, 60% of which having a LTV-C of less than or equal to 80%.

[17] 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).

Table 1. Key features and indicators of RRE loan disbursements

	Loan Disbursements (in € million)	Number of contracts	LTV-O	LTV-C	LTI-O	DTI-O	LSTI-O	DSTI-O
Q1 2021	113.1	1,672	63.2	83.1	3.4	3.9	21.2	27.8
Q2 2021	198.9	2,766	62.7	75.7	3.6	4.1	21.2	28.0
Q3 2021	213.4	2,803	64.1	74.0	3.7	4.5	22.2	27.9
Q4 2021	256.4	3,444	64.5	69.7	3.8	4.6	22.6	28.4

The weighted average loan-to-income ratio at origination (LTI-O) stood at 3.8, indicating that the total amount of loans secured by residential real estate is almost four times higher than the total annual disposable income of borrowers. However, it is worth noting that 41% of disbursements had a 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 35% of new loans having a DTI-O less than or equal to 3. Equally important, the weighted average LSTI-O amounted to 22.6% and the weighted average DSTI-O was slightly higher at 28.4%.

Additional features

- Most of these loans (97%) are intended for the purchase of residential real estate property with the purpose to be used as a residence by its owner ("owner-occupied"), while only 3% is related to loans for the purchase of residential real estate with the primary aim of being let to tenants ("buy-to-let").
- Almost all of the new loans are fully amortised.
- Loan disbursements with a fixed interest rate period of more than 10 years accounted for 51% of total new loans, while the percentage of disbursements with a fixed interest rate period of less than or equal to one year amounted to 32%.
- The average maturity on origination of the loan disbursements was 23.4 years. 43% of new loan contracts have a maturity of up to 20 years, 19% have a maturity from 20 to 25 years, while the remaining 38% have a maturity from 25 to 35 years.

Joint distribution of indicators

As regards the joint distributions of selected indicators, 72.6% of loan disbursements have LTV-O less than or equal to 80% and LSTI-O less than or equal to 30%, while 54.6% of loan disbursements have LTV-O less than or equal to 80% and DTI-O less than or equal to 4 (see Table 2).

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 (Q4 2021)

(percentages, %)

	Loan service-to-income at origination (LSTI-O)			
Loan-to-value at origination (LTV-O)	≤30%	(30%-50%]	>50%	**Total**
LTV-O <= 80%	72.6	16.33	2.16	91.10
LTV-O (80%-90%]	2.50	0.54	0.04	3.07
LTV-O (90%-110%]	0.55	0.51	0.02	1.08
LTV-O >110%	3.50	1.03	0.22	4.75
Total	79.15	18.41	2.44	100.00

Based on the joint distribution of LTV-O and 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. 75.1%) is classified in the category of low risk (green shade); hence, to borrowers with sufficient income and debt-servicing capacity. 23.1% of loan disbursements is classified as medium risk (orange shade). The loan disbursements classified in the category of high risk (red shade) correspond to only 1.8% of the total. These exposures are jointly distributed in the cluster of LTV-O above 80% and LSTI-O above 50% and in the cluster of LTV-O above 90% and LSTI-O above 30%. The analysis of the joint distribution of LTV-O and DTI-O yields similar results.

In conclusion, the analysis of credit origination indicators shows that Greek banks currently apply prudent lending standards to loans collateralised by residential real estate property.

4. DEVELOPMENTS IN DOMESTIC AND INTERNATIONAL MONEY AND CAPITAL MARKETS

During the period December 2021-May 2022, high volatility prevailed in financial markets and the Greek stock market. After a long period of limited fluctuation of the Greek stock market indices within a narrow range, during March-November 2021, the rise in stock prices since early December led the General Index to a new high of 971 points on 11.2.2022. This rise was fuelled not only by expectations for further recovery of the Greek economy, but also by a state of euphoria over the de-escalation of the two-year health crisis.

However, Russia's invasion of Ukraine, with the resulting geopolitical tensions and the escalating energy crisis, had a decisive impact on financial markets, creating new, adverse conditions. Primarily, investors' risk aversion to holding financial securities and, secondarily, the build-up of inflationary pressures due to the overall rise in the level of commodity prices, combined with disruptions in the supply chain, led to stock market repricing. In addition, the change in investor expectations regarding the stance of the monetary policy of the European Central Bank contributed negatively and reinforced the climate of deleveraging and high volatility that was observed since the start of the invasion of Ukraine in late February.

The General Price Index of the Athens Stock Exchange showed high volatility during the period December 2021-May 2022. Specifically, while it initially rose by up to 8.7% at the close of 11.2.2022, it fell by up to 11.6% at the close of 8.3.2022 (or approximately -19% from the February high), before recovering by 9.8% from the low on 6.5.2022. Similarly, during the reviewed period, the banking index gained up to 30% on 11.2.2022 compared to the close of 31.12.2021, then fell significantly (by about 31%) on 8.3.2022 from its high, before recovering by 12.7% on 6.5.2022 (Chart II.5).

Chart II.5 Banking index (FTSE ASE Banks)

(31.12.2018-6.5.2022, daily prices)

Source: Bank of Greece.

At the European level, the stabilising trend of European stock markets in the period June 2021-January 2022 was halted by Russia's invasion of Ukraine. Positive expectations for further economic recovery in 2022 and positive corporate results were not enough to sustain 2021 price levels. However, the valuation gap between European and Greek equities narrowed. In particular, European markets since the beginning of Russia's invasion of Ukraine have repriced lower, taking into account the sanctions imposed, the extent of banks' exposures to Russian markets and the broader macroeconomic implications.[18]

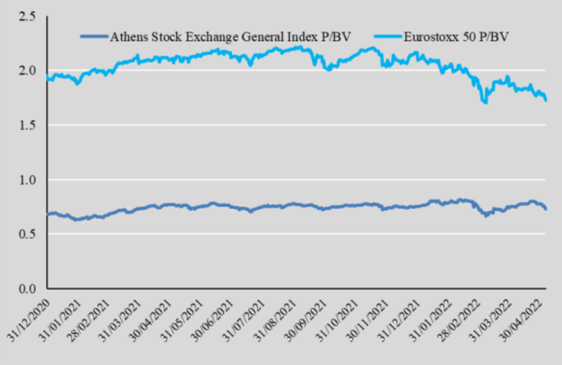
Specifically, while the price-to-book value (P/BV) of European equities during the period from 31 December 2021 to 6 May 2022 decreased by approximately 18%, the price-to-book value for the ATHEX General Index in Greece recorded a lower decline of approximately 3% during the same period. Nevertheless, the European equities' average P/BV continued to be significantly higher than its Greek counterpart and was at levels above one, i.e. 1.9 on 6.5.2022, in contrast to the corresponding ratio for Greece, which was 0.7 (see Chart II.6).

Greek banks' Market Cap/RWA ratio reached a 7-year high. The recent market turmoil affected the upward trend of the index, although banks' weighted assets decreased quarter-on-quarter as at 31.12.2021 (Chart II.7).

[18] ECB Presentation 15.03.2022, "Invasion of Ukraine: euro area banks so far resilient to a second exogenous shock."

Chart II.6 Stock market indices

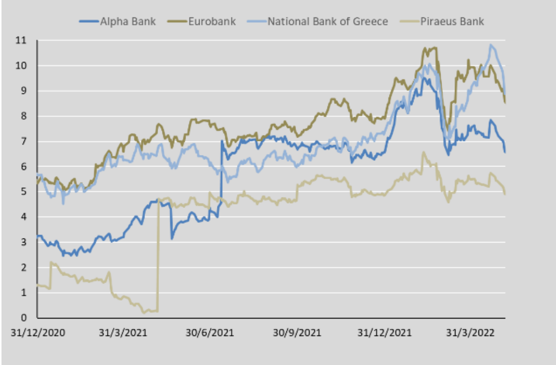
(31.12.2020-6.5.2022)



Source: Bloomberg.

Chart II.7 Greek banks' capitalisation index as a percentage of weighted assets

(31.12.2018-6.5.2022, percentage %)

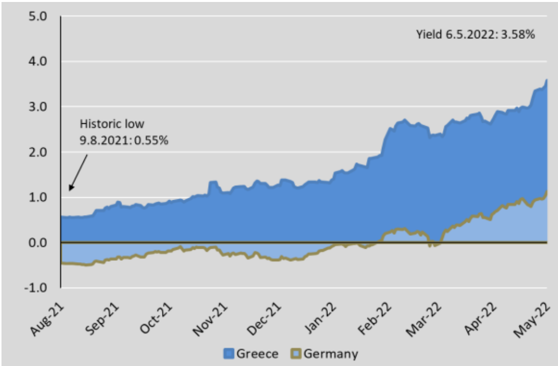


Sources: Bloomberg, Bank of Greece.

In the bond market, the Greek yield curve came under pressure during the period August 2021-May 2022 and especially after the ECB Governing Council meeting on 3.2.2022 (see Chart II.8). The lowest yield (0.55%) was recorded on August 9, before concerns that the ECB may reduce the monthly purchase rate under the Pandemic Emergency Purchase Programme - PEPP and complete net purchases at the end of March 2022. Already in the first quarter of 2022, the Governing Council of the ECB reduced net asset purchases under the PEPP compared to the previous quarter, and following the end of the programme at the end of March, intends to reinvest the principal amounts of maturing securities at least until the end of 2024.[19] Selloffs of Greek bonds were seen across the yield curve, particularly in the most liquid issues, and also affected corporate bond issuance, thus limiting new issues to just two in 2022, totalling €200 million. As it becomes clear, if high yield levels are maintained during 2022, this will have a negative impact on the cost of servicing the debt of the Hellenic Republic. Similarly, yields on 10-year euro area bonds rose significantly between mid-August 2021 and early May 2022, while the spread of the Greek bond over the German government bond increased from 152 basis points on 31 December 2021 to 244 basis points on 6 May 2022, mainly due to the higher increase in the yield of the Greek bond compared with the Bund. In the US, the yield on the 10-year Treasury likewise rose to 3.1% after the US Federal Reserve raised the federal funds rate by 0.25% in March and 0.50% in May 2022, bringing it to a range of 0.75%-1.00%.

Chart II.8 Greek and German 10-year bond yields

(6.8.2021-6.5.2022, daily prices, percentage %)



Source: Bloomberg.

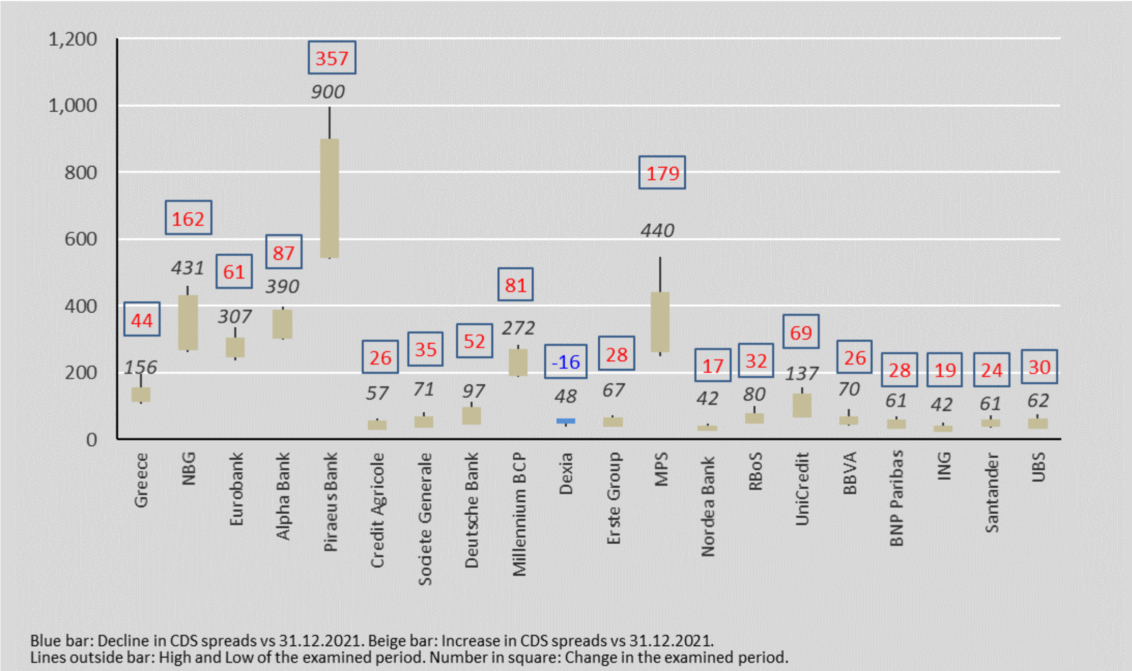
Due to the worsening economic climate, Greece's 5-year Credit Default Swaps (CDS) spreads rose in the period December 2021-May 2022 from 112 basis points on 31 December 2021 to 156

[19] ECB, "Combined monetary policy decisions and statement", March 2022.

basis points on 6 May 2022. This increase is in line with the further increase in risk levels observed globally (see Chart II.9). However, the credit rating upgrades to BB (high) by DBRS[20] in March and to BB+ by Standard & Poor's in April reinforced the positive prospects of Greek debt. Finally, 5-year CDS spreads on the majority of Greek banks also followed an upward trend, although Moody's upgraded the credit ratings of the four significant banks on 30 March 2022.

Chart II.9 5-year CDS spreads of the Greek sovereign, Greek and European banks

(31.12.2021-6.5.2022, basis points)



Sources: Bloomberg, Markit.

[20] DBRS is one of the credit rating firms acceptable by the ECB (along with Fitch, Moody's and S&P).

III. THE BANKING SECTOR

1. KEY BALANCE SHEET FIGURES

In 2021, the growth rate of the Greek banking groups' assets accelerated. Specifically, total assets amounted to €326.1 billion in December 2021, up by 10.0% (or €30.0 billion) compared to December 2020 (see Table III.1).

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

(in million euro)

Assets	2020	%	2021	%	Change
Cash & balances with the Central Bank	33,456	11.3	58,529	17.9	24,935
Due from banks	10,885	3.7	10,484	3.2	-401
Loans & advances to customers (net)	148,866	50.3	149,195	45.7	329
Derivative financial instruments	9,911	3.3	7,814	2.3	-2,098
Securities	43,882	14.8	51,664	15.8	7,843
Investment in subsidiaries & associates, tangible and intangible assets	9,883	3.3	9,877	3.0	-6
Non-current assets held for sale	7,166	2.4	6,505	2.0	-661
Other assets	31,925	10.8	32,026	9.8	102
Total	**296,052**	**100%**	**326,095**	**100%**	**30,043**
Liabilities	**2020**	**%**	**2021**	**%**	**Change**
Deposits from customers	196,638	66.4	217,300	66.6	20,662
Due to banks	47,823	16.2	57,499	17.6	9,676
Debt securities in issue & other borrowed funds	5,274	1.8	8,213	2.5	2,939
Liabilities related to assets held for sale	3,341	1.1	4,028	1.2	686
Other liabilities	16,387	5.5	14,986	4.6	-1,401
Total equity	26,588	9.0	24,068	7.4	-2,520
Total	**296,052**	**100%**	**326,095**	**100%**	**30,043**

Source: Bank of Greece.

More specifically, changes in asset amounts and structures are mainly attributed to:

(i) An increase of €24.9 billion in cash, mainly in cash balances at the Bank of Greece, due to the increase in deposits from customers, the participation of banks in the Eurosystem's Targeted Longer-Term Refinancing Operations (TLTROs III), as well as the recent bond issuances on international markets. As a result, the share of cash in total assets rose (December 2021: 17.9%, December 2020: 11.3%).

(ii) An increase of €7.8 billion in securities, mainly due to an increase in banks' bond portfolios. As a result, the share of securities in total assets rose (December 2021: 15.8%, December 2020: 14.8%).

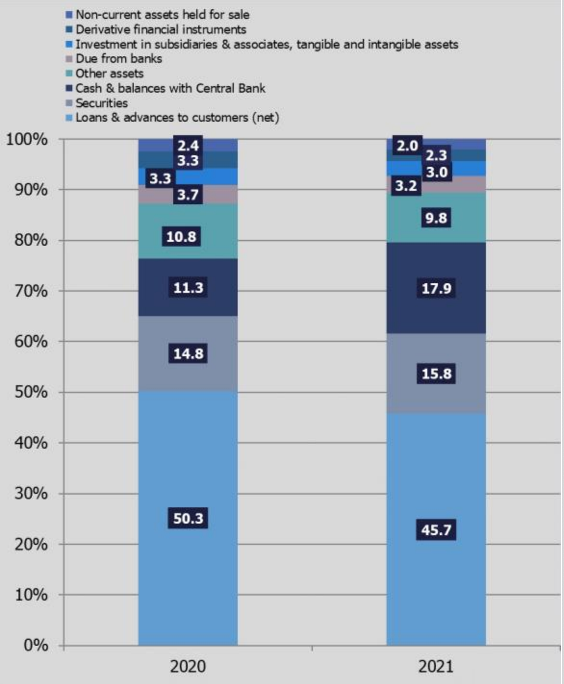
(iii) A marginal increase of €0.3 billion in the stock of loans after provisions, as loan disbursements offset the decrease in loans balances due to repayments and sales transactions and securitisation of NPLs.[21] However, the share of loans in total assets decreased (December 2021: 45.7%, December 2020: 50.3%).

[21] It should be pointed out that the stock of the loans include the senior notes that banks have retained from their loan securitisations, which carry a state guarantee under the Hellenic Asset Protection Scheme ("Hercules").

(iv) A decrease of €2.1 billion in derivative financial instruments resulting in the reduction of their share in total assets (December 2021: 2.3%, December 2020: 3.3%).

Chart III.1 Structure of assets of Greek banking groups

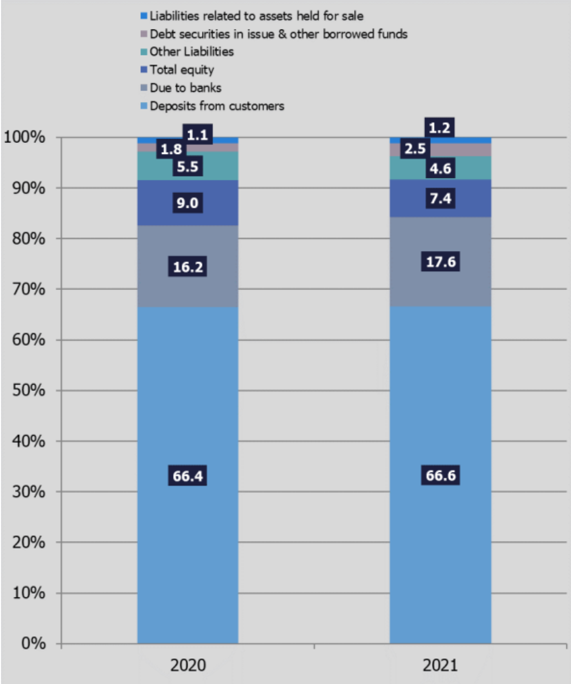
(in percentages %)



Source: Bank of Greece.

Chart III.2 Structure of liabilities of Greek banking groups

(in percentages %)



Source: Bank of Greece.

On the liabilities side, the most significant development was:

(i) A significant increase of €20.7 billion in customer deposits, which have also increased as a percentage of total liabilities (December 2021: 66.6%, December 2020: 66.4%). The increase in deposits was helped by direct state aid and measures for the suspension of the payment of loans and tax liabilities.

(ii) An increase in amounts due to banks, both as an absolute amount (by €9.7 billion) and as a percentage of total liabilities (December 2021: 17.6%, December 2020: 16.2%). This development is entirely attributable to the increase of Eurosystem financing through the participation of banks in Targeted Longer-Term Refinancing Operations (TLTROs III), following the acceptance of Greek government bonds as collateral in refinancing from the Eurosystem.

(iii) An increase in debt securities in issue & other borrowed funds (by €2.9 billion), mainly due to bond issuances, resulting in an increase in their share in total liabilities (December 2021: 2.5%, December 2020: 1.8%). Total bond issuance during 2021 amounted to €3.5 billion.

(iv) Finally, there was a decrease in banking groups' equity by €2.5 billion, mainly as a result of the reported losses due to the sales of NPL portfolios (see Chart III.2 and Table III.1).

2. RISKS

2.1 CREDIT RISK

Structure and evolution of non-performing loans (NPLs)

During 2021, the credit portfolio quality of credit institutions improved. Non-performing loans (NPLs) continued their downward trend; as a result, at end-2021 the total NPL stock stood at €18.4 billion, down by 61% or €28.8 billion compared to end-20 (€47.2 billion), according to on-balance-sheet data on a solo basis[22] (Table II.2).

Table III.2 Key figures – Total portfolio

(in million euro, on-balance-sheet items)	**Dec-20**	**Dec-21**
Breakdown of NPLs		
Total loans	**156,918**	**144,099**
Performing loans	**109,711**	**125,688**
NPLs	**47,207**	**18,410**
Unlikely-to-pay	13,877	6,530
Past due > 90 days	11,013	5,722
91-180 days	2,255	822
181-360 days	1,362	874
>1 year	7,396	4,025
Denounced loans	22,318	6,158
Breakdown of forborne loans		
Forborne loans	**28,231**	**15,265**
Performing forborne loans	11,578	8,064
Non-performing forborne loans	16,653	7,201
Breakdown of impairment losses and write-offs		
Accumulated impairment on NPLs	**20,757**	**7,798**
Write-offs	**2,626**	**1,870**
of which write-offs of denounced loans	1,657	1,150
Breakdown of collateral		
Total collateral	**92,592**	**95,409**
Collateral on performing loans	**66,462**	**84,815**
Collateral on NPLs	**26,130**	**10,594**
Unlikely-to-pay	8,296	4,231
Past due > 90 days	6,105	2,981
Denounced loans	11,729	3,381
Collateral on non-performing forborne loans	**10,233**	**4,739**
Breakdown of flows		
Flows of performing loans	**25**	**-823**
Flows from NPLs	3,922	3,359
Flows to NPLs	-3,897	-4,182

Source: Bank of Greece.

The stock of total loans amounted to €144.1 billion, down by 8.2%, while the stock of performing loans increased by 14.6%[23] (see Chart III.3).

It should be noted that the total decrease of NPLs from their March 2016 peak reached 82.8% or €88.8 billion (Chart III.4).

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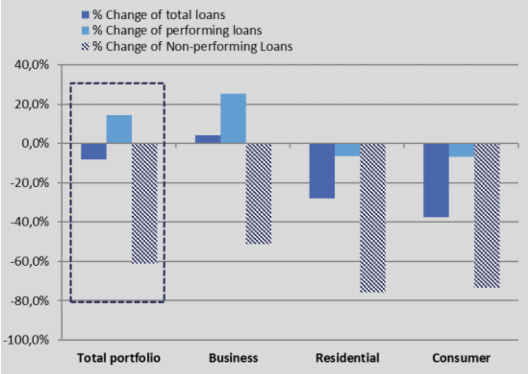
[22] On a consolidated basis, the stock of NPLs stood at €19.3 billion, down by 66.6% or €38.6 billion from €57.9 billion at the end of 2020.

[23] It should be pointed out that the increase in the performing loans is also affected by an amount of €18.7 billion, which concerns senior notes of the securitisations that the banks hold, which carry a guarantee from the Greek State.

Chart III. 3 Percentage change of Greek banks' total (performing and non-performing) loans per portfolio in 2021

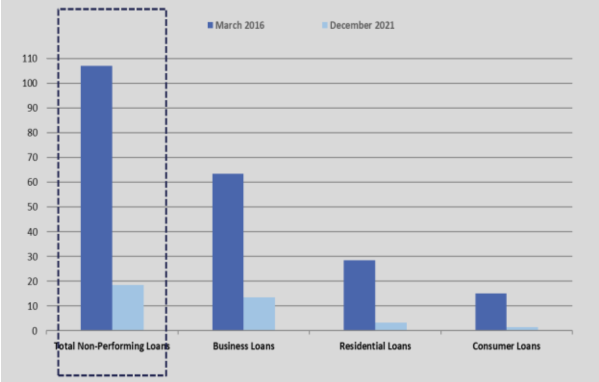
(percentage %)



Source: Bank of Greece.

Chart III. 4 Comparison of the 2021 NPL stock per portfolio with the March 2016 peak

(in billion euro)



Source: Bank of Greece.

The ratio of NPLs to total loans at end-2021 amounted to 12.8%, compared with 30.1% at end-2020, which confirms the progress that has been made in the effort to clean-up the balance sheets of the credit system. In this context, it should be noted that two significant institutions have already achieved the operational target of a single-digit NPL ratio according to year-end data, while, based on the planned actions of NPL resolution and management, a single-digit NPL ratio for the entire banking system is expected by the end of 2022. However, it should be noted that the ratio of NPLs to total loans is still very high and well above the EU average (December 2021: 2.0%[24]), so efforts to reduce the outstanding stock should be stepped up, especially in the light of the challenges that lie ahead.

The Russian invasion of Ukraine, with the energy crisis that it has triggered, has had a decisive effect by increasing inflationary pressures and negatively affecting household disposable income and business operating costs. Therefore, given the uncertainty surrounding the course of the war, but also the withdrawal of remaining measures to support borrowers against the pandemic in 2022,[25] which may affect the behaviour of borrowers, it becomes clear that the creation of new NPLs cannot be ruled out, especially if the geopolitical crisis is prolonged or even escalates.

The decline of NPLs in 2021 is mainly due to the completion of sales transactions through securitisation of loans, which at the same time included hive downs of three significant institutions,[26] as well as direct loan sale agreements.[27] These securitisation transactions made use of the Hellenic Asset Protection Scheme (HAPS), whereby the Greek State provides a guarantee on the senior tranche notes of the securitisation. It should be pointed out that in 2021 the extension of this program for 18 additional months was approved (as it was to expire in April 2021), and the Greek State can provide additional guarantees of up to €12 billion.[28]

[24] Source: European Banking Authority, Risk Dashboard, Q4 2021 EBA Dashboard - Q4 2021 for publication.pdf (europa.eu)

[25] According to December 2021 data of the significant institutions, loans amounting to approximately €9.4 billion were still under protection, (Gefyra I and II programs, loans under payment moratoria).

[26] These hive-downs are described in Box 1, p. 26 of the January 2021 *Financial Stability Review* (in Greek), Έκθεση Χρηματοπιστωτικής Σταθερότητας Ιανουάριος 2021 (bankofgreece.gr)

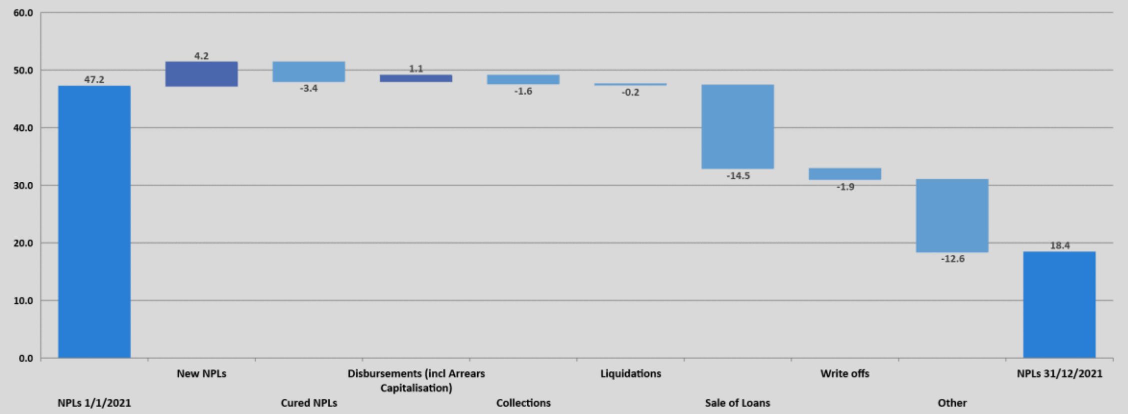
[27] Securitisation transactions are presented in detail in Box V.1 Securitisations as a tool to effectively manage banks' non-performing loans (NPLs), which discusses securitisations as a tool for NPL reduction.

[28] The initial maximum approved amount of HAPS was €12 billion, while at the end of 2021 the guarantees granted amounted to €18.7 billion.

The total NPL stock in 2021 amounted to €18.4 billion (down from €47.2 billion at end-2020) following a series of actions, despite the creation of new NPLs worth €4.2 billion during the year (see Chart III.5).

Chart III.5 Flows of non-performing loans in 2021 – on-balance-sheet data

(in billion euro)



Note 1: 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.

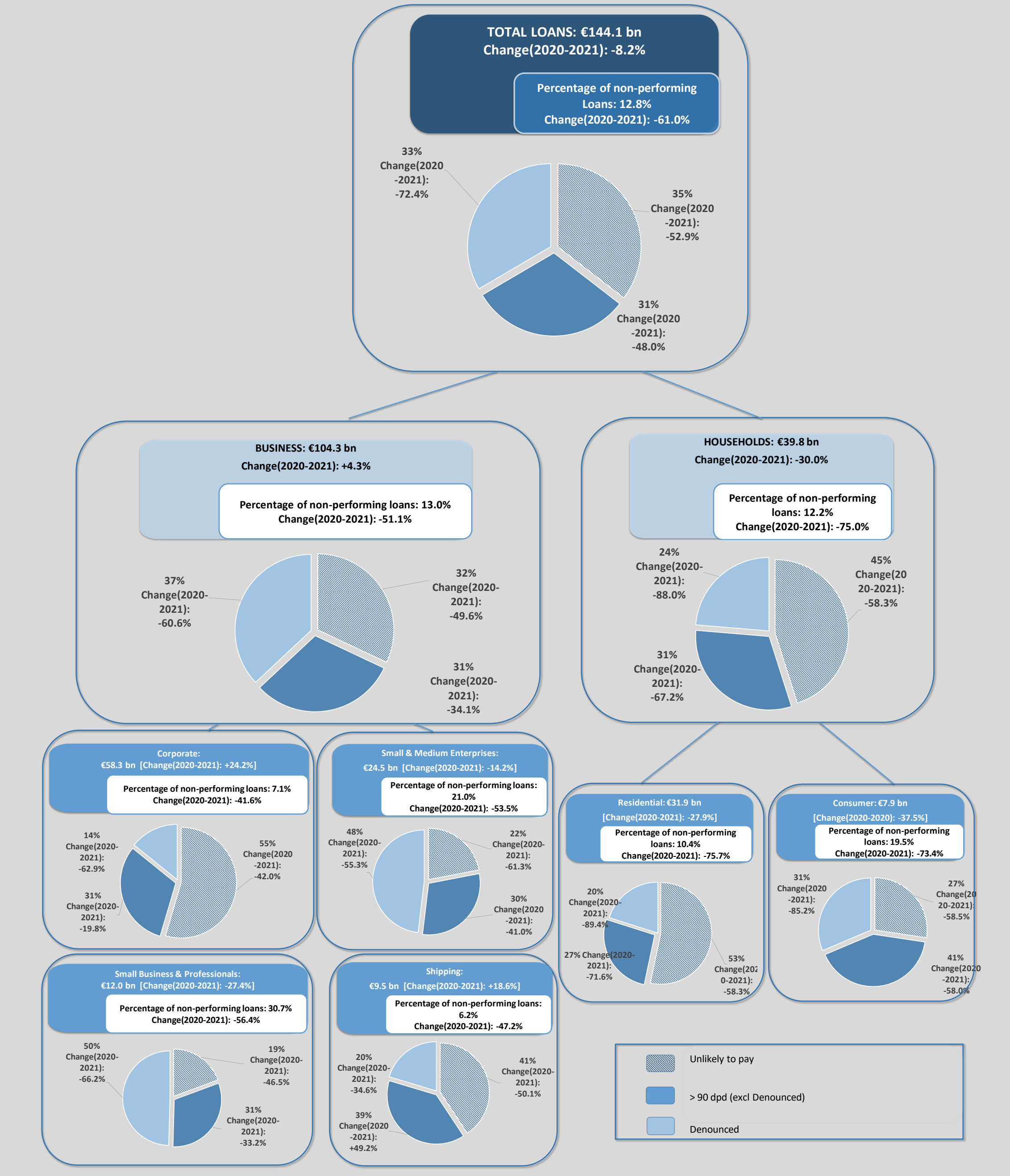
Note 2: NPLs sales transactions directly or through securitizations are included in the categories "Loan sales" and "Other".

Source: Bank of Greece.

A significant decline in the stock of NPLs was recorded for all loan portfolios in 2021, while the decrease of NPLs for loans to households (75%) was particularly strong (see Chart III.6).

Chart III.6 Structure and evolution of Greek commercial banks' total loans and NPLs by loan portfolio category in 2021

(in billion euro, percentage %)



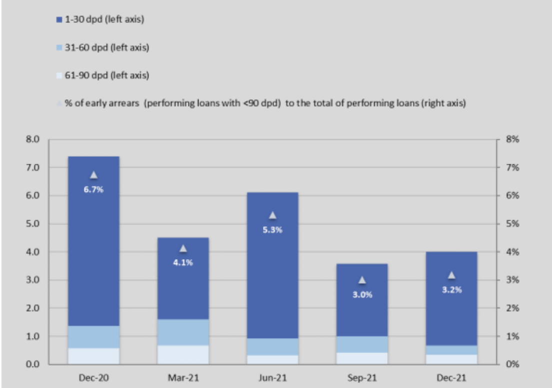
Source: Bank of Greece.

Unlikely-to-pay loans amounted to €6.5 billion (35% of NPLs) at end-2021, down by 52.9% compared to end-2020 (€13.9 billion).

Loans that are 1 to 90 days past due (early arrears) decreased by 45.8% to €4.0 billion in 2021, from €7.4 billion in 2020. In addition, the ratio of loans that are overdue by 1 to 90 days to the total of performing loans improved further to 3.2% in 2021, compared with 6.7% at end-2020 (see Chart III.7).

Chart III.7 Structure of early arrears per arears bucket and the ratio of early arrears to total of performing loans

(in billion euro, percentage %)



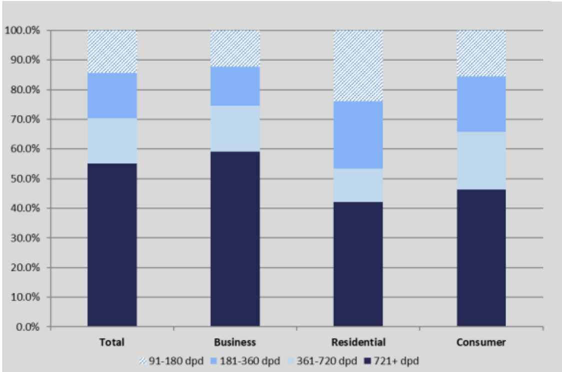
Source: Bank of Greece.

Loans over 90 days past due (excluding denounced loans) declined further in 2021 to €5.7 billion (31% of NPLs), down by 48.0% compared to end-2020 (€11.0 billion). However, it should be pointed out that 70.4% of NPLs falling into this category are more than one year past due, higher than at end-2020 (67.2%). The share of such NPLs in mortgage loans is 53.3%, in corporate loans 74.6% and in consumer loans 65.8%. The particularly negative image of NPLs that are overdue by more than one year is compounded by that of NPLs that are overdue by more than two years for all loan categories (see Chart III.8).

An analysis of the structure of NPL balances in the arrears bucket of more than 90 days past due per portfolio at end-2021 is presented in Chart III.8.

Chart III.8 NPLs' balance structure in the arrears bucket of more than 90 days past due (excluding denounced) per portfolio

(percentage %)



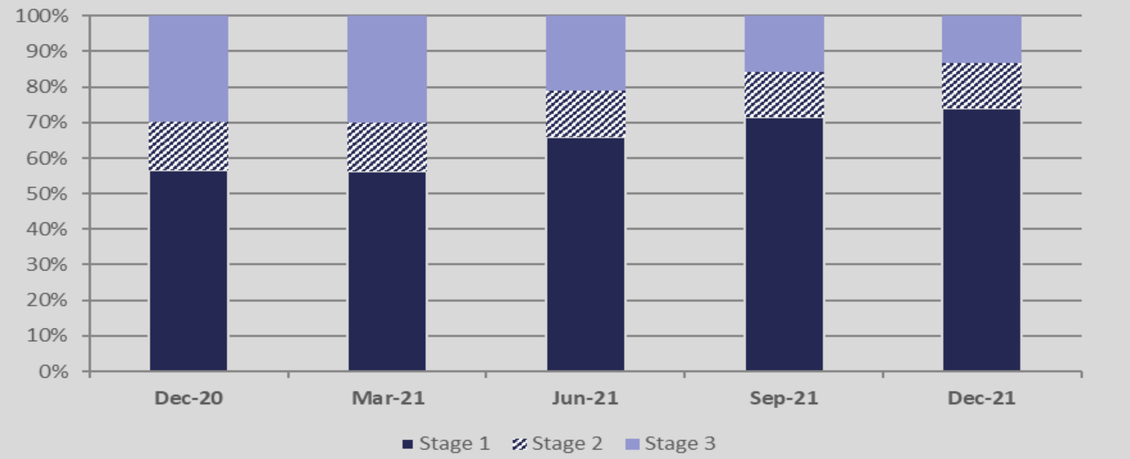
Source: Bank of Greece.

At the same time, 33.4% of NPLs relate to denounced loans, which in 2021 amounted to €6.2 billion, down by 72.4% compared to end-2020 (€22.3 billion), mainly due to sales transactions through securitisation.

Finally, the improvement in portfolio quality is reflected in the allocation of the total loan stock per stage, according to the level of credit risk, in accordance with International Financial Reporting Standard 9 (IFRS 9), in 2021 compared to 2020, which is mainly due to the large decrease in the total NPLs stock included in stage 3 (see Chart III.9).

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

(percentage %)



Source: Bank of Greece.

Indicators for monitoring and evaluation of NPLs

Regarding the indicators for monitoring and evaluation of the management of NPLs for 2021, the following are observed (see Table III.3):

Table III.3 Total portfolio – Key indicators

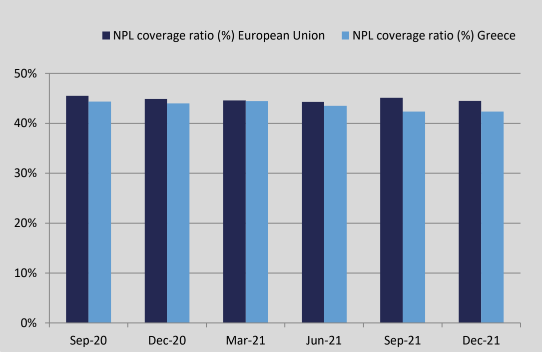
(percentage %. on-balance-sheet items)	Dec. 2020	Dec. 2021
Credit quality indicators		
NPL ratio	**30.1**	**12.8**
> 90 days past due	21.2	8.2
NPL structure		
Unlikely-to-pay	**29.4**	**35.5**
Past due > 90 days	**23.3**	**31.1**
91-180 days	4.8	4.5
181-360 days	2.9	4.7
>1 year	15.7	21.9
Denounced loans	**47.3**	**33.4**
Forborne to total loans		
Forborne loans	**18.0**	**10.6**
Forborne performing loans	7.4	5.6
Forborne non-performing loans	10.6	5.0
Coverage ratios and write-offs		
Coverage ratio of NPLs	**44.0**	**42.4**
Total write-offs to total loans	**1.7**	**1.3**
Total write-offs to NPLs	**5.6**	**10.2**
NPL collateral coverage ratio	**55.4**	**57.5**
Collateral coverage on forborne non-performing loans	61.4	65.8
Total NPL coverage (provisions + collaterals)	99.3	99.9
Quarterly default and cure rates		
Default rate	1.1	0.6
Cure rate	1.4	3.2
Credit risk cost		
Loan-loss impairment to net loans	3.7	5.7
Loan-loss impairment to total assets	1.9	2.6

Source: Bank of Greece.

- The NPL coverage ratio stood at 42.4% in 2021, from 44.0% in 2020. In particular, the cumulative provisions for the coverage of NPLs established by banks until the end of 2021 amounted to €7.8 billion, compared with €20.8 billion at end-2020. This decrease is mainly due to the significant NPL securitisation and sale transactions that took place during the year. It should be pointed out that the level of the coverage ratio of NPLs in Greece is below the EU average (Q4 2021: 44.5%[29]) (see Chart III.10).

Chart III.10 NPL coverage ratio

(percentage %)



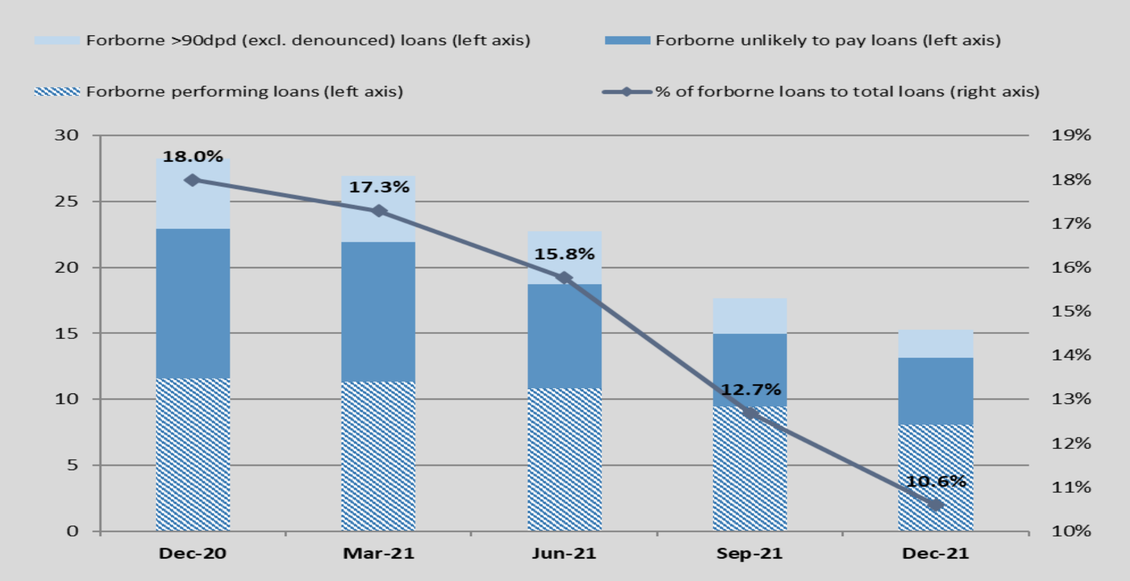
Sources: Bank of Greece, European Banking Authority.

- The collateral coverage ratio for NPLs amounted to 57.5%, marking an increase compared to end-2020 (55.4%), while the collateral coverage ratio on forborne non-performing loans amounted to 65.8%, against 61.4% at end-2020.
- Total forborne loans[30] fell significantly to €15.3 billion, representing 10.6% of total loans in 2021, compared with 18.0% in 2020 (€28.2 billion) (see Chart III.11), mainly due to securitisations and sales of NPLs.

  It should be noted that 13.8% of the already forborne loans are in arrears by more than 90 days, lower than at end-2020 (18.9%).

Chart III. 11 Evolution of forborne loans per category and evolution of the ratio of forborne loans to total loans

(in billion euro, percentage %)



Source: Bank of Greece.

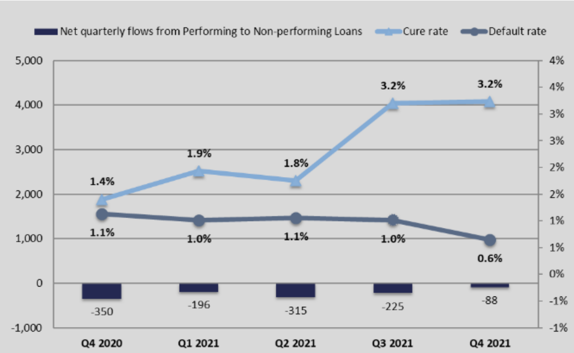
[29] Source: European Banking Authority, Risk Dashboard, Q4 2021 EBA Dashboard - Q4 2021 for publication.pdf (europa.eu).

[30] Bank of Greece Executive Committee Act 175/2/29.7.2020 provides an indicative list of possible forbearance solutions for performing and non-performing loans.

- 63.3% of NPLs over 90 days past due have not been forborne, compared with 51.6% at end-2020, while the rates for mortgage, consumer and business loans are 64.7%, 77.6% and 60.8%, respectively.
- Loan write-offs amounted to €1.9 billion, of which €1.2 billion relate to denounced – mainly corporate – loans.
- During 2021, the flows from performing to non-performing loans were €823 million higher than the flows from non-performing to performing loans.
- It should be noted that €0.5 billion, i.e. 2.9% of NPLs, relate to loans that are under legal protection status and for which the issuance of a final court decision is pending. €0.2 billion of these relate to loans that have already been denounced. Loans in this category concern either natural persons (e.g. Law 3869/2010[31]) or legal entities (e.g. Law 4307/2014, Bankruptcy Code). Regarding the sub-categories, approximately 5.1% of non-performing mortgages are subject to legal protection, while the corresponding percentage for consumer loans is 3.9%.
- The cure rate stood at 3.2% in the fourth quarter of 2021 and the default rate at 0.6% (see Chart III.12). Looking into individual loan portfolio categories, the highest cure rate (8.1%) is recorded in mortgage loans and the lowest (2.0%) in corporate loans.
- Overall, credit institutions continue to opt for long-term forbearance measures, focusing on extending maturities. This trend is also confirmed in 2021, with the largest increase being recorded in the mortgage portfolio (Chart III.13). It is worth mentioning that the percentage of forborne non-performing loans for 2021 remains high (47.4%), although it appears improved compared to 2020 (59.5%).

Chart III.12 Evolution of net quarterly flows from performing to non-performing loans, default rate and cure rate

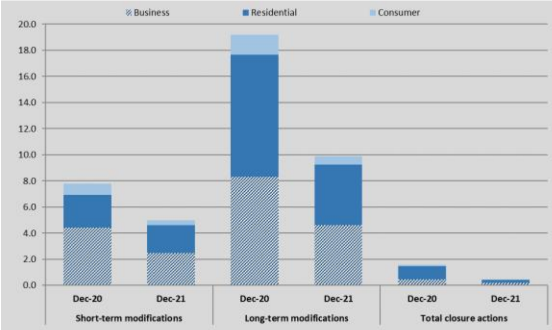
(in billion euro, percentage %)



Source: Bank of Greece.

Chart III.13 Evolution of the forborne loans balance by modification type and portfolio type

(in billion euro)



Source: Bank of Greece.

Credit risk per sector

In 2021, financing to businesses, according to on-balance-sheet and off-balance-sheet data, amounted to €134.8 billion, accounting for about 75% of the total financing of Greek credit institutions to the economy. The NPL ratio in the business portfolio (10.9%) continues to be mainly

[31] 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.

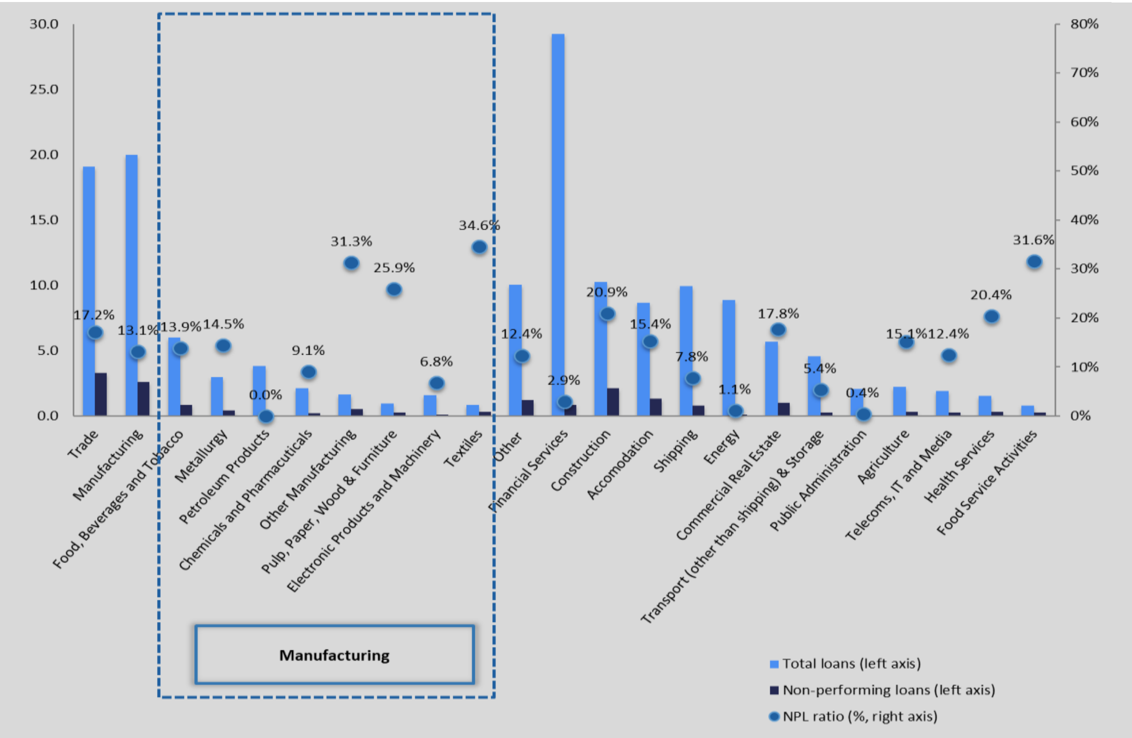
influenced by the high ratio in the category of small and medium-sized (16.9%) and micro enterprises (26.1%).

As regards the sectoral breakdown of financing to the Greek economy, the largest share concerns financial corporations (22% of total corporate financing, compared with 11% in 2020). The NPL ratio for this sector is lower than the corresponding average ratio for corporate loans (2.9%, compared with 10.9%).

As illustrated in Chart III.14, very high NPL ratios are recorded in the sectors of Food Service Activities (31.6%), Construction (20.9%), Health Services (20.4%), Commercial Real Estate (17.8%), Trade (17.2%) and Accommodation (15.4%). High NPL ratios are also recorded in subsectors of Manufacturing, such as Textiles (34.6%), Pulp, Paper, Wood & Furniture (25.9%), and Other Manufacturing (31.3%), which, however, concern lower lending balances and therefore have a lower effect on the overall NPL ratio of the Manufacturing sector. The lowest ratios are indicatively in Energy (1.1%) and Financial Services (2.9%) (see Chart III.14).

Chart III.14 Sectoral breakdown for business loans and NPLs for 2021

(in billion euro, percentages %)



Source: Bank of Greece.

It is worth mentioning that the energy crisis, coupled with the ongoing supply chain disruptions, has had a decisive effect on the operating costs of companies, due to the strengthening of inflationary pressures. It is estimated that the impact will be greater in the manufacturing sectors, where operating costs are directly related to the prices of goods; however, it is clear that the overall economic activity will be affected. The impact on household disposable income and business operating costs is estimated to have a negative effect on business credit risk in the short term.

2.2 LIQUIDITY RISK

The liquidity of the banking sector in 2021 continued to improve amid an increase in customer deposits and the Eurosystem accommodative monetary policy, which maintained favourable funding conditions, while the clean-up of banks' balance sheets improved their access to money and capital markets.

The upward trend of deposits continued in the second half of 2021, amid a reduction in deposit interest rates. Deposits from corporations and households amounted to €180 billion in December 2021, reaching a 10-year record high.[32]

Specifically, household sight deposits, including electronic money,[33] increased during 2021. A similar picture, although with less dynamic growth, is shown in savings deposits, while deposits with agreed maturity declined significantly. The increase in deposits during the period under review is linked to the rise in real disposable income, which was also boosted by fiscal support measures. In addition, the dynamic rebound of the economy, which is reflected in the increase in employment flows (mainly in the retail and tourism sectors), had a supportive effect.

Deposits from non-financial corporations increased further in 2021, albeit at a slower pace compared to 2020, as the restart of the economy contributed to the recovery of retail sales and increased tourist receipts. This has resulted in improved cash flows, while some large non-financial corporations were able to raise funds from alternative sources through the issuance of corporate bonds or through share capital increases.

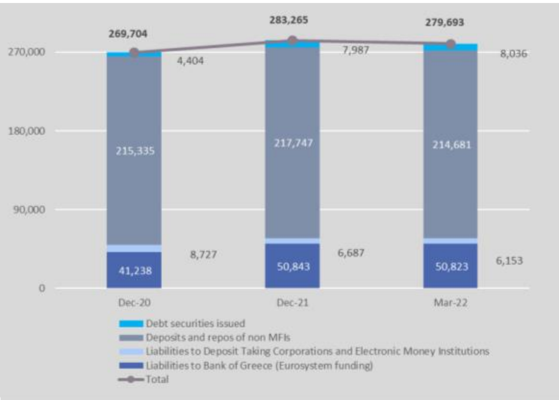
The downward trend of deposit rates continued in 2021, bringing the weighted average deposit/repo rate to 0.04% in December 2021, down by 50% compared to the corresponding rate in December 2020. The average interest rate offered to households and non-financial corporations stood at 0.04% and 0.01% in 2021 respectively.

Banks are financed mainly through deposits, while the amounts from bond issues and Eurosystem funding have increased compared to December 2020 (see Chart III.15).

Specifically, the funding of Greek banks from the Eurosystem increased to €50.8 billion in December 2021, compared with €41.2 billion in December 2020 (see Chart III.16).

Chart III.15 Sources of funding of Greek credit institutions

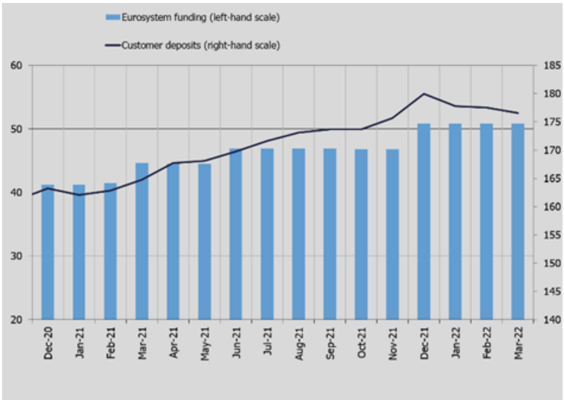
(million euro)



Source: Bank of Greece.

Chart III.16 Deposits from non-financial corporations and households and Eurosystem funding

(billion euro)



Source: Bank of Greece.

[32] In March 2022, deposits declined slightly month-on-month.

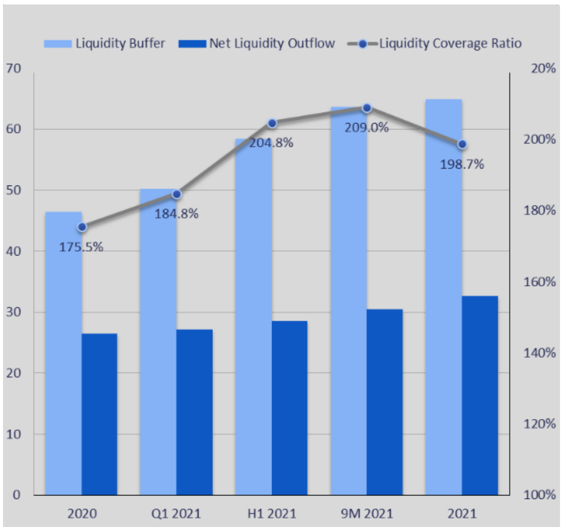
[33] Digital cash, or e-money, is monetary value stored in a pre-paid card or smartphone, for example.

Eurosystem funding is expected to remain significant for Greek banks in 2022. According to the ECB decision of 24.03.2022, the ECB will continue to allow NCBs to accept as eligible collateral the Greek government bonds (GGBs) that do not satisfy the Eurosystem's minimum credit quality requirements but fulfil all other applicable eligibility criteria, for at least as long as reinvestments in GGBs under the Pandemic Emergency Purchase Programme (PEPP) continue.[34] It was also decided that the pandemic-related collateral easing measures introduced in April 2020 will be gradually phased out from July 2022 (until the beginning of 2024) in order not to cause abrupt changes in banks' funding.

In this context, Greek banks continue to strengthen their liquidity positions, by improving the composition of their portfolios with high-quality liquid assets (Level 1) as well as unencumbered assets.[34] As a result, the liquidity coverage ratio (LCR) of banks in the fourth quarter of 2021 stood at 198.7% at system level, up by 23 percentage points from 175.5% in the fourth quarter of 2020, due to a 40% increase in the liquidity buffer held by banks. It should be noted that the liquidity coverage ratio for Greek banks stood higher than the corresponding EU average of the banks of the Single Supervisory Mechanism, which in the fourth quarter of 2021 amounted to 173.4%.

Chart III.17 Liquidity Coverage Ratio (LCR)

(in percentages % and billion euro)



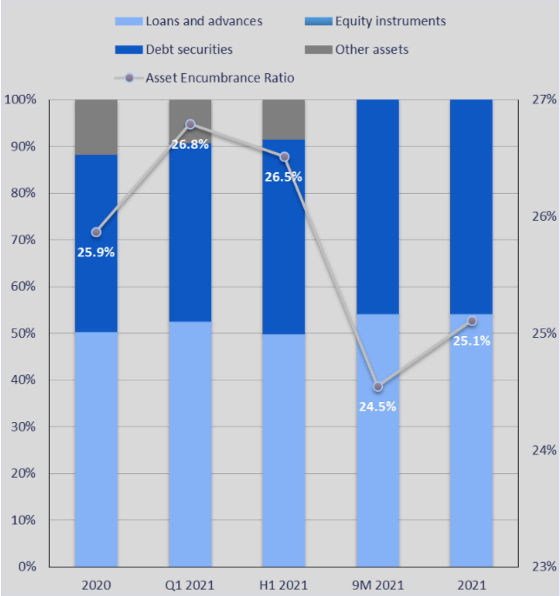
Source: Bank of Greece.

[34] https://www.ecb.europa.eu/press/pr/date/2022/html/ecb.pr220324~8b7f2ff5ea.en.html

The increase in the high-quality liquidity buffer, combined with the expansion of stable and longer-term sources of funding (such as deposits with agreed maturity), offset the increase in net cash outflows, thus maintaining the liquidity coverage ratio at a high level.

Chart III.18 Asset Encumbrance Ratio

(in percentages %)



Source: Bank of Greece.

It should be noted that the net stable funding ratio (NSFR) stood at 123.7% in December 2021, reflecting the adequate coverage of long-term liabilities of banks without the need for excessive use of short-term financing.

During 2021, banks, in parallel to the cleaning up of their balance sheets, made extensive use of Eurosystem funding to build precautionary liquidity buffers. The increase of the Asset Encumbrance Ratio[35] observed in 2020 was due to the increase in the amount of assets that had been pledged as eligible collateral for liquidity by the Eurosystem. During 2021, the amount of pledged assets slightly decreased, driving down the ratio to 25.1% in December 2021, from 25.9% in December 2020. The abovementioned ratio stands lower than the corresponding EU average of the banks of the European Banking Authority (29.1%). The decrease in the ratio does not reflect a general decline in the total amount of encumbered assets, as this is due to the increase in the total assets of the banking sector in 2021. As to the structure, the encumbered assets of the Greek banking sector at end-2021 consisted exclusively of debt securities, as well as loans and advances.

Towards the end of 2021, the increased demand for securities that could be used as eligible collateral for liquidity provision by the Eurosystem intensified investors' concerns about collateral shortages, while volatility in the securities markets in the euro area rose. In particular, despite the fact that holding government bonds constitutes an investment practice, the ECB's securities purchase programs (APP and PEPP), aiming at stabilising inflation targets and supporting the euro area economies against the pandemic, respectively, reduced the availability of eligible securities to investors and banks. These bonds are provided to banks by the NCBs and the ECB through securities lending programs with cash as collateral. For this reason, and in order to mitigate these concerns, the ECB in November 2021 doubled the amount of cash it would accept as collateral from banks looking to borrow sovereign debt purchased under the PSPP/PEPP programs to €150 billion.[36]

In addition, banks have already undertaken initiatives to meet the minimum requirement for own funds and eligible liabilities (MREL) by the end of 2025. In particular, banks have issued Tier 2 bonds, green bonds and senior unsecured bonds, while the observed reduction of weighted assets also plays also an important contributing role. Taking into account the MREL framework, it is

[35] An asset is encumbered if it has been pledged or if it is subject to any form of arrangement to secure, collateralise or credit enhance any transaction from which it cannot be freely withdrawn.
[36] https://www.ecb.europa.eu/mopo/implement/app/lending/html/securities-lending-faq.en.html

expected in the coming years that the issuance of unsecured preferred bonds and senior unsecured bonds will be accelerated.

More specifically, banks issued bonds with a total face value of €3.5 billion in 2021 (see Table III.4). Senior unsecured preferred bonds accounted for €2.4 billion, with a coupon rate of 2% (Eurobank Senior Pref. 2027) to 3.875% (Piraeus Bank Senior Pref. 2027), while subordinated and perpetual bonds accounted for €1.1 billion, with a coupon rate at issue of 5.5% (Alpha Bank Subordinated 2031) to 8.75% (Piraeus Bank Jr Subordinated perpetual).

Table III.4 Issuances of Greek bank bonds

Senior Preferred Bonds	Issuance Amount (million euro)	Coupon (%)	Issuance Date	Maturity Date
Alpha Senior Pref. 2024	400	3	14/12/2021	14/2/2024
Alpha Bank Senior Pref. 2028	500	2.5	23/9/2021	23/3/2028
Eurobank Senior Pref. 2028	500	2.25	14/9/2021	14/3/2028
Eurobank Senior Pref. 2027	500	2	5/5/2021	5/5/2027
NBG Senior Pref.	500	2.75	8/10/2020	8/10/2026
Piraeus Senior Pref.	500	3.875	3/11/2021	3/11/2027
Tier II Bonds	**Issuance Amount (million euro)**	**Coupon (%)**	**Issuance Date**	**Maturity Date**
Alpha Bank Subordinated	500	5.5	11/3/2021	11/6/2031
Alpha Bank Subordinated	500	4.25	13/2/2020	13/2/2030
NBG Tier II	400	8.25	18/7/2019	18/7/2029
Piraeus Bank Tier II	400	9.75	26/6/2019	26/6/2029
Piraeus Bank Subordinated	500	5.5	19/2/2020	19/2/2030
Piraeus Bank Junior Subordinated	600	8.75	16/6/2021	Perpetual

Source: Bank of Greece.

The access of Greek banks to the Eurosystem refinancing operations – on very favourable terms – has improved the interbank funding cost, as has been observed so far in the evolution of the interbank lending margin.[37] Despite the decrease in transaction volumes, repo transactions still remain one of the important sources of funding for Greek banks, as they are characterised by smooth refinancing, increased number of counterparties and improved pricing. For the next period, the volume of interbank repo transactions is likely to increase, especially from June 2023[38] onwards (as the Eurosystem's targeted longer-term refinancing operations (TLTROs III) gradually mature).

Specifically, the volume of transactions on the interbank market remained stable in the first quarter of 2022 and amounted to €3.6 billion in March 2022 (see Chart III.19).

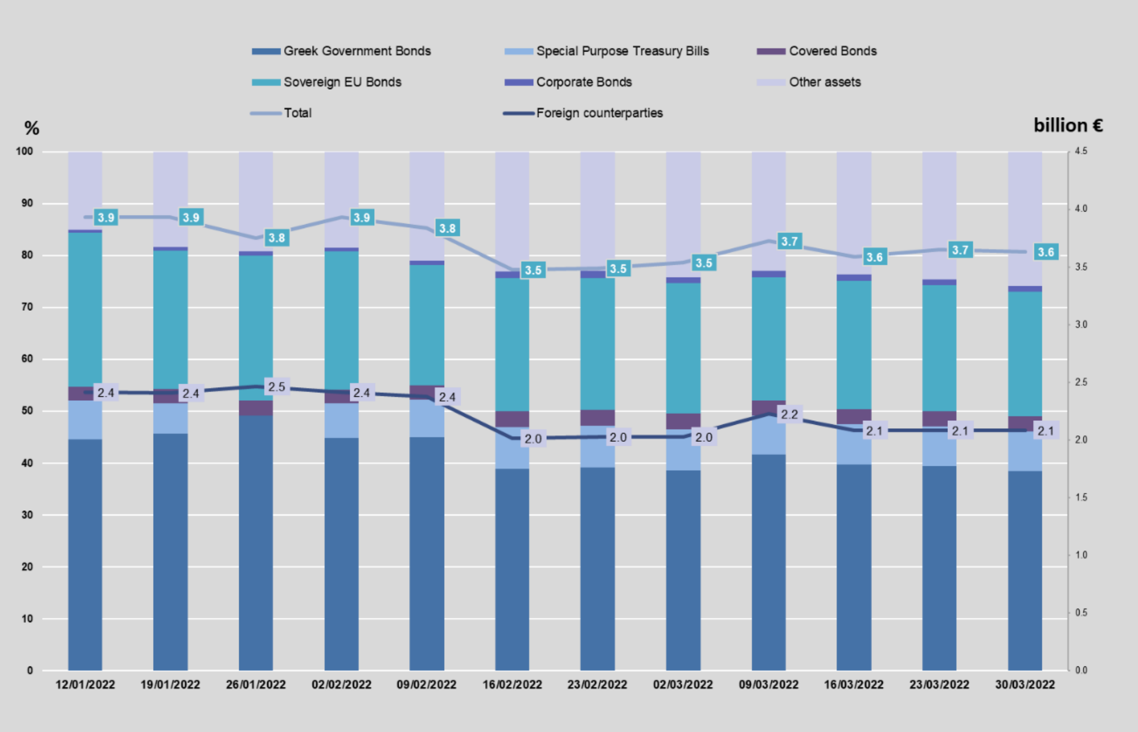
[37] The interbank lending margin, calculated as the difference between the EURIBOR, i.e. the key interest rate used for interbank lending in the EU, and the risk-free rates as defined by the OIS (Overnight Indexed Swaps) curve, is a main indicator monitored by the ECB in order to assess whether funding conditions remain favourable.

[38] It should be noted that the TLTROs-III start to mature in September 2022, while the TLTRO-III that had been launched in June 2020 on the most favourable terms will mature in June 2023.

The deleveraging of the loan portfolio of Greek banks in 2021, although slower compared to 2020, combined with the upward trend of deposit outstanding balances, contributed to the continuing decline in the Loan to Deposit ratio (see Chart III.20). It is worth mentioning that this ratio is lower than the EU average of the banks supervised by the Single Supervisory Mechanism already since 2017. Specifically, while in December 2019 the difference between the two ratios amounted to 34 percentage points, the difference in September 2020 decreased to 28 percentage points, before expanding again to 36 percentage points in December 2021, with the Greek average being significantly lower than the corresponding European one.

Chart III.19 Interbank lending evolution and structure by collateral category

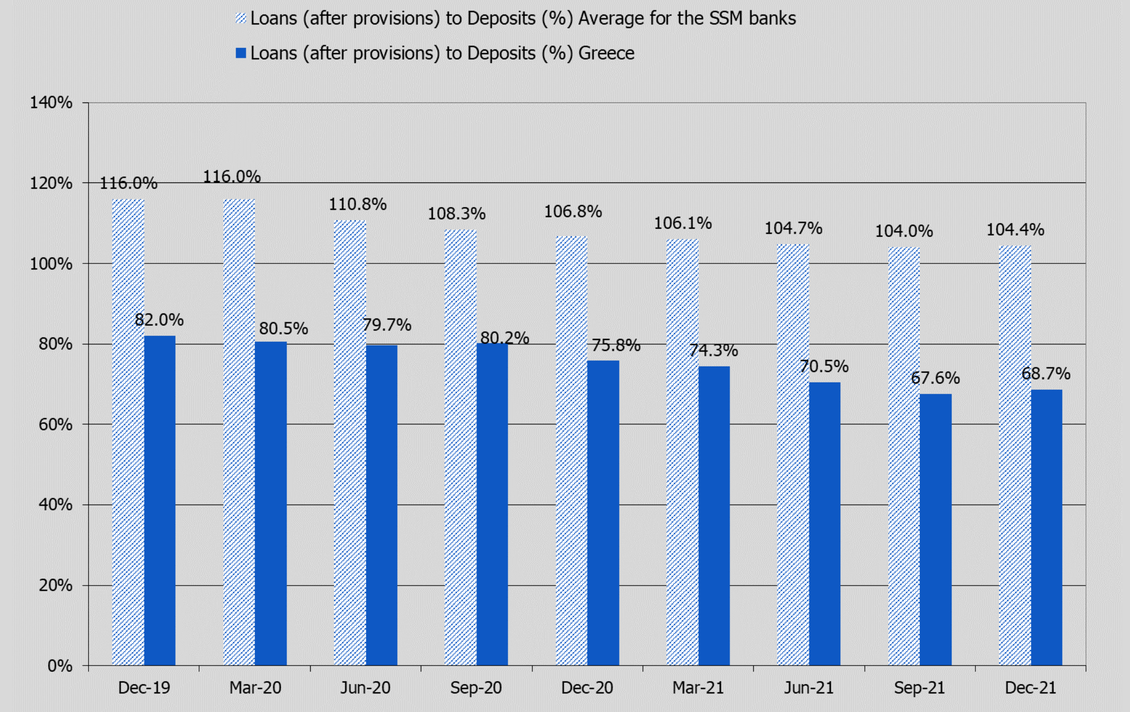
(in percentages % and billion euro)



Source: Bank of Greece.

Chart III.20 Loans (after provisions) to Deposits of Greek banks (on a consolidated basis)

(in percentages %)



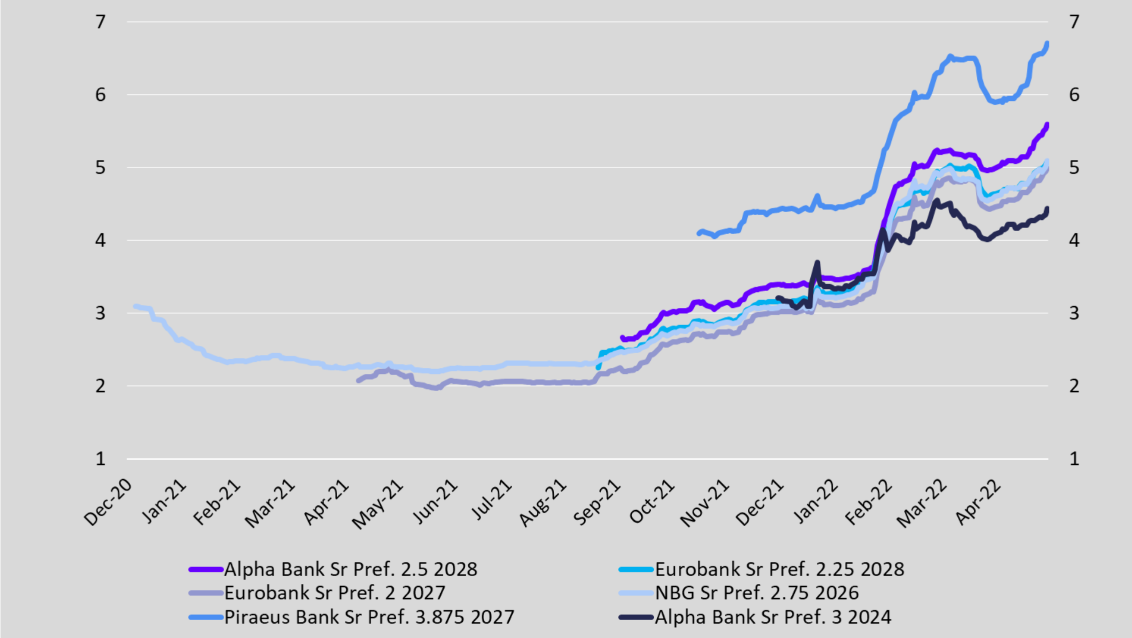
Source: Bank of Greece.

The yields of bonds issued by Greek banks increased during the last quarter of 2021 (Charts III.21 and III.22) and in the first quarter of 2022, before declining in April 2022. In any case, the increase in the yields of bonds that are eligible for MREL purposes renders more costly any future attempt of bond issuance by Greek banks. In addition, bond yields are expected to be affected in the near future by geopolitical developments (Russia's invasion of Ukraine) as well as the intensification of inflationary pressures.

The prospects for upgrading the sovereign rating of the Hellenic Republic to investment grade in 2023 remain realistic, taking into account the recent upgrades of the sovereign rating by international rating agencies. The importance of investment grade in periods of turmoil hardly needs to be emphasised, as liquidity risk is a determining factor in bond prices. In such cases, investors switch from non-investment grade bonds, which are more illiquid, to investment grade bonds, which are more liquid. The increase in the demand for investment grade bonds contributes to a more precise pricing of securities and to lower yields and, consequently, lower funding costs for Greek banks.

Chart III.21 Evolution of yields of senior preferred bonds issued by Greek banks

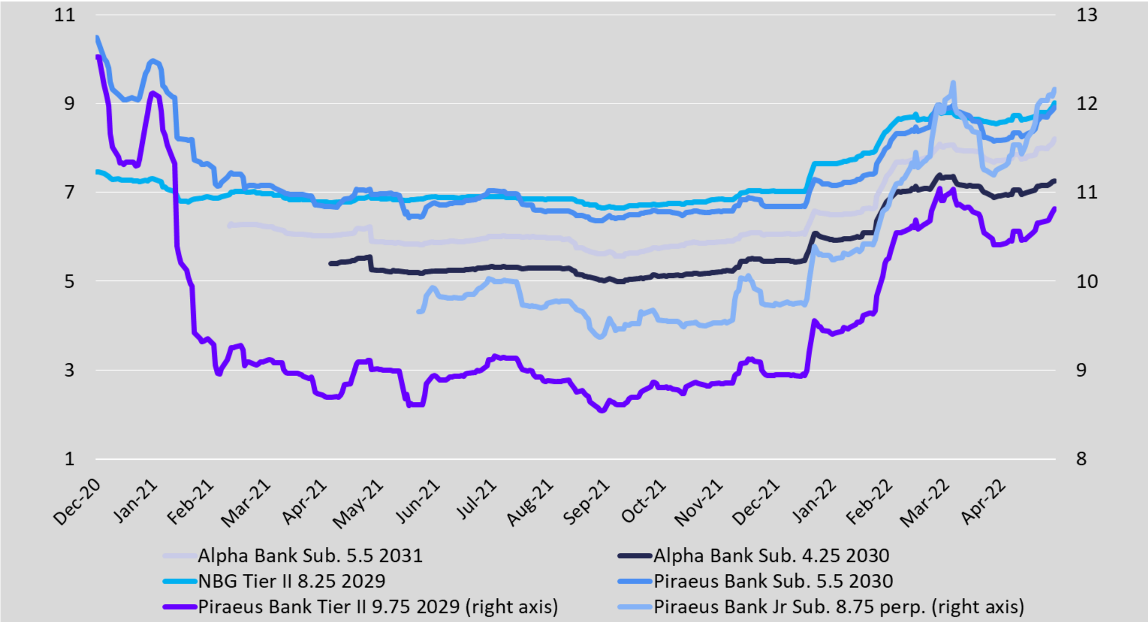
(31.12.2020-6.5.2022, percentage %)



Sources: Bloomberg, Bank of Greece.

Chart III.22 Evolution of yields of subordinated and perpetual bonds issued by Greek banks

(31.12.2020-6.5.2022, percentage %)



Sources: Bloomberg, Bank of Greece.

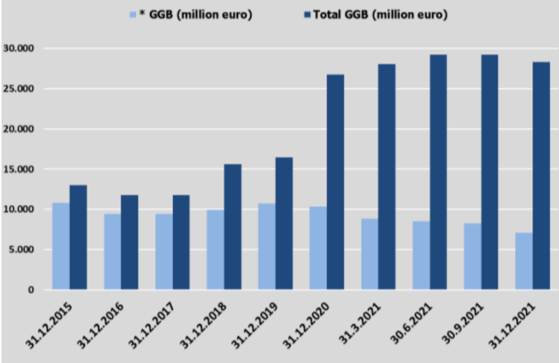
2.3 MARKET RISK

Banking sector exposure to Greek Government Bonds

The total amount of Hellenic Republic bonds (including Treasury bills) held by Greek banks in their portfolios at end-2021 amounted to €28.3 billion (9.5% of assets), up by around €1.5 billion compared to 2020 and by around €11.9 billion compared to 2019.

In particular, the value of Hellenic Republic's securities held by the banking sector in portfolios valued at current value amounted to €7.1 billion at end-2021, compared with €10.3 billion at end-2020 (see Table III.5 and Chart III.23). Similarly, Greek banks' exposure to Hellenic Republic securities in portfolios valued at current value decreased by 31%, while in terms of total assets it fell to 2.4% at end-2021, from 3.8% at end-2020.[39]

Chart III.23 Greek Government Bond portfolio



* G.G.B.: refers to Greek Government Bonds that are valued as available-for-sale, at fair value & held for trading purposes. From 1.1.2018 with the implementation of IFRS 9, it relates to fair value through other comprehensive income & held for trading purposes.

Source: Bank of Greece.

It is worth mentioning that in the context of the sensitivity analysis for these bond portfolios, a potential increase in interest rates of 1 basis point (bp) across the portfolio is expected to result in a loss of €33.7 million for all Greek banks, according to the portfolio composition at end-2021, compared with a loss of €29.7 million at end-2021. Similarly, the impact of a potential increase in credit spreads[40] of 1bp on the total portfolios would entail a loss of €37.5 million at end-2021, compared with a loss of €33.1 million at end-2020.

Banking system exposure to corporate bonds

In 2021, the value of corporate bonds held by the banking sector increased significantly by 36% to €2.5 billion at end-2021, up from €1.8 billion at end-2020 (in portfolios valued at current value). However, the share of corporate bonds in total banking sector assets remains low, just 0.8%. It should be noted that this increase in corporate bond holdings is mainly due to investment in Greek corporate bonds issued in 2021, totalling around €3.8 billion.

Banking sector exposure to equities, mutual funds and other holdings

The banking sector during 2021 increased the value of securities, mutual fund units/shares and other holdings as a percentage of total assets. In particular, at end- 2021 it held securities, equity participations and mutual fund units/shares with a total value of €1.9 billion, or 0.65% of total banking sector assets, compared with €1.3 billion at end-2020 (0.49% of total banking sector assets) (see Table III.5). This increase is mainly due to a rise of equity holdings due to an in-kind contribution of "direct holdings in subsidiaries" to newly established companies in exchange for holding a minority stake.

[39] The portfolios measured at fair value refer to the portfolios categorised as Fair Value Through Other Comprehensive Income (FVTOCI), Fair Value Through Profit and Loss (FVTPL) and Held For Trading (HFT) portfolios.

[40] It should be clarified that this refers to the calculation of the change in the present value of positions due to a one basis point increase in credit spreads, in accordance with supervisory report CS01. It concerns the credit risk of bonds and credit derivatives.

Table III.5 Banking sector investments

(amounts in million euro)

	31.12.2020	31.3.2021	30.6.2021	30.9.2021	31.12.2021	% Difference 31.12.2021 – 31.12.2020
Total						
Greek government bonds (including Treasury bills)	26,755.0	28,031.2	29,242.6	29,252.4	28,302.7	5.8%
of which Treasury Bills[41]	3,260.1	3,204.6	3,197.2	2,860.8	1,458.5	-49.0%
Corporate bonds	1,888.0	1,820.74	2,012.3	2,411.2	2,679.5	41.9%
Equities	492.4	471.38	385.3	423.1	679.0	37.9%
Mutual fund units/shares	115.5	121.19	124.3	109.0	138.5	19.9%
Other holdings	719.6	711.4	725.0	737.4	1,107.9	54.0%
Portfolios valued at current value						
Greek government bonds (including treasury bills)	10,306.7	8,845.9	8,540.3	8,251.0	7,098.6	-31.1%
Corporate bonds	1,796.8	1,717.79	1,911.8	2,298.7	2,449.6	36.3%
Equities	492.4	471.38	385.3	423.1	679.0	37.9%
Mutual fund units/shares	115.5	121.19	124.3	109.0	138.5	19.9%

Source: Bank of Greece.

Exposure of the banking system to foreign exchange risk[42]

Banks' foreign exchange exposure increased by €12.2 billion at end-2021 compared to end-2020, mainly due to an increase of €13.4 billion in the US dollar exposure to €62.5 billion. In contrast, Swiss franc exposure decreased by €4.4 billion to €15.2 billion, although the Swiss franc strengthened against the euro. This change was mainly due to the sale of Swiss franc-denominated loans as part of the banks' strategy to reduce non-performing loans (NPLs). The increase in shipping loans and the parallel strengthening of the US dollar against the euro in 2021 resulted in a significant increase in the banking system's exposure to the US dollar.

Interest rate sensitivity of debt securities and derivatives[43]

The sensitivity analysis shows that a 1bp increase in interest rates, at the level of the trading portfolio, which is valued at current value, is expected to result in a gain of €4.2 million for all Greek banks, according to the composition of the portfolio at end-2021. Conversely, at the level of total securities and derivatives portfolios, a 1bp increase in interest rates would cause a loss of €19 million, with year-end data. Similarly, the impact of a 1bp increase in credit spreads is limited to a loss of less than €1 million in the trading portfolio, while the overall banking system loss amounts to €5.29 million. Banks maintain a portfolio of interest rate derivative products, mainly of simple structure, which are mainly cleared through central counterparties or involve bilateral transactions governed by standardised credit risk coverage contracts.

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[41] Hellenic Treasury Bills.
[42] According to the data submitted by the banks.
[43] According to the data submitted by the banks.

Capital requirements for market risk

Total capital requirements for market risk amounted to €345.1 million at end-2021, from €338.7 million at end-2020. The capital requirements were 70% for debt securities, 19.1% for foreign exchange, 6.5% for equity securities and 4.4% for commodities. The credit valuation adjustment risk for systemic banks, on a solo basis, amounted to €343.6 million at end-2021, from €231.2 million at end-2020. Similarly, the capital requirements to cover the credit valuation adjustment risk for the banking sector as a whole amounted to €28.1 million at end-2021, compared with €18.5 million at end-2020.

2.4 INTERNATIONAL ACTIVITY

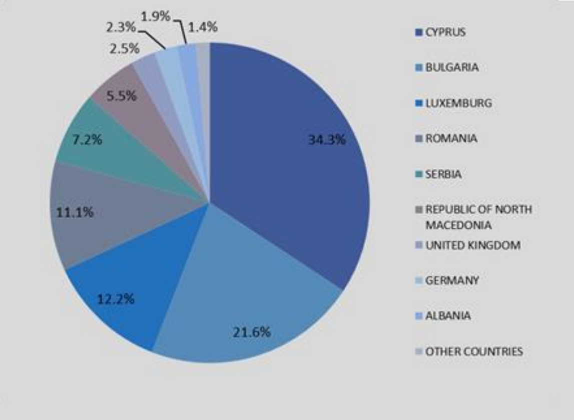
In 2021, Greek banking groups' cross-border activity expanded as a result of the merger of Direktna Bank with Eurobank's subsidiary in Serbia as well as the acquisition by Eurobank of a 12.6% stake in Hellenic Bank of Cyprus.

Greek banks' cross-border assets stood at €34.2 billion in December 2021, up by 12.4% from December 2020, while cross-border activities account for 10.5% of the banking sector's total assets on a consolidated basis (December 2020: 10.3%).[44]

Broken down by region, South-East Europe (SE Europe)[45] accounts for 81.7% of total cross-border business assets, mostly located in Cyprus and Bulgaria (see Chart III.24). Financial centres, namely Luxembourg, the United Kingdom and Germany, represent 17% thereof, led by Luxembourg. The share of SE Europe in Greek banks' external position in deposits and loans is even larger (88.8% and 82.2% respectively, see Table III.6). The region also accounts for the highest number of business units and staff. It should be pointed out that the direct exposure of Greek banking groups to Ukraine and Russia is negligible (see Box III.1).

Chart III.24. Distribution of Greek banking groups' cross-border assets (December 2021)

(percentage %)



Source: Bank of Greece.

In 2021, the profitability of bank subsidiaries and branches abroad was significantly affected by the losses associated with the sale of a significant portfolio of non-performing loans by Alpha Bank's subsidiary in Cyprus. Activities in the United Kingdom, Egypt and, to a lesser extent, Albania and Serbia were also loss-making. On the contrary, activities in Bulgaria, the Republic of North Macedonia, Romania, Malta and in financial centres, other than the United Kingdom, were profitable.

[44] According to supervisory data submitted for the cross-border activity of credit institutions through branches and subsidiaries under Bank of Greece Governor's Act 2651/20.01.2012. The analysis in this section concerns only banking subsidiaries and branches abroad.
[45] The activity of Greek banks in SE Europe is conducted through subsidiaries and branches in Albania, Bulgaria, the Republic of North Macedonia, Cyprus, Romania and Serbia.

Table III.6 Key figures of Greek banking groups abroad (December 2021)

(amounts in million euro)

Country	Assets	Gross Loans	Loans in arrears	% of loans in arrears	Deposits	Number of business units	Number of employees
SE Europe	**27,941**	**14,338**	**646**	**4.5%**	**21,827**	**577**	**9,126**
Albania	667	307	32	10.3%	547	34	410
Bulgaria	7,406	4,522	229	5.1%	6,292	192	2,970
Republic of North Macedonia	1,873	1,349	92	6.9%	1,455	64	983
Cyprus	11,723	3,800	115	3.0%	9,282	28	1,061
Romania	3,803	2,749	85	3.1%	2,763	133	1,978
Serbia	2,469	1,612	92	5.7%	1,487	126	1,724
Financial centres	**5,804**	**2,988**	**81**	**2.7%**	**2,611**	**4**	**205**
Germany	784	600	1	0.1%	126	1	14
United Kingdom	850	459	3	0.6%	693	1	81
Luxemburg	4,170	1,929	77	4.0%	1,792	2	110
Other countries[1]	**474**	**107**	**5**	**4.9%**	**152**	**9**	**233**
TOTAL	**34,219**	**17,433**	**732**	**4.2%**	**24,589**	**590**	**9,564**

Source: Bank of Greece

[1] Other countries include Egypt and Malta.

Loans in arrears[46] amounted to €0.7 billion in December 2021, from €2.5 billion in December 2020 (down by 71% on a comparable basis), representing 4.2% of the loan book. The decrease was mainly attributable to the sale of a non-performing loan portfolio in Cyprus by Alpha Bank. More specifically, as a percentage of total loans, the ratio of loans in arrears was 3.7% for corporate loans, 6.7% for consumer loans and 3.8% for mortgage loans. Mortgage loans in arrears declined by 88%, corporate loans in arrears by 59% and consumer loans in arrears by 33%, on a comparable basis. The provisioning coverage ratio of loans in arrears rose to 76% (December 2020: 73%).

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

Box III.1 Exposure of Greek banking groups to Ukraine and Russia

The direct exposure of the Greek banking groups to Ukraine and Russia is negligible:

- The total exposures of Greek banks to Ukraine and Russia amounted to €156 million and €94 million respectively, according to the latest available data (December 2021) of the Bank for International Settlements (BIS) on the final financial exposures to non-residents.[47]
- Regarding presence in these countries through a subsidiary or branch, only the Piraeus Financial Holdings group has a subsidiary in Ukraine. Specifically, it owns JSC Piraeus Bank ICB,[48] the assets of which represent approximately 0.2% of the group's total consolidated assets in December 2021. Total loans to customers amounted to €84 million and mostly concern local businesses. Deposits amounted to €133 million, intra-group financing to just €9 million and total capital to €22 million.

In terms of liquidity, the "loan-to-deposit" ratio improved significantly (December 2021: 70.9%, December 2020: 86.9%). More specifically, deposits increased by 14%, while lending declined by 7% compared to December 2020 on a comparable basis.

In the current environment, the outlook of cross-border activities is highly uncertain. The Russian invasion of Ukraine is exacerbating inflationary pressures and supply chain disruptions across Europe and is likely to negatively affect tourism flows. On the other hand, the use of the Recovery and Resilience Facility (RRF) creates prospects for increased investment in the countries of SE Europe that are members of the European Union.

3. RESILIENCE

The soundness indicators of Greek banking groups deteriorated in 2021, mainly due to the implementation of non-performing loan reduction strategies. The main points are: (a) the recording of high losses after taxes and discontinued operations, mainly due to increased loan loss provisions for credit risk, and (b) the reduction of banks' equity.

3.1 PROFITABILITY

In 2021, Greek banks recorded high losses after taxes and discontinued operations amounting to €4.8 billion, compared with losses of €2.1 billion in 2020 (see Table III.7), mainly due to losses from the sale of NPL portfolios. As a result, the Greek banking sector remained for the second consecutive year the only loss-making one among the EU countries.

[47] Final financial exposures to non-residents include cross-border and local exposures to the public, banking and non-financial sectors (natural persons and non-financial corporations).
[48] It should be noted that this subsidiary is owned directly by Piraeus Financial Holdings, which is not a credit institution, and therefore does not submit supervisory data on this subsidiary in the context of monitoring international activities.

Table III.6 Financial results of the Greek banking sector

(amounts in million euro)

	2020	2021	Change (%)
Operating income	**9,615**	**8,614**	**-10.4**
Net interest income	5,681	5,508	-3.0
- Interest income	*7,441*	*7,130*	*-4.2*
- Interest expenses	*-1,760*	*-1,622*	*-7.8*
Net non-interest income	3,934	3,105	-21.1
- Net fee and commission income	*1,245*	*1,514*	*21.6*
- Income from financial operations	*2,341*	*946*	*-59.6*
- Other income	*348*	*646*	*85.7*
Operating costs	**-4,202**	**-4,227**	**0.6**
Staff costs	-2,140	-2,009	-6.1
Administrative expenses	-1,498	-1,642	9.6
Depreciation costs	-564	-576	2.1
Net income (operating income less costs)	**5,412**	**4,387**	**-18.9**
Impairment charges	-5,560	-8,480	52.5
Other impairment losses	-755	-222	-70.6
Non-recurring profits/losses	-277	-85	-69.2
Pre tax profits (+)/losses (-)	**-1,180**	**-4,400**	**>100**
Taxes	-518	-447	-13.6
Profits(+)/losses(-) from discontinued operations	-373	45	-
After-tax profits (+)/losses (-)	**-2,071**	**-4,803**	**>100**

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

In more detail, in 2021 the operating income of Greek banks decreased by 10.4% compared to 2020. Net interest income declined, despite lower interest expenses. Interest income declined by 4.2%, affected by the contraction of the banks' loan portfolio, mainly due to loan sales, as well as a small decrease in the weighted average interest rate on loans. The decline in interest expenses is due both to the reduced cost of deposits and to the participation in the Targeted Longer-Term Refinancing Operations (TLTRO III) of the Eurosystem on very favourable terms.[49] The net interest margin decreased compared to 2020 and stood at 1.7%, remaining significantly higher than that of the banking groups in the Banking Union directly supervised by the ECB (see Table III.8). Net fee and commission income increased significantly by 21.6%, with a positive contribution from new loan disbursements, payments and fund transfers, credit cards, portfolio management and investment banking. Core operating income (i.e. net interest income and net fee and commission income) increased by 1.4%. However, income from financial operations in 2021, mainly related with Greek government bond transactions, decreased significantly by 59.6%. It is worth noting that non-recurring income (i.e. one-offs), such as gains from financial transactions, the sale of subsidiaries and assets, as well as from the TLTRO III programme, amount to about €1.6 billion, representing 18.6% of total operating income.

[49] It should be noted that, under the TLTRO III programme, banks are rewarded when they meet certain criteria regarding credit growth.

Table III.7 Banking groups' profitability indicators in Greece and the Banking Union

(in percentages %)

	Greece		Banking Union[1]
	2020	2021	2021
Net interest margin	1.9	1.7	1.3
Operating costs/Total assets	1.4	1.3	1.2
Cost-to-income ratio	43.7	49.1	64.3
Cost of credit risk	3.7	5.7	0.5
Return on Assets (RoA)[2, 3]	-0.7	-1.5	0.4
Return on Equity (RoE)[2, 3]	-7.8	-20.0	6.7

Sources: Financial Statements of Greece's four significant institutions (SIs) and supervisory data for the less significant banks (LSIs) and ECB Statistical Data Warehouse (SDW) - 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 reviewed period.

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

Operating expenses increased marginally, as they were burdened by extraordinary expenses, such as provisions for voluntary retirement schemes, corporate transformation expenses, as well as impairment of goodwill and intangible assets. At the same time, the rationalisation of staff and the branch network continued. Moreover, depreciation costs increased, mainly as a result of an increase in intangible assets due to investments in IT infrastructure in the context of accelerating digital transformation. As a result, in 2021, Greek banks' cost-to-income ratio deteriorated.

The acceleration of the balance sheet clean-up of credit institutions through the sale of non-performing loan portfolios resulted in an increase in the cost of credit risk.[50] In particular, in 2021, loan loss provisions amounted to €8.5 billion (of which €7.2 billion linked with the sale of NPL portfolios by two significant institutions), compared with €5.6 billion in 2020.

As a result, Greek banking groups recorded losses after taxes and discontinued operations and the RoA and RoE ratios deteriorated further (-1.5% and -20% respectively).

As regards the medium-term profitability prospects of Greek banks, strong inflationary pressures and increased geopolitical risks create uncertainty in the business environment of banks. In addition, interest expenses are expected to pick up due to the withdrawal of emergency measures, such as the TLTROs, which had been implemented in the context of the ECB's accommodative monetary policy to mitigate the effects of the pandemic, as well as due to the need to issue bonds to meet regulatory requirements (e.g. MREL).

Therefore, banks need to accelerate the implementation of their business plans for financing healthy businesses, with a focus on export-oriented economic sectors and taking advantage of the opportunities offered by the Recovery and Resilience Facility, as well as households, by applying prudent credit standards. At the same time, banks should further develop alternative income sources in the context of efficient management of deposits and client funds. Accelerating the dig-

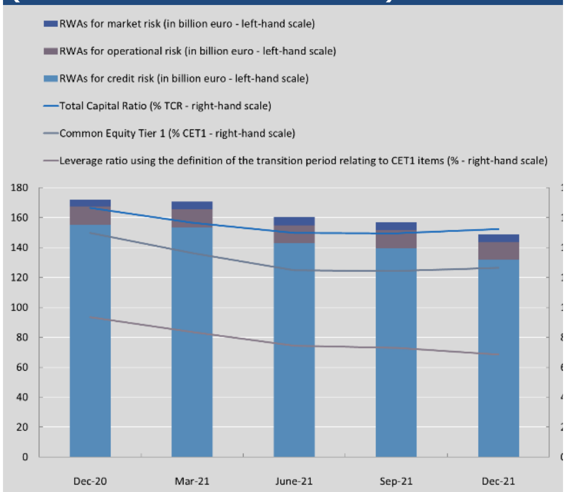
[50] Cost of credit risk is the ratio of credit risk provisions (y-o-y) over loans after accumulated provisions.

ital transformation of credit institutions can help in this direction. Developing a sustainable business model that achieves a satisfactory level of operating profitability will improve the banking sector's ability to absorb the effects of potential shocks (either endogenous or exogenous) and safeguard financial stability.

3.2 CAPITAL ADEQUACY

Greek banking groups' capital adequacy declined in 2021 mainly as a result of losses on NPL portfolio sales and the phase-in of IFRS 9, which more than offset the positive impact of capital increases in the course of 2021. In particular, the Common Equity Tier 1 (CET1) ratio on a consolidated basis fell to 12.6% in December 2021, from 15% in December 2020, and the Total Capital Ratio (TCR) to 15.2% from 16.6%, respectively.[51]

Chart III.25 Capital adequacy, leverage indicators, and breakdown of RWAs of Greek banking groups (December 2020 – December 2021)



Source: Bank of Greece.

These ratios are well below the average for credit institutions supervised directly by the ECB in the Banking Union (CET1 ratio 15.5% and TCR 19.5% in December 2021). Taking into account the fully phased-in impact of IFRS 9, the fully loaded CET1 ratio and TCR of Greek banking groups stood at 10.7% and 13.4% respectively.

In more detail, Greek banks' prudential own funds declined by 20.9% year-on-year in December 2021, negatively impacted by: (i) losses on NPL portfolio sales; (ii) the phase-in of IFRS 9; (iii) amortisation of Deferred Tax Credits (DTCs); and (iv) the impact of fair value measurement of financial assets (Fair Value Through Other Comprehensive Income – FVTOCI). Furthermore, the quality of Greek banks' prudential own funds deteriorated further: in December 2021, DTCs amounted to €14.4 billion, i.e. 63% of total prudential own funds (up from 53% in December 2020). This share accounts for 73% of total prudential own funds when taking into account a fully phased-in impact of IFRS 9 (from 62.8% in December 2020). Moreover, deferred tax assets (DTAs) of €1.7 billion are included in Greek banking groups' prudential own funds (on a fully phased IFRS 9 basis), accounting for 8% of their total prudential own funds.[52]

Risk-weighted assets fell year-on-year by 13.6% in December 2021, mainly as a result of a 15.2% decline in assets weighted for credit risk, which account for 89% of total risk-weighted assets. This decline is due to the sale of NPL portfolios, the provision of Greek state guarantees under the Hellenic Asset Protection Scheme (HAPS) and synthetic securitisations. By contrast, assets weighted for market risk increased year-on-year by 6.9% in December 2021.

[51] Banks' weighted average on a consolidated basis.

[52] Although DTAs of €5.1 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.

The leverage ratio[53] (Tier 1 capital/exposures) deteriorated to 6.8% in December 2021, from 9.3% in December 2020, on the back of a reduction in regulatory capital and an increase in Greek banks' bond holdings (see Chart III.25).

At EU level, temporary capital and operational relief measures taken by the ECB in 2020 in response to the COVID-19 pandemic will not be extended beyond December 2022.[54] Until then, Greek significant banks may temporarily operate below the capital conservation buffer and the level of capital defined by their Pillar 2 Guidance and use Additional Tier 1 (AT1) and Tier 2 capital to meet Pillar 2 requirements. Similar measures have been taken for less significant banks directly supervised by the Bank of Greece.[55]

The Bank of Greece set the buffer for the four significant banks identified as other systemically important institutions (O-SII buffer) at 0.75% in 2022, up by 0.25% compared with 2021, correspondingly increasing the level of the combined buffer requirement for significant banks.

Positive developments in 2021 were the €1.4 billion and €800 billion capital increases by Piraeus Bank and Alpha Bank respectively, and the issuance of AT1 bonds worth €600 million by Piraeus Bank and Tier 2 bonds worth €500 million by Alpha Bank. These bond issues count towards the minimum requirement for own funds and eligible liabilities (MREL).

As regards the outlook for capital adequacy, Greek banks are facing the following challenges: i) uncertainty as regards their internal capital generation capacity; ii) the impact from the implementation of their NPL reduction strategies and the additional provisions for credit risk related to any new NPLs; and c) the need to strengthen their intermediation role by financing the real economy.

Box III.2 The European Commission's proposal to amend Regulation (EU) No 575/2013 (CRR) and Directive 2013/36/EU (CRD)

On 27 October 2021, the European Commission published a proposed legislative package amending existing banking rules to enhance the resilience of the banking system to future economic crises, while contributing to Europe's recovery from the COVID-19 pandemic and the transition to a climate neutral economy.

This legislative package consists of:

- a legislative proposal to amend the Capital Requirements Regulation (Regulation (EU) No 575/2013);[56]
- a legislative proposal to amend the Capital Requirements Directive (Directive 2013/36/EU);[57] and
- a separate legislative proposal to amend the Capital Requirements Regulation in the area of resolution of credit institutions.[58]

[53] Defined as Tier 1 capital (using the transitional definition of Tier 1 capital) to its average total consolidated assets.
[54] See ECB press release of 12 March 2020, "ECB Banking Supervision provides temporary capital and operational relief in reaction to coronavirus".
[55] Provided as a permanent arrangement under Directive (EU) 2019/878 (CRD V).
[56] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0664
[57] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0663
[58] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0665

In particular, the new legislative initiative focuses on achieving the following objectives:

i. strengthening the framework of risk-based capital requirements, by adopting the remaining provisions of the Basel III international standards, without significant increases in capital requirements as a whole;

ii. enhancing the focus on environmental, social and governance risks in prudential framework;

iii. further harmonising the supervisory powers and tools; and

iv. reducing institutions' administrative costs related to public disclosures and improving access to institutions' prudential data.

The key points introduced by the new proposal include the following:

Output capital requirements (output floor)

One of the most important measures of the Commission's proposal is the introduction of the output floor, which aims to ensure that the "internal models" used by credit institutions to calculate their capital requirements do not underestimate the risks, ensuring that the funds required to cover these risks are sufficient. Specifically, the output floor sets a threshold in the capital requirements calculated by credit institutions' internal models, at 72.5% of the own funds requirements that would apply on the basis of the standardised approach. This facilitates the comparability of capital adequacy ratios between credit institutions and strengthens confidence in these ratios and the soundness of the financial sector as a whole. According to the European Commission's proposal, the output floor will be calculated at the highest level of consolidation in the EU, while its implementation is expected to start on 1.1.2025 initially at 50%, which will increase by 5% annually until 31.12.2029. After the expiry of the transitional arrangements (as proposed in Article 465 of the proposal to amend Regulation (EU) No 575/2013) and in particular from 01.01.2030, the rate of 72.5% will apply.

Environmental, Social and Governance Risks (ESG risks)

In the context of climate change and the transition to a sustainable economy, credit institutions will have to adapt their business model towards the goal set by the European Union, to become climate neutral by 2050 (European Green Deal), and the intermediary milestones until 2030 ("fit for 55"[59]). The "green financing" already developed is expected to be at the core of the financial system and an important factor in achieving this goal. In order to maintain the resilience of the financial sector, it is necessary to integrate the environmental, social and governance-related risks (ESG) resulting from this transition in the context of prudential supervision.

In light of the above and in accordance with the legislative proposal:

(a) credit institutions should include ESG risks in their strategies and procedures for assessing their internal capital needs;

(b) credit institutions should implement adequate internal governance arrangements and the board of directors should review and approve the strategies and policies regarding the risks, develop plans to address them and set milestones for monitoring them;

[59] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021DC0550&from=ES

(c) supervisory authorities should ensure that credit institutions have sound strategies, policies, procedures and systems for identifying, measuring, managing and monitoring ESG risks in the short, medium and long term; and

(d) supervisory authorities and credit institutions should regularly conduct climate stress tests.

It should be noted that the European Commission's proposal recognises that the provisions on the Systemic Risk Buffer (SyRB) framework may already be used to address various types of systemic risks, which may include risks related to climate change. The suitability of the macroprudential framework for dealing with such risks will be assessed in a comprehensive and structured way during the review of the macroprudential framework.[60]

Suitability of board members and corporate governance arrangements

The framework governing the suitability of board members and key function holders is one of the least harmonised areas of EU law. The Commission therefore proposes specific suitability criteria for board members and key function holders, clarifies the role of credit institutions and the competent authorities in the evaluation of these persons and sets a timetable of this evaluation. It is also proposed that the chairman of the board of directors of an institution may not simultaneously exercise the duties of managing director in the same institution.

Third-country branches (TCBs)

Despite the significant size of the aggregate total assets of third-country branches in the EU (as at 31 December 2020, €510 billion[61]), their supervision is largely governed by the national legislation in each Member State. They are also excluded from the scope of the Single Supervisory Mechanism (SSM), although their individual asset size exceeds the threshold that would make them qualify as significant institutions under the direct supervision of the SSM. This creates significant opportunities for regulatory arbitrage and raises significant risks to financial stability.

In order to ensure a level of minimum harmonisation, the European Commission's proposal includes a number of prudential requirements (authorisation, regulatory requirements for minimum initial capital, liquidity and internal governance requirements, regular reporting requirements) with which the TCB must comply in order to provide banking services within the EU. For reasons of proportionality, the scope and level of the prudential requirements is proposed to differ between Class 1[62] and Class 2 of third-country branches.[63]

Impact assessment

According to the impact assessment report published by the European Commission on 27.10.2021,[64] the implementation of the proposed amendments is expected to lead to a weighted

[60] See Special Feature III.

[61] In some cases, third-country branches hold a significant amount of assets relative to the size of the GDP of the host Member State and the banking sector of that Member State.

[62] Class 1 comprises the larger TCBs (i.e. those holding assets equal to or in excess of €5 billion), as well as TCBs authorised to take deposits from retail customers and TCBs considered "non-qualifying TCBs", the latter two regardless of their size.

A TCB is considered 'qualifying' where its head office is established in a country i) that has in place a supervisory and regulatory framework for banks and confidentiality requirements that have been assessed as equivalent to those in the Union and ii) that is not listed as a high-risk third country that has strategic deficiencies in its regime on anti-money laundering and counter terrorist financing.

[63] Class 2 comprises all TCBs not classified as class 1.

[64] https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SWD:2021:0321:FIN:EN:PDF

average increase in the minimum capital requirements of EU credit institutions by 6.4% to 8.4% in the long term (by 2030), after the envisaged transitional period. In the medium term (in 2025), the increase is expected to range between 0.7% and 2.7%. However, the adoption of the above legislative proposals will enhance the credibility and robustness of the bank prudential framework and hence increase the resilience of the EU banking sector.

Opinion of the European Central Bank of 24 March 2022 on the proposal for amendments to Regulation (EU) No 575/2013 (CRR) and the proposal for amendments to the Directive 2013/36/EU (CRD)

The ECB, under Articles 127(4) and 282(5) of the Treaty on the Functioning of the EU (TFEU), has issued an Opinion regarding the European Commission's legislative proposal amending CRR[65] and an Opinion regarding the European Commission's legislative proposal amending CRD.[66]In particular, the ECB in this "Opinion regarding CRR" emphasises the importance of:

(a) the *timely* finalisation of the reforms envisaged under Basel III, in order to ensure that credit institutions may withstand future crises;

b) the *full* implementation of the Basel III standards – in this regard, the ECB welcomes the fact that the European Commission proposal covers all the elements developed by the Basel Committee on Banking Supervision and agreed by the Group of Central Bank Governors and the Heads of Supervision in December 2017; and

(c) the *faithful*, without divergence implementation of the Basel III reforms, which is essential for maintaining financial stability and ensuring the international credibility of the European financial system. In this regard, the ECB (i) raises concerns regarding the possibility of insufficient supervisory treatment of certain categories of risks in case of adoption of the proposed deviations from the Basel text, e.g. with respect to counterparty risk, unrated business credit risk, operating risk and related exposure risk with real estate, and ii) proposes relevant amendments.

In the CRD Opinion, the ECB supports the proposed amendments as they will significantly strengthen the regulatory framework by covering areas where regulators have identified gaps that could potentially lead to inadequate monitoring and risk coverage. In addition, the ECB:

(a) raises concerns about the proposed requirement for a mandatory revision of the Systemic Risk Buffer (SyRB) calculation method, according to which such mandatory revision "freezes" the SyRB at the levels in force before the application of the output floor until the completion of this review, in order to establish any overlap of the capital requirements for the same risks;

(b) proposes specific amendments to the proposal including the suitability framework for the members of the board of directors and key function holders; and

(c) proposes the addition of further supervisory powers relating to amendments to the articles of association of credit institutions, related party transactions and outsourcing of essential functions.

[65] https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.en_con_2022_11_f_sign~5c31e7f84b.en.pdf
[66] https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.en_con_2022_16_f_sign~564d2df6b8.en.pdf

4. INTERCONNECTEDNESS WITH OTHER SECTORS OF THE FINANCIAL SYSTEM

4.1 DIRECT INTERCONNECTEDNESS OF MFIs WITH OTHER SECTORS

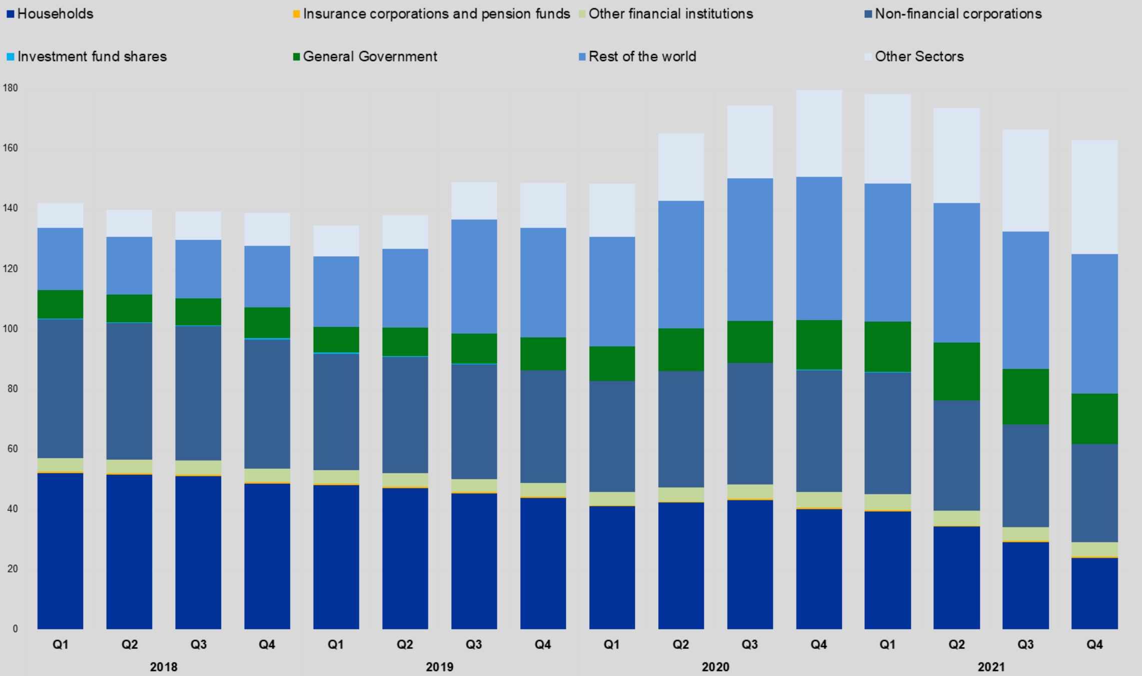
The analysis of interconnectedness between different economic agents and markets helps to identify potential systemic vulnerabilities arising from the interconnections within the financial sector itself or between the financial and non-financial sectors. Financial accounts are a part of national accounts that focus on the financial structure of the economy. They portray all transactions between the various sectors of the economy that give rise to assets or liabilities. This section utilises statistical reports by analysing the assets and liabilities of Monetary Financial Institutions (MFIs) by counterparty sector, i.e. Households and Non-Profit Institutions Serving Households (NPISHs), Insurance Corporations and Pension Funds (ICPFs), Other Financial Institutions (OFIs),[67] Non-Financial Corporations (NFCs), Investment Fund shares/units (IFs), General Government, non-residents and other sectors.[68] The structure of the domestic banking system and other sectors is analysed in Chapter V of this Report.

The total assets of Greek Monetary Financial Institutions (MFIs) vis-à-vis other resident and non-resident sectors as a percentage of GDP increased slightly during the first months of the pandemic crisis. However, despite the increase that occurred in mid-2020, there was a reduction since the first quarter of 2021. The value of MFIs assets vis-à-vis other sectors remained close to 160% of GDP at end-2021 (see Chart III.26). The distribution of assets reveals a relatively higher although uniform exposure to households and corporations, while the exposure to general government is comparatively smaller. It should also be noted that MFIs' claims on investment funds, insurance corporations and pension funds are much lower (below 1% of GDP). Claims on households decreased to 24% of GDP, while claims on the rest of the world remained significant and accounted for 46% of GDP in the second quarter of 2021. The changes observed during the period 2020-2021 are mainly due to the decrease of GDP in 2020 amid the pandemic crisis and its subsequent increase in 2021. However, part of the change is due to the increase in securitisation and sales of non-performing loans, as well as the absorption of a large part of Greek government bonds that were issued during 2020.

[67] Other Financial Institutions comprise other financial institutions that do not belong to the category of Insurance Corporations and Pension Funds, i.e. leasing and factoring companies, securities and derivatives dealers, special purpose vehicles participating in securitisation transactions [Regulation (EU) No 1075/2013 of the European Central Bank], agents and consultants, investment consultants, bureaux de change, stock exchanges, investment and pension fund managers.

[68] Other sectors comprise insurance, pension and standardised guarantees, unlisted shares and other equity and financial derivatives and employee stock options.

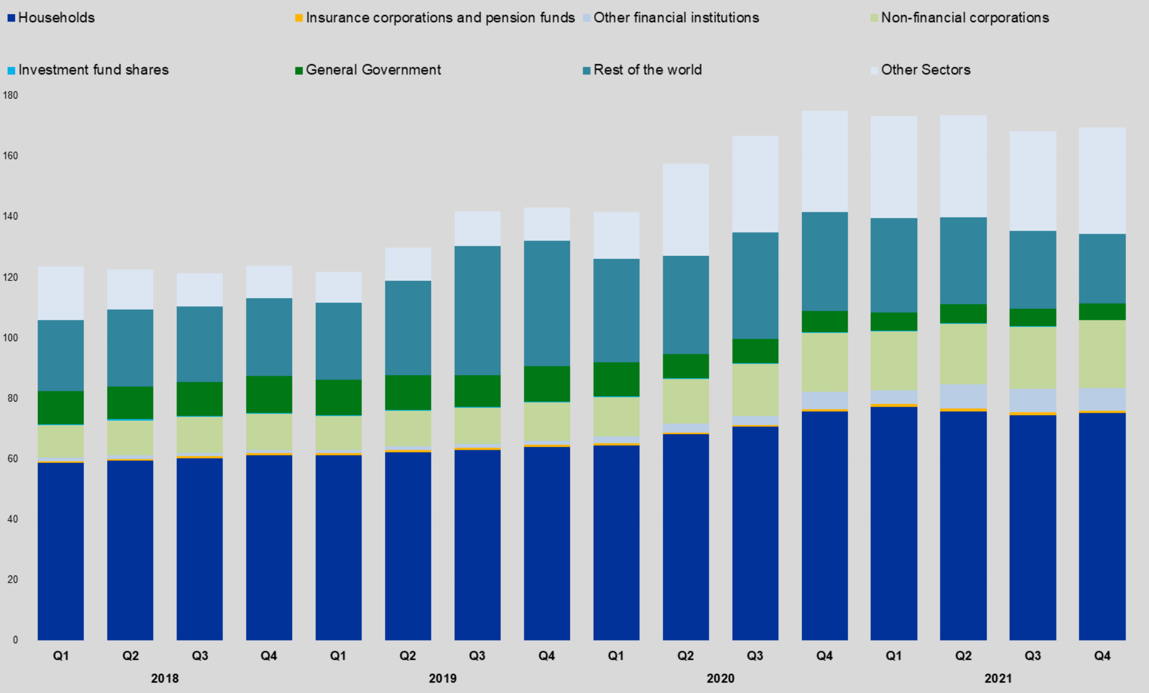
Chart III.26 Assets of Greek Monetary Financial Institutions (MFIs) by issuing sector (% of GDP) (2018 – 2021)



Source: Bank of Greece.

Regarding MFIs' liabilities, which also increased and amounted to almost 170% of GDP, the rise recorded in mid-2020 appears not to have been reversed (see Chart III.27).

Chart III.27 Liabilities of Greek Monetary Financial Institutions (MFIs) by holding sector (% of GDP) (2018 – 2021)



Source: Bank of Greece.

In particular, the slight containment observed during 2021 is mainly due to the increase in total liabilities during the period 2020-2021. Regarding the distribution of liabilities, it should be noted that exposures to households (essentially deposits) predominate. Liabilities of MFIs to insurance corporations and pension funds are close to just 1%, while liabilities to investment funds are less than 0.5% of GDP over the entire reporting period. Liabilities held by MFIs vis-à-vis households (75% of GDP) are increasing and were lower than cross-border exposures (23% of GDP) in the fourth quarter of 2021.

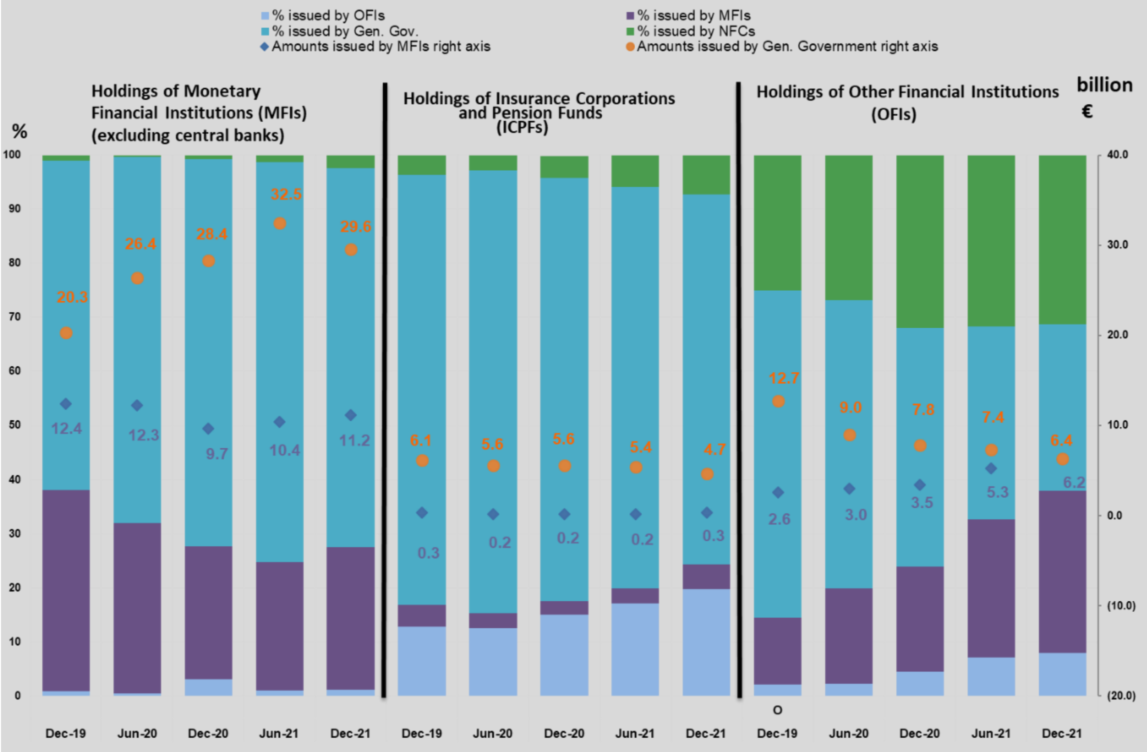
4.2 INDIRECT INTERCONNECTEDNESS OF BANKS WITH OTHER ENTITIES OF THE FINANCIAL SECTOR

Insurance corporations and pension funds (ICPFs) as well as other financial institutions (OFIs) are playing an increasingly important role in channelling funds to non-financial corporations based in Greece. Therefore, the indirect interconnectedness analysis investigates whether – in parallel with the banking sector – there are changes in the holdings by other non-banking financial sectors of securities and shares issued by entities based in Greece. In this context, the ECB Securities Holding Statistics (SHS) database provides information on securities and shares held by euro area investors (at a country level), broken down by instrument type, issuing country and issuing sector.

The holdings by euro area MFIs of securities and shares show a steady increase from €20.3 billion in 2019 to €29.6 billion in 2021 as far as securities issued by General Government are concerned. On the other hand, there is a decrease from €6.1 billion in 2019 to €4.7 billion in 2021 in securities issued by General Government and held by insurance corporations and pension funds (ICPFs). As for the other financial institutions (OFIs), there is a decrease in the holdings of securities and shares issued by General Government, while OFI holdings of securities and shares issued by MFIs rose to €6.2 billion in 2021, from €2.6 billion in 2019. It is noteworthy that there is also an increase in OFI holdings of securities and shares issued by non-financial corporations (NFCs) to €6.5 billion in 2021, from €5.2 billion in 2019 (see Chart III.28).

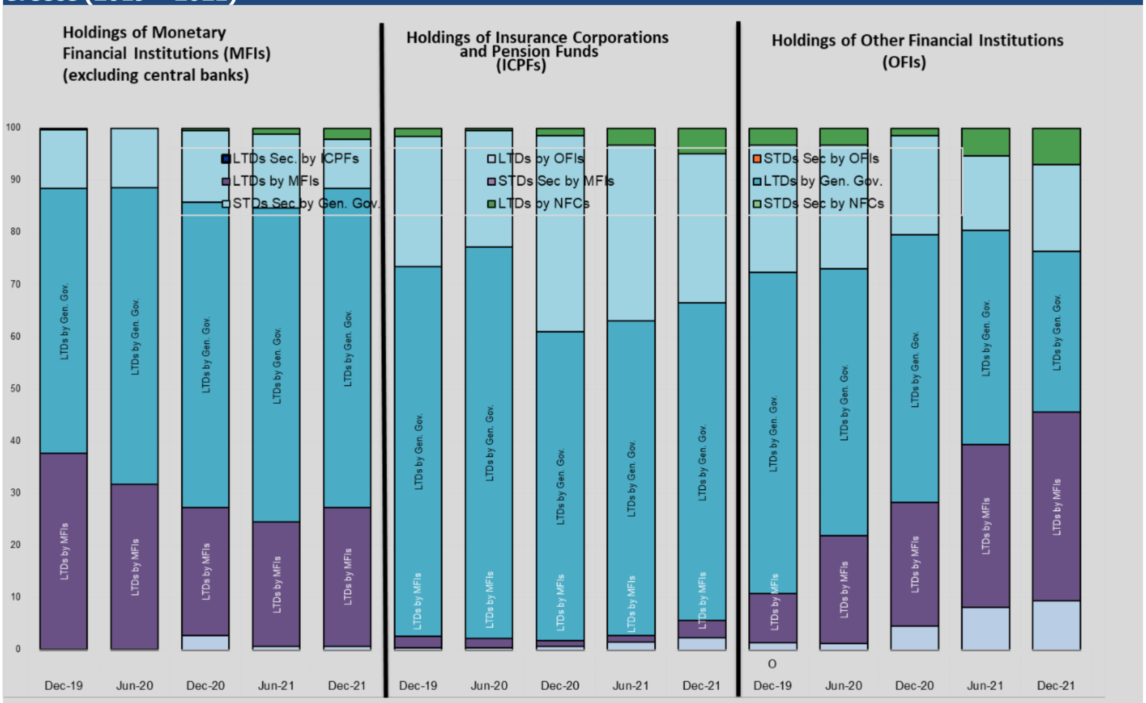
More specifically, regarding the holdings by euro area MFIs and OFIs, long-term securities issued by the Greek General Government constitute the largest share of all securities issued by all entities in Greece, with an upward trend, to €25.6 billion in 2021, from €16.6 billion in 2019 (Chart III.29). At the same time, however, there is an increase in long-term securities issued by MFIs and held by the other financial institutions (including investment funds) to €4.9 billion in 2021, from €1.4 billion in 2019.

Chart III.28 Holdings by euro area MFIs (excluding central banks), ICPFs, OFIs
% of securities and shares (and corresponding amounts) issued by all entities resident in Greece (2019 – 2021)



Source: ECB, Securities Holding Statistics database SHS.

Chart III.29 Holdings by euro area MFIs (excluding central banks) , ICPFs, OFIs (% of total holdings) of long-term debt securities (LTDs) and short-term debt securities (STDs) issued by all entities resident in Greece (2019 – 2021)



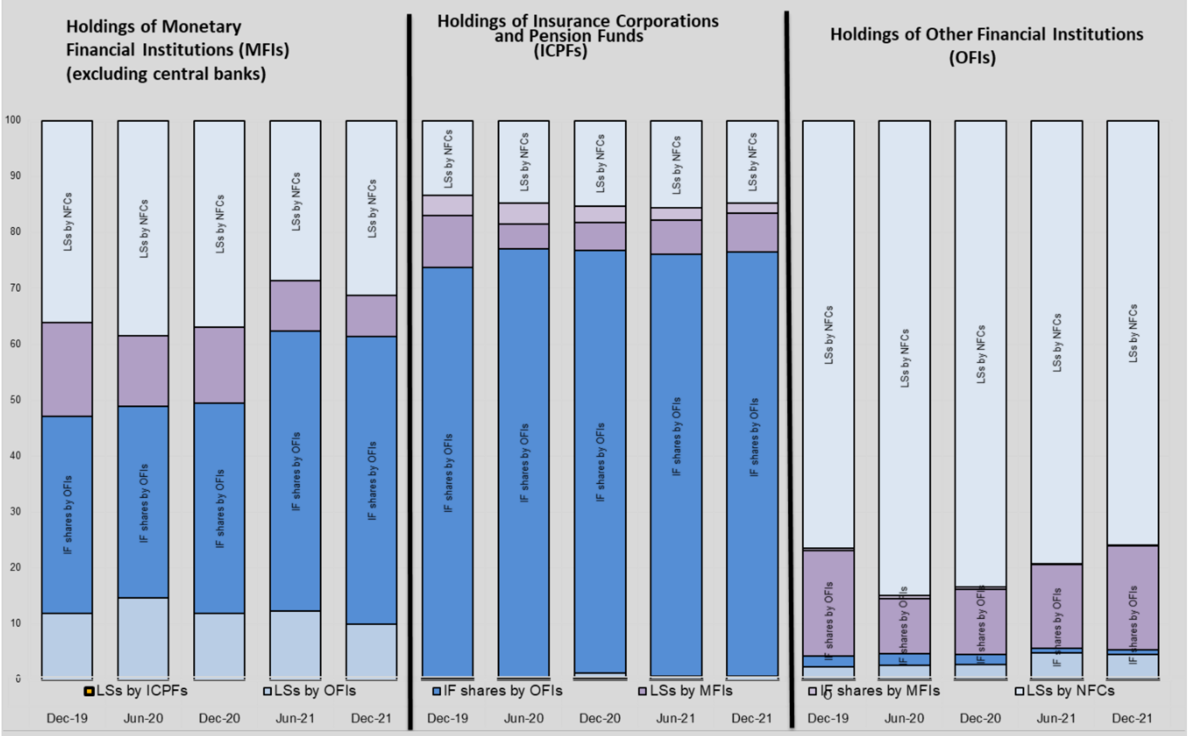
Source: ECB, Securities Holding Statistics database SHS.

The increase observed in the holdings by euro area MFIs of securities issued by the Greek General Government, especially in times of crisis, was also facilitated by the acceptance of Greek government bonds as eligible collateral for refinancing operations by the ECB, which is not the case for government bond holdings by euro area ICPFs and OFIs. As a result, banks are incentivised to hold government bonds compared to other financial institutions, as they increase their eligible collateral for liquidity provision by the ECB.

The prospects of the Hellenic Republic acquiring an investment grade sovereign rating in 2023 have increased, taking into account the recent upgrades of the Greek sovereign rating by international rating agencies. This fact, coupled with the future increase in the demand for loans due to the growth of the Greek economy, may also affect the structure of securities holdings by the MFIs.

Regarding MFIs' holdings of listed shares and investment fund shares/units, it is observed that investment fund shares/units are held mainly by insurance corporations and pension funds, but there was also an increase in investment fund shares/units held by MFIs in 2021 (see Chart III.30). Listed shares (LSs) issued in Greece are held mainly by other financial institutions (OFIs).

Chart III.30 Holdings by euro area MFIs (excluding central banks) , ICPFs, OFIs (% of total holdings) of listed shares (LSs) and IF shares/units (IFs) issued by all entities in Greece (2019 – 2021)



Source: ECB, Securities Holding Statistics database SHS.

4.3 EVOLUTION OF CROSS-BORDER EXPOSURES OF GREEK BANKS AND OF FOREIGN BANKS' EXPOSURES TO GREECE

The BIS consolidated banking statistics (CBS) reflect the global consolidated positions of internationally active banking groups headquartered in reporting countries. CBS offer a very useful tool for assessing the total risk exposure of a reporting banking system.[69] The BIS consolidated data include the claims of reporting banks' foreign subsidiaries that are operating in reporting countries, but exclude intragroup positions, similarly to the consolidation approach of banking groups followed by supervisory authorities and in line with international accounting practices.

CBS statistics are compiled in two different ways: on an immediate counterparty basis (IC) or on an ultimate risk basis (UR). The immediate counterparty is the entity with which the bank enters into a loan agreement, from which a direct receivable is created. CBS statistics on an immediate counterparty basis (IC) can be used to gauge the importance on a consolidated basis of national banking systems in global credit intermediation and to assess the dependence of borrowing countries on foreign bank creditors. On the other hand, the analysis on an ultimate risk basis takes account of instruments that mitigate credit risk through the transfer of credit risk.[70] In particular, one way in which banks can reduce their exposure to a given country or sector is through the use of credit risk transfers from one counterparty to another. A common example is the purchase of credit protection via credit default swaps. CBS Statistics on an ultimate risk basis (UR) take into account the use of risk transfer tools by banks and thus provide a measure of bank exposure, providing additional information for the on-balance-sheet receivables already recorded in CBS statistics on an immediate counterparty (IC) basis.[71]

Following the deterioration of fiscal aggregates and after Greece entered a financial support programme in 2010, foreign banks began to reduce their exposure to Greece in terms of both total exposures and exposures to the public sector (see Chart III.31). The consolidated total exposures of banks from all countries to Greece amounted to USD 33 billion in 2012, which is the lowest level of the period 2005-2012.

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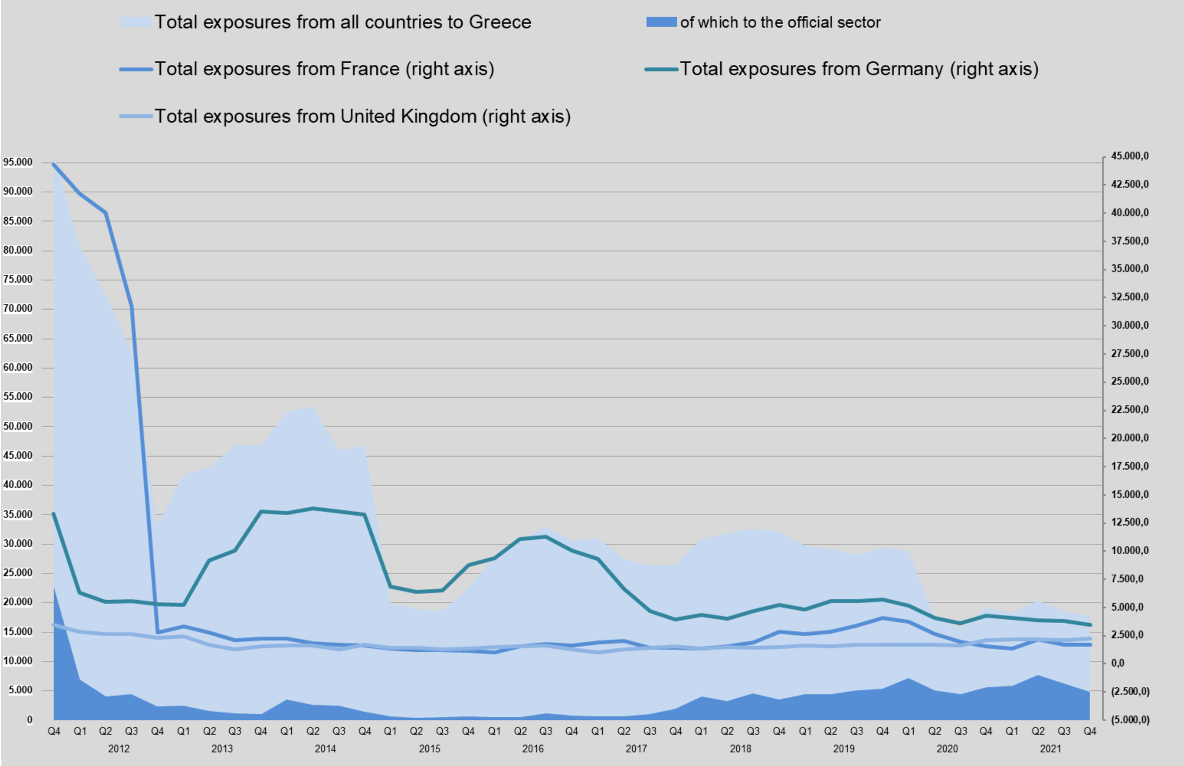
[69] See Avdjiev S., "Measuring banking system's exposures to particular countries", BIS Quarterly Review, June, page 20.
[70] (2019) Reporting guidelines for the BIS international banking statistics http://www.bis.org/statistics/bankstatsguide.pdf
[71] See Avdjiev, S. and Wooldridge P. (2018) "Using the BIS consolidated banking statistics to analyze country risk exposures", BIS Quarterly Review, September.

Chart III.31 Total exposures of banks from all countries to Greece on an ultimate risk basis in million US dollars (2011 – 2021)



Source: BIS, Consolidated Banking Statistics database.

Despite the fluctuations observed in the period 2013-2019, it should be noted that banks from the United Kingdom and Germany maintained their exposure to Greece at USD 1.7 billion and 5.7 billion respectively in 2019, but the exposure decreased during the period 2020-2021. In contrast, French banks drastically reduced their exposure to Greece, from USD 31.8 billion in September 2012 to USD 2.8 billion in 2012.[72] Since then, exposures remained low, reaching USD 4 billion in 2019, before decreasing further in the two subsequent years 2020-2021. Despite the fact that euro area banks have behaved very differently in relation to Greece, total exposures to Greece continued to decline from almost all countries.

Regarding foreign countries' exposures to the official sector in Greece, there was a significant increase after the PSI[73] to USD 3.5 billion in March 2014.[74] The exposures then showed a slight decline and reached relatively low levels of USD 684 million in June 2017.

After that, total exposures to the official sector increased significantly to USD 4.8 billion in 2021, while total exposures to Greece in the period 2019-2021 decreased. This is due to the significant fiscal support in the context of measures to address the economic impact of the pandemic, while banks have absorbed a large part of the Greek government bonds issued in 2020.

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[72] This is due to the sale of the stake in General Bank held by Société Générale (50.1%) to the Piraeus Banking Group and to the transfer of the entire share capital of Emporiki owned by Credit Agricole to Alpha Bank. Source: Embassy of France in Greece, https://agora.mfa.gr/infofiles/radC649DOι γαλλικές επενδύσεις στην Ελλάδα-AGORA.doc

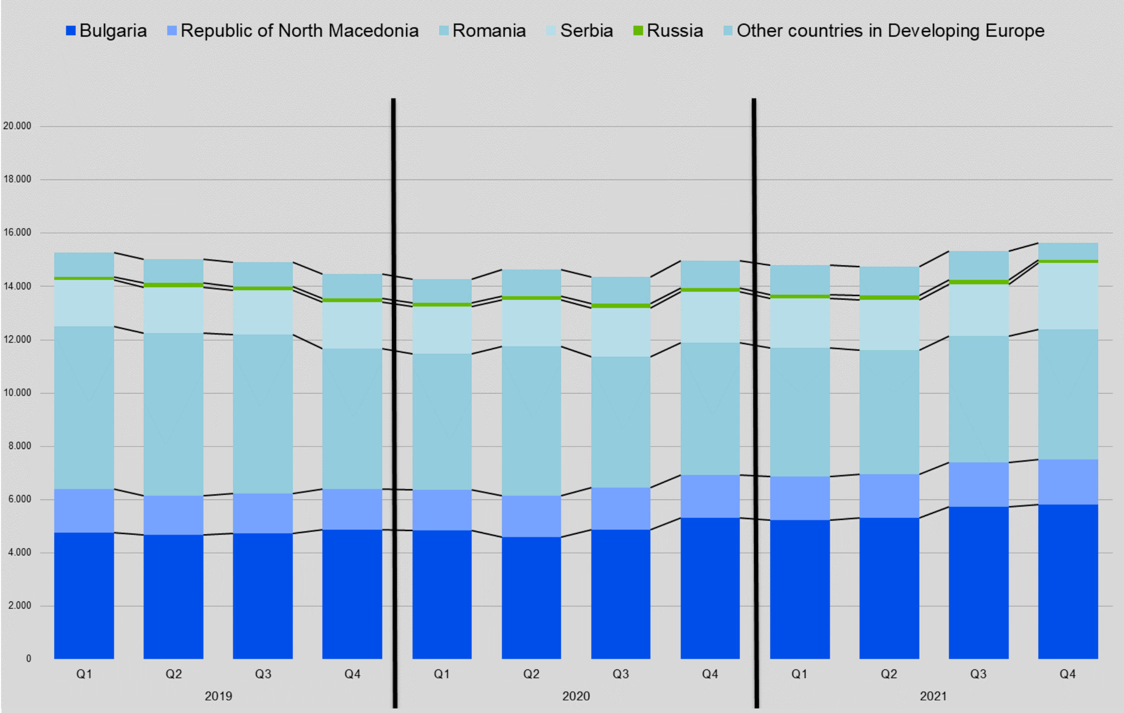
[73] The Private Sector Involvement program (PSI), which was completed on 9 March 2012, involved the participation of private sector Greek government bondholders in a voluntary "haircut" of 50% of the nominal value of the Greek public debt held by them, including losses on the yield.

[74] "Who's (still) exposed to Greece?", Silvia Merler, 3 February 2015, Bruegel, available at: https://www.bruegel.org/2015/02/whos-still-exposed-to-greece/.

According to the latest available data (December 2021), the exposures of Greek banks to Developed Europe increased to €44.6 billion in 2021, from €37.3 billion in 2020, while the rise in exposures to Developing Europe was less significant, to €15.6 billion in 2021, from €14.9 billion in 2020. It should be noted that the presence of Greek banking groups in Developing Europe was strengthened as a result of the merger of Direktna Bank with its subsidiary Eurobank in Serbia (see section "International activities").

In particular, in 2021, there was a significant increase in exposures to Serbia to €2.5 billion in December 2021, from €1.9 billion in December 2020, while the percentage rise in exposures to Bulgaria was less important, to €5.8 billion in 2021, from €5.3 billion in 2020. Finally, a small decrease was recorded in exposures to Romania, which stood at €4.9 billion in 2021, from €5 billion in 2020. A decrease was also observed in the exposures of Greek banks to Russia, to €94 million in 2021, from €148 million in 2020, with the largest decline being recorded in the fourth quarter of 2021 (see Chart III.32).

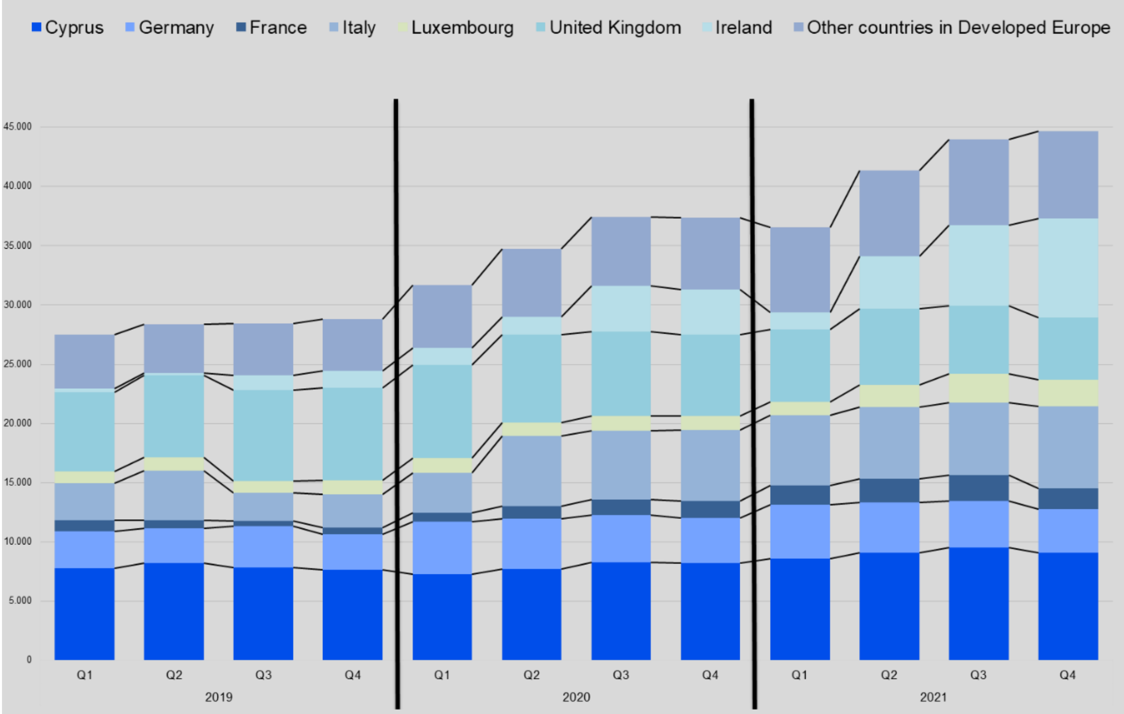
Chart III.32 Evolution of exposures of Greek banks to Developing Europe in million euros (2019 – 2021)



Source: BIS, Consolidated Banking Statistics database.

Regarding Developed Europe, the increase in exposures to Ireland was significant, to €8.4 billion in December 2021, from €3.8 billion in December 2020, while in Cyprus, where Greek banks already maintain significant exposures, the increase was smaller, to €9 billion in 2021. In Luxembourg, exposures stood at €2.2 billion in 2021, up from €1.2 billion in 2020. In general, the reduction of loans in specific countries of Developed Europe, e.g. Luxembourg, combined with the significant increase in exposures to these countries during 2021, suggests that a large proportion of these exposures consists of other placements. These include the purchase of government securities issued in Developed Europe by the subsidiaries of Greek banks that are operating in these countries (see Chart III.33).

Chart III.33 Evolution of exposures of Greek banks to Developed Europe in million euros (2019 – 2021)



Source: BIS, Consolidated Banking Statistics database.

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 build-up 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 prevent the build-up of systemic risks is gradually becoming apparent. Implementing appropriate macroprudential policy measures, mainly in the form of capital buffers over the medium term, 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.[75] 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 in Greece.[76]

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 the provision of credit to the real economy, thereby softening the impact of the downturn.

Under Law 4261/2014 (Article 127),[77] the Bank of Greece assesses, on a quarterly basis, the intensity of cyclical systemic risk and the appropriateness of the CCyB rate for Greece, 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.

Bank of Greece Executive Committee Act 202/1/11.3.2022 repeals Executive Committee Act 55/18.12.2015 redefining the procedure for applying the CCyB rate and the relevant calibration methodology in accordance with the revised provisions of Law 4261/2014. The new procedure and methodology are in line with the simplified CCyB application established by Directive (EU) 2019/878 (Capital Requirements Directive V – CRD V), while the revised calibration methodology is based on Recommendation ESRB/2014/1 of the European Systemic Risk Board.[78]

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[75] For the purposes of paragraph 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 paragraph 3 of Article 127 of Law 4261/2014.

[76] The total risk exposure amount is calculated in accordance with Article 92(3) of Regulation (EU) No 575/2013.

[77] As in force after its amendment by Article 44 of Law 4799/2021, which transposes the provisions of Article 136 of Directive 2013/36/EU after their revision by Directive (EU) 2019/878.

[78] OJ C 293, 2.9.2014, pp. 1-10.

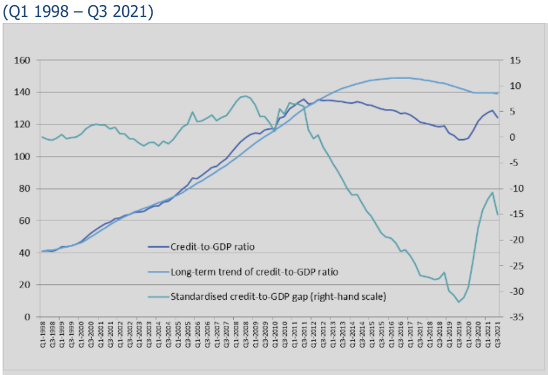
The CCyB rate is set taking into consideration the "standardised credit-to-GDP gap", as defined in Recommendation ESRB/2014/1, which reflects the deviation of the ratio of credit-to-GDP from its long-term trend. In more detail, initially the credit-to-GDP ratio is calculated as the sum of short-term 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 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.[79] These indicators are grouped into six regions:

- Credit developments, where the growth of credit to the domestic private sector and the credit to the domestic private sector to GDP ratio in current prices, the growth of loans to households and the growth of credit to non-financial corporations are monitored.
- Private sector indebtedness, where the credit to non-financial corporations to GDP, 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 price index growth of residential and commercial real estate (offices and stores) are 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 price index and FTSE/ATHEX banks index are monitored.

Chart IV.1 Standardised credit-to-GDP gap, credit-to-GDP ratio (non-seasonally adjusted) and long-term trend of credit-to-GDP ratio (Hodrick Prescott one-sided filter)

(Q1 1998 – Q3 2021)



Source: Bank of Greece.

In Greece, the "standardised credit-to-GDP gap" remains in negative territory since 2012. In the third quarter of 2021, it equals -15.1 percentage points, compared with -10.8 in the previous quarter (see Chart IV.1), mainly as a result of the increase in nominal GDP. It should be noted that the third quarter of 2021 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 2022. For this value

[79] For definitions, see Bank of Greece Executive Committee Act 202/2/11.3.2022.

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 confirms the view of an absence of excessive credit growth.

Consequently, the Bank of Greece maintained the CCyB rate at "zero percent" (0%) during 2021, as well as in the first quarter of 2022.[80] In the press release of 31.3.2022, the Bank of Greece announced that the CCyB rate has been kept unchanged at 0% in the second quarter of 2022 and published the data justifying its evaluation. More specifically, the press release contained the following information: a) the applicable CCyB rate; b) the credit-to-GDP ratio and the "standardised credit-to-GDP gap"; c) the buffer guide; and d) the justification for the CCyB rate. 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

Under Law 4261/2014 (Article 124), the Bank of Greece is responsible for identifying other systemically important institutions (O-SIIs)[81] among credit institutions authorised in Greece. O-SIIs are identified on an annual basis so as to consider the application of an O-SII buffer.[82]

An O-SII buffer aims to reduce moral hazard and strengthen the resilience of other systemically important credit institutions. In this respect, moral hazard arises when a credit institution expects not to be allowed to fail given its systemic importance ("too big to fail"). An O-SII buffer limits excessive risk-taking by a systemically important credit institution through higher capital requirements, thus reducing moral hazard. Moreover, it cushions the systemic impact of misaligned incentives by strengthening the systemically important institution's capital buffer to absorb potential losses and thus reduces contagion risk. The O-SII buffer consists of Common Equity Tier 1 (CET1) capital and its rate is reviewed at least once a year.

The Bank of Greece has adopted the European Banking Authority (EBA) guidelines in relation to the assessment of O-SIIs (EBA/GL/2014/10),[83] 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 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 credit institution. The score of each credit 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

[80] See Bank of Greece Executive Committee Acts 186/1/18.3.2021, 190/3/16.06.2021, 193/3/27.09.2021 and 196/1/09.12.2021.

[81] In contrast with Global Systemically Important Institutions – G-SIIs.

[82] O-SIIs are identified on a solo, sub-consolidated or consolidated basis, as applicable, and the O-SII buffer is set accordingly.

[83] Guidelines on the criteria to determine the conditions of application of Article 131(3) of Directive 2013/36/EU (CRD) in relation to the assessment of other systemically important institutions (OSIIs), EBA, 16 December 2014.

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

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 credit institutions were identified as O-SIIs for 2021:

• National Bank of Greece S.A.

• Piraeus Financial Holdings S.A.

• Alpha Services and Holdings S.A.

• Eurobank Ergasias Services and Holdings S.A.

By Executive Committee Act 195/29.11.2021, the Bank of Greece decided to set the O-SII buffer at 0.75% for 2022 for all O-SIIs, as defined at consolidated level above. The O-SII buffer is also imposed on the following credit institutions at solo level:

• Alpha Bank S.A.

• National Bank of Greece S.A.

• Piraeus Bank S.A.

• Eurobank Ergasias S.A.

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

3. COMBINED BUFFER REQUIREMENT

The combined buffer requirement in Greece for the four significant banks stood at 3.25% in May 2022 (see Table IV.2), and at 2.5% for the less significant banks.

Table IV.2 Combined buffer requirement of the four significant banks in Greece

(May 2022)

Combined buffer requirement	**RATE**
Capital Conservation Buffer (CCoB)	2.5%
Countercyclical Capital Buffer (CCyB)[1]	0%
Other systemic institutions buffer (O-SII buffer)[1]	
Alpha Bank S.A.	*0.75%*
National Bank of Greece S.A.	*0.75%*
Piraeus Bank S.A.	*0.75%*
EuroBank S.A.	*0.75%*
Systemic Risk Buffer (SyRB)	Not activated

[1] For the activities in Greece.

V. OTHER SECTORS OF THE FINANCIAL SYSTEM

1. STRUCTURE OF THE DOMESTIC FINANCIAL SYSTEM

The domestic financial system remains bank-centric, as the assets of credit institutions account for approximately 88% of its total assets since 2017 (see Table V.1). Greek commercial banks play a dominant role, with their assets representing 86.2% of the total assets of the financial system in 2021, while cooperative banks and foreign banks' branches accounted for 0.5% and 1.3% respectively. Actually, in recent years the market share of cooperative banks and foreign banks' branches has been declining. In addition, the banking sector is characterised by a high level of concentration, with the four significant banks accounting for 95% of the total assets of the banking sector.

Institutional investors are the second major sector of the domestic financial system. This category includes insurance companies, pension funds and collective investment undertakings. Their assets represented 9.4% of the total in 2021, a percentage that has increased significantly in the last decade (2012: 5.4%). In this sector, insurance companies stand out with assets of €20.5 billion in 2021 (6.0% of the total). Also, collective investment undertakings show continuous growth, having doubled their market share in the last decade (2021: 3%, 2012: 1.4%).

On the contrary, the market share and assets of other non-banking institutions (brokerage firms, leasing companies, factoring companies, consumer credit companies and venture capital companies) are declining, representing 2.1% of the total financial system.

Finally, credit servicing firms, although a small part of the financial system (their assets are only 0.4% of the total), have grown significantly in recent years.

The assets of the financial system, after shrinking significantly during the fiscal crisis, began to recover from 2019. In 2021, they corresponded to 188% of the Gross Domestic Product (GDP) of the country.

Table V.1 Structure of the domestic financial system

(amounts in million euro)

	2012		2013		2014		2015		2016		2017		2018		2019		2020		2021	
Assets		%		%		%		%		%		%		%		%		%		%
Credit institutions	**357,115**	**91.6%**	**341,829**	**91.6%**	**329,036**	**91.7%**	**311,644**	**91.1%**	**279,750**	**90.3%**	**244,739**	**88.6%**	**240,102**	**88.4%**	**247,267**	**87.3%**	**277,335**	**87.9%**	**302,678**	**88.0%**
Greek commercial banks [1]	*315,868*	*81.0%*	*326,370*	*87.5%*	*315,183*	*87.8%*	*303,713*	*88.8%*	*271,698*	*87.7%*	*236,894*	*85.7%*	*232,130*	*85.5%*	*240,691*	*85.0%*	*271,791*	*86.2%*	*296,403*	*86.2%*
Cooperative banks	*3,652*	*0.9%*	*3,157*	*0.8%*	*3,200*	*0.9%*	*2,544*	*0.7%*	*2,508*	*0.8%*	*2,629*	*1.0%*	*2,814*	*1.0%*	*3,160*	*1.1%*	*1,727*	*0.5%*	*1,786*	*0.5%*
Foreign banks' branches	37,595	9.6%	12,302	3.3%	10,653	3.0%	5,387	1.6%	5,544	1.8%	5,216	*1.9%*	5,157	1.9%	3,417	1.2%	3,818	1.2%	4,490	1.3%
Institutional investors	**20,962**	**5.4%**	**21,909**	**5.9%**	**21,009**	**5.9%**	**21,219**	**6.2%**	**21,477**	**6.9%**	**22,956**	**8.3%**	**23,099**	**8.5%**	**27,750**	**9.8%**	**29,251**	**9.3%**	**32,467**	**9.4%**
Insurance companies	15,555	4.0%	16,205	4.3%	15,085	4.2%	15,611	4.6%	15,975	5.2%	16,920	6.1%	17,038	6.3%	18,882	6.7%	19,976	6.3%	20,468	6.0%
Pension funds															1,612	0.6%	1,698	0.5%	1,838	0.5%
Collective investment undertakings	5,407	1.4%	5,704	1.5%	5,924	1.7%	5,608	1.6%	5,502	1.8%	6,036	2.2%	6,061	2.2%	7,256	2.6%	7,577	2.4%	10,160	3.0%
Mutual funds	*3,573*	*0.9%*	*3,798*	*1.0%*	*3,346*	*0.9%*	*3,141*	*0.9%*	*2,932*	*0.9%*	*3,189*	*1.2%*	*2,954*	*1.1%*	*4,297*	*1.5%*	*4,438*	*1.4%*	*6,247*	*1.8%*
Portfolio investment and real estate investment companies	*1,834*	*0.5%*	*1,906*	*0.5%*	*2,578*	*0.7%*	*2,467*	*0.7%*	*2,570*	*0.8%*	*2,847*	*1.0%*	*3,107*	*1.1%*	*2,959*	*1.0%*	*3,139*	*1.0%*	*3,913*	*1.1%*
Other non-bank institutions	**11,913**	**3.1%**	**9,311**	**2.5%**	**8,914**	**2.5%**	**9,099**	**2.7%**	**8,492**	**2.7%**	**8,552**	**3.1%**	**8,396**	**3.1%**	**7,770**	**2.7%**	**7,528**	**2.4%**	**7,184**	**2.1%**
Brokerage firms	831	0.2%	1,084	0.3%	951	0.3%	927	0.3%	675	0.2%	681	0.2%	603	0.2%	739	0.3%	753	0.2%	807	0.2%
Leasing and factoring companies	10,213	2.6%	7,417	2.0%	7,397	2.1%	7,781	2.3%	7,434	2.4%	7,504	2.7%	7,461	2.7%	6,746	2.4%	6,522	2.1%	6,186	1.8%
Consumer credit and venture capital companies	869	0.2%	810	0.2%	566	0.2%	391	0.1%	383	0.1%	367	0.1%	332	0.1%	285	0.1%	253	0.1%	191	0.1%
Credit servicing firms											**39**	**0.0%**	**51**	**0.0%**	**484**	**0.2%**	**1,223**	**0.4%**	**1,535**	**0.4%**
Total	**389,990**	**100%**	**373,049**	**100%**	**358,959**	**100%**	**341,962**	**100%**	**309,718**	**100%**	**276,287**	**100%**	**271,648**	**100%**	**283,272**	**100%**	**315,338**	**100%**	**343,864**	**100%**

Source: Bank of Greece.

The structure of the table is based on the IMF Report "Greece, Financial System Stability Assessment, 2006".

[1] As of December 2016, the assets of the Deposits and Loans Fund are not included in the data, due to its reclassification from the Financial Sector to the General Government Sector.

2. INSURANCE UNDERTAKINGS

2.1 KEY FIGURES[84]

As at 31.12.2021, 36 insurance undertakings[85] were active in the Greek private insurance market, one less than as at 31.12.2020. Insurance undertakings can be classified according to type of license and business as follows:[86]

- 2 life insurance undertakings;
- 18 non-life insurance undertakings; and
- 16[87] insurance undertakings (composites) writing both life and non-life business (including life insurance undertakings underwriting only non-life business of the "Accident" and “Sickness” classes).

Out of the above 36 insurance undertakings, 34 are supervised in accordance with the European Directive “Solvency II”, which applies to all Member States since 1.1.2016, while 2 insurance undertakings are excluded, due to their size, from a lot of the requirements related to all three pillars of Solvency II.[88]

Out of the 34 insurance undertakings subject to the provisions of Solvency II, 12 belong to insurance groups with their parent undertakings in other Member States and 5 to insurance groups with their parent undertakings in Greece. In addition, 4 insurance undertakings with their head offices in Greece operate in other Member States under the freedom to provide services. Furthermore, 253 insurance undertakings with head offices in other Member States[89] operate in Greece, either under the freedom of establishment (branches) or under the freedom to provide services, the financial supervision of which is the responsibility of the supervisory authorities of their home Member State.

For the year 2020, annual gross written premiums of these undertakings amounted to €987 million or 19% of the total Greek insurance market. In particular regarding the motor third-party liability insurance market, the market share of insurance undertakings from other Member States which are writing insurance business in Greece, either under the freedom of establishment (branch) or under the freedom to provide services, increased to 18% in 2021 (from 17% in 2020).

[84] In this chapter information and data submitted until 31.1.2022 have been taken into account.
[85] Excluding the mutual insurance undertakings referred to in the first sentence of para. 1 of Article 7 of law 4364/2016.
[86] As a result of the merger of Generali Life Hellenic Insurance S.A. and Generali Hellas I Insurance S.A. (formerly AXA Insurance S.A.).
[87] As from 31 December 2021, their number is 16 due to the merger of two of them (see footnote 86 above).
[88] The Bank of Greece, based on the principle of proportionality, has allowed 2 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.
[89] Source: European Insurance and Occupational Pensions Authority (EIOPA).

Table V.2 Number of Insurance Undertakings pursuing business in Greece	2017	2018	2019	2020	2021
Life Insurance Undertakings	3	2	2	2	2
Non-Life Insurance Undertakings	22	19	19	18	18
Insurance Undertakings writing both Life and Non-life business	17	17	17	17	16
Total	**42**	**38**	**38**	**37**	**36**
Insurance Undertakings failing within the scope of Directive 2009/138/EC	*39*	*36*	*36*	*35*	*34*
Branches of insurance undertakings established in other Member States	19	23	23	23	21
Insurance undertakings established in other Member States pursuing business under the freedom to provide services	212	231	244	253	N/A

Source: Bank of Greece.

The financial figures presented below concern only the 34 undertakings operating in the domestic insurance market which are subject to the supervision of the Bank of Greece pursuant to Solvency II.

The domestic insurance market is characterised by significant concentration, especially with regard to the undertakings that carry out life insurance business and to the undertakings that carry out both life and non-life insurance business. The 5 largest insurance undertakings hold 81% 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 52% of the relevant market.

Gross written premiums of the life insurance business[90] in 2021 amounted to €2.4 billion, up by 15% compared to the previous year. Of this amount, €1.0 billion is related to insurance products linked to investments (42% of total gross written premium of life business, compared with 31% in 2020, recording a significant increase of 56%). In parallel, there was a decrease of 8% in gross written premiums of insurance products with profit participation features, as well as a decrease of 8% in other life insurance business.

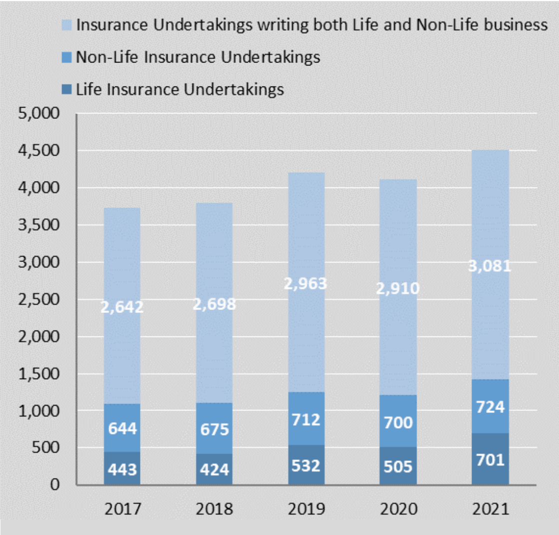
During the same period, non-life insurance premiums[91] amounted to €2.1 billion, up by 4% year-on-year. The lines of business with the most significant market shares are third-party motor liability (34%), fire insurance (20%) and hospital expenses insurance (16%), which have changed, compared to the previous year, by -2%, + 5% and + 6%. In 2021, claims incurred amounted to €1.6 billion for life insurance and €0.7 billion for non-life insurance up by 18% and 9% respectively.

For non-life insurance, as at 31.12.2021, the market loss ratio amounted to 43% of the relevant earned premiums of the same period and the expense ratio (administration expenses and commissions) to 46%, compared with 40% and 46% as at 31.12.2020.

[90] Including premiums written by Life, Non-Life and Composite insurance undertakings.
[91] See previous footnote.

Chart V.1 Gross written premiums per type of insurance undertaking

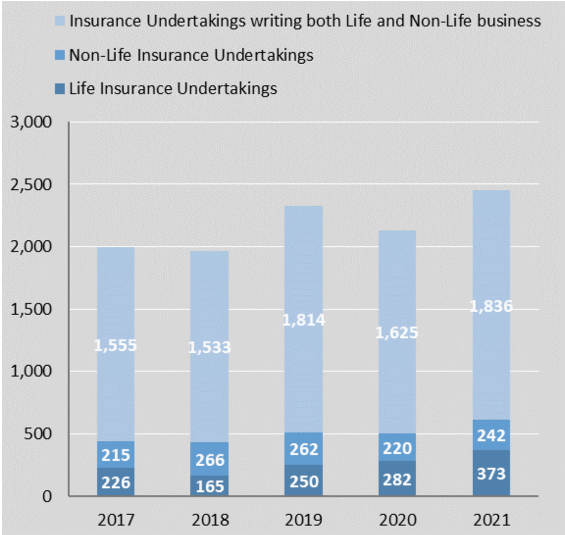
(milion euro)



Source: Bank of Greece.

Chart V.2 Claims incurred per type of insurance undertaking

(million euro)



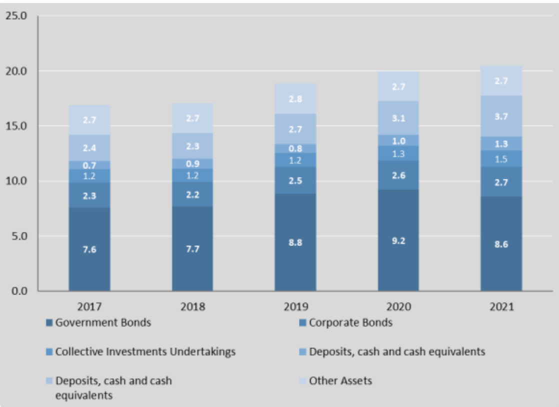
Source: Bank of Greece.

The total assets of insurance undertakings supervised by the Bank of Greece amounted to €20.5 billion as at 31.12.2021, up by 3% compared to 31.12.2020. Of the total assets, €8.6 billion (45%) were held in government bonds and €2.7 billion (13%) in corporate bonds. As regards the credit rating of these assets, 93% of the government bonds and 83% of the corporate bonds were BB- and above. In addition, an amount of €3.7 billion related to unit- and index-linked insurance products.

The total liabilities of insurance undertakings amounted to €16.4 billion (compared with €16.1 billion as at 31.12.2020), while total technical provisions amounted to €15.0 billion (compared with €14.9 billion as at 31.12.2020), of which €11.9 billion related to life insurance business and €3.1 billion to non-life business. As regards life technical provisions, 30% refers to unit- and index-linked insurance products (26% as at 31.12.2020).

Chart V.3 Insurance undertakings' assets breakdown

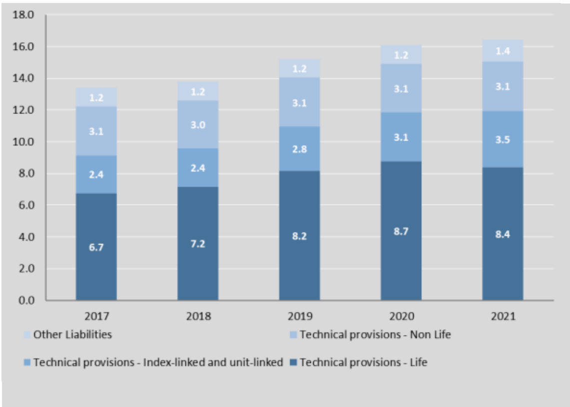
(billion euro)



Source: Bank of Greece.

Chart V.4 Insurance undertakings' liabilities breakdown

(billion euro)



Source: Bank of Greece.

The total own funds of the insurance market amounted to €4.1 billion, up by 5% year-on-year. The total Solvency Capital Requirement (SCR)[92] amounted to €2.1 billion, and the corresponding total eligible own funds were €4.0 billion. Concerning the quality of the eligible own funds of the insurance market, 93% of them are classified in the highest quality category (Tier 1). In parallel, the SCR coverage ratio for all insurance undertakings is significantly higher than 100%.

The Minimum Capital Requirement (MCR)[93] for the entire insurance market amounted to €0.7 billion and the corresponding total eligible own funds amounted to €3.7 billion.

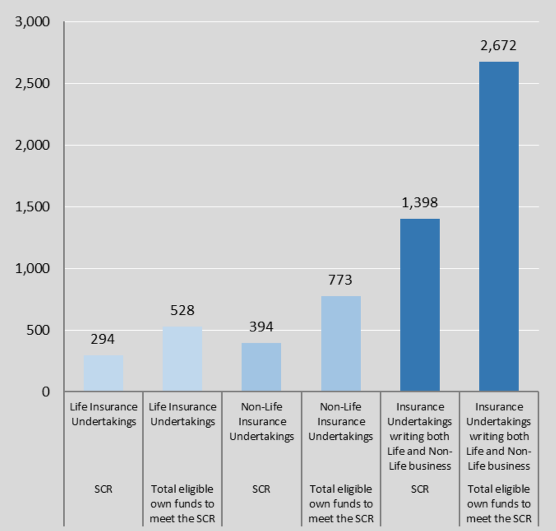
Table V.3 Capital requirements, total eligible own funds and solvency ratios

Amounts in million euro	2017	2018	2019	2020	2021
Total Solvency Capital Requirement (SCR)	1,807	1,717	1,899	1,940	2,085
Total eligible own funds to meet the SCR	3,131	2,987	3,403	3,602	3,973
SCR ratio	173.2%	174.0%	179.2%	185.7%	190.5%
Minimum Capital Requirement (MCR)	659	648	691	703	710
Total eligible own funds to meet the MCR	2,979	2,813	3,257	3,441	3,706
MCR ratio	452.3%	433.8%	471.1%	489.5%	522.2%

Source: Bank of Greece.

Chart V.5 SCR and total eligible own funds to meet the SCR per type of insurance undertaking

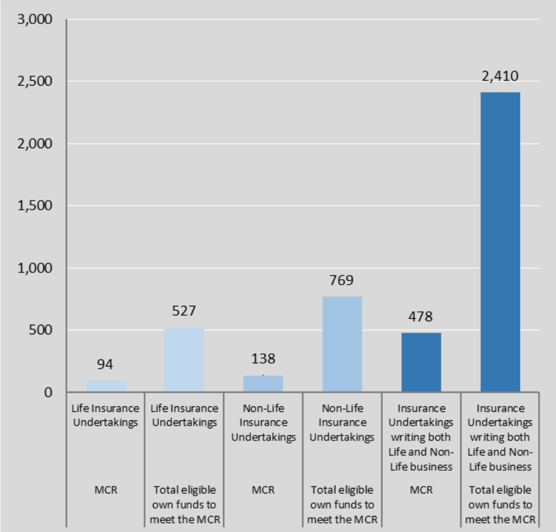
(31.12.2021, million euro)



Source: Bank of Greece.

Chart V.6 MCR and total eligible own funds to meet the MCR per type of insurance undertaking

(31.12.2021, million euro)



Source: Bank of Greece.

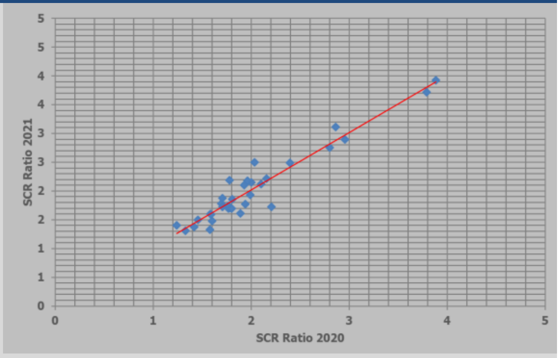
[92] The calculation of the Solvency Capital Requirement reflects the adequacy of the own funds so that the insurance undertaking has the ability to absorb losses at a confidence level of 99.5% with a time horizon of one year.

[93] The Minimum Solvency Requirement reflects the adequacy of the own funds so that the 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.

The following chart compares the SCR coverage ratio in 2021 with the same ratio in 2020.

Undertakings shown in Chart V.7 above the red line show an improvement in the SCR coverage ratio in 2021 compared to the previous year (44% of all insurance undertakings), while undertakings below the red line show a deterioration in their SCR coverage ratio. However, all undertakings remain solvent.

Chart V.7 SCR coverage ratio 2021/2020



Source: Bank of Greece.

2.2 RISKS

Insurance undertakings are exposed to underwriting and investment risk. According to the analysis of the standard formula of the Solvency Capital Requirement, these risks did not significantly changed in 2021.

Life underwriting risks have mainly a long-term time horizon, due to the nature of the life insurance liabilities. For life insurance undertakings, the biggest risk is market risk and in particular interest rate risk. Non-life underwriting risks have mainly a short-term time horizon, although for some cases of insurance claims the time to their full settlement is more than 1 year, such as claims related to catastrophic events (earthquake or fire). Furthermore, for both life and non-life insurance, counterparty default risk as well as operational risk are considered important.

In 2021, market risk, which mainly concerns equity risk and credit spread risk, increased slightly compared to 2020, while non-life underwriting risk exhibited a slight decrease. It should be noted that the risk analysis presented in the following charts concerns the net Solvency Capital Requirement, after the risk mitigating effect of reinsurance,[94] which is important mainly for catastrophic risks (fire, earthquake lines of business).

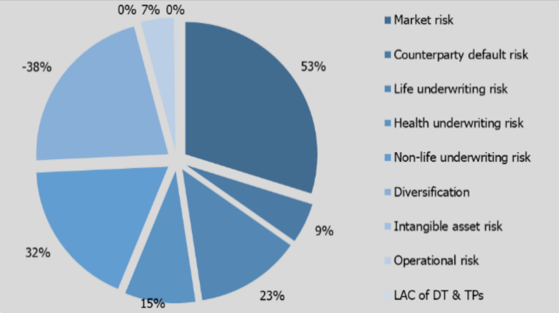
Analysis of the risks of insurance undertakings

In summary, the analysis of risks of the entire Greek insurance market, as at 31.12.2021, is shown in Chart V.8.

The relevant analysis of risks for the entire Greek insurance market one year ago (31.12.2020) is shown in Chart V.9.

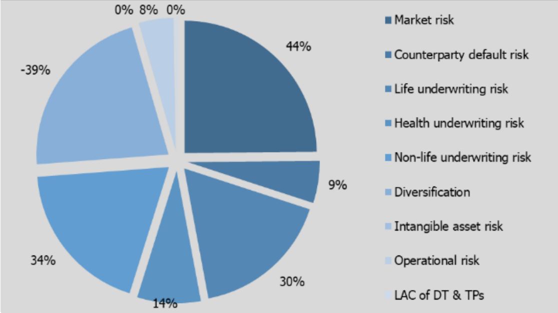
[94] Reinsurance is a technique of mitigating the risk of the insurance undertaking, based on a contract, by transferring part of the risk or the portfolio to third parties.

Chart V.8 Analysis of insurance market risks (December 2021)



Source: Bank of Greece.

Chart V.9 Analysis of insurance market risks (December 2021)

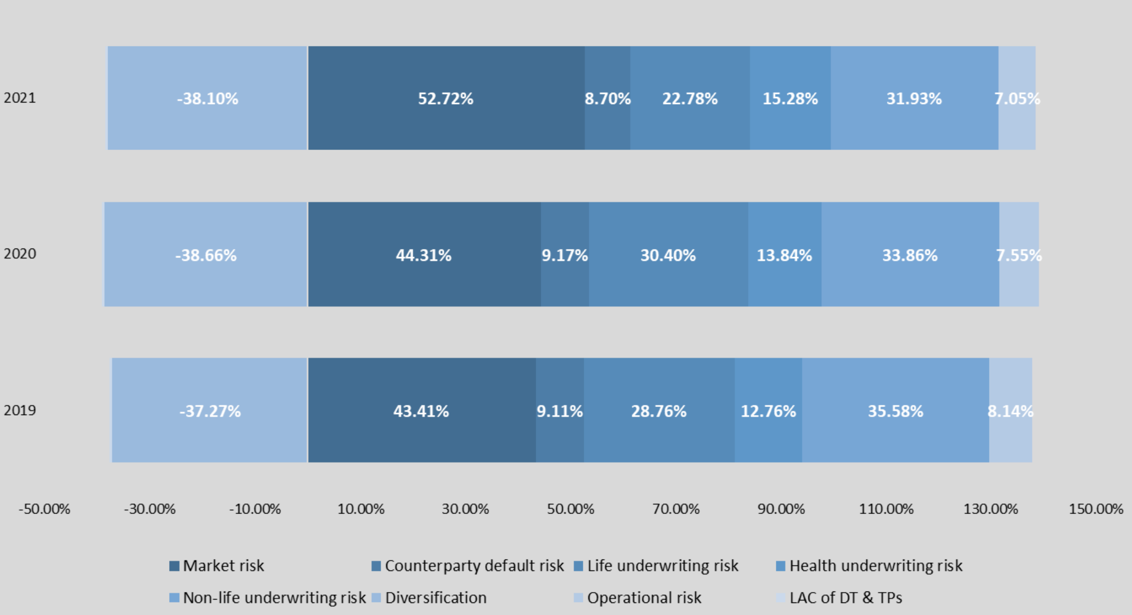


Source: Bank of Greece.

The comparison of the above two charts shows an increase of nine percentage points in market risk, a decrease of seven points in life underwriting risk, a decline of two points in non-life underwriting risk, while health underwriting risk increased marginally.

Chart V.10 shows the evolution of insurance risks over the last three years.

Chart V.10 Analysis of insurance risks for the period 2019-2021



Source: Bank of Greece.

In the years 2019-2021, there is a significant increase in market risk, while there is a small decrease in non-life insurance risk and counterparty default risk.

Operational risk and health underwriting risk have shown smaller changes in this three-year period, as opposed to life insurance risk, which decreased significantly. In addition, there is no substantial change in the diversification benefit[95] of correlated risks.

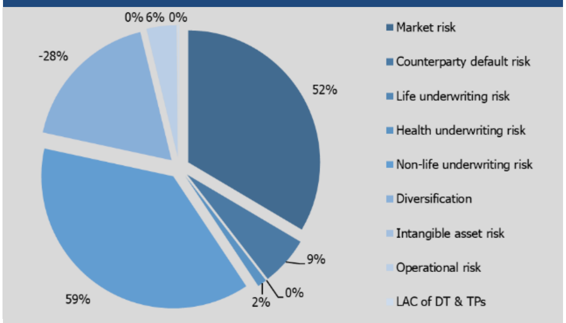
[95] The diversification benefit is the reduction of exposure to the risk associated with the fact that the adverse effect of one risk can be offset by the more favourable outcome of another risk, when these risks are not fully correlated.

Non-life insurance undertakings

For non-life insurance undertakings, non-life underwriting risk is the most important risk, which accounts for 58.87% (compared with 61.06% in 2020 and 64.19% in 2019) of their risk profile. The second biggest risk – albeit considerably smaller – is market risk, accounting for 52.26% of their risk profile (compared with 46.24% in 2020 and 43.59% in 2019). Next is counterparty default risk, with a share of 9.38%, showing a decrease compared to the previous year (12.05% in 2020), while operational risk remains quite lower, at around 5.72% (6.16% in the previous year). Finally, the diversification benefit mitigates risk by 27.77% (Chart V.11).

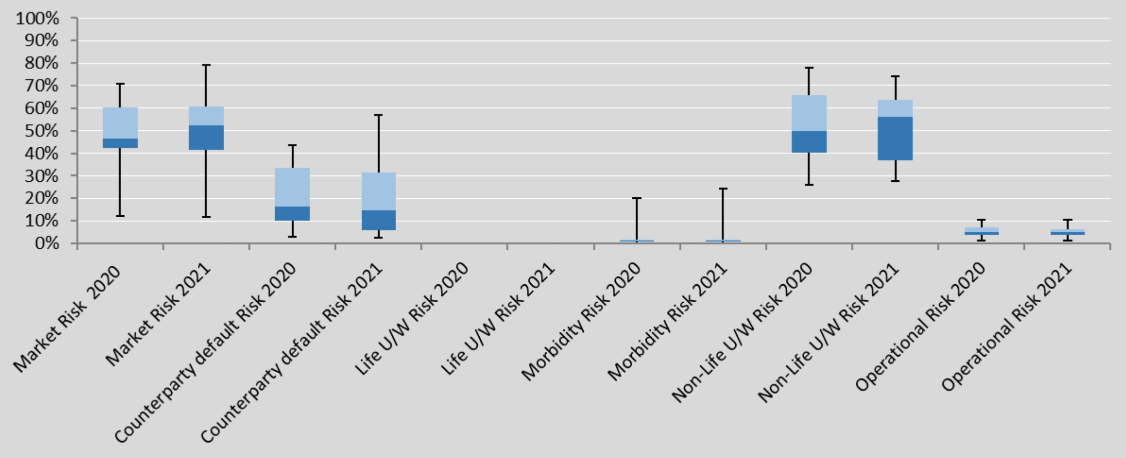
The above conclusions apply to all non-life insurance undertakings, with considerable variations across undertakings (Chart V.12).

Chart V.11 Analysis of the risks of non-life insurance undertakings (December 2021)



Source: Bank of Greece.

Chart V.12 Distribution of risks of non-life insurance undertakings



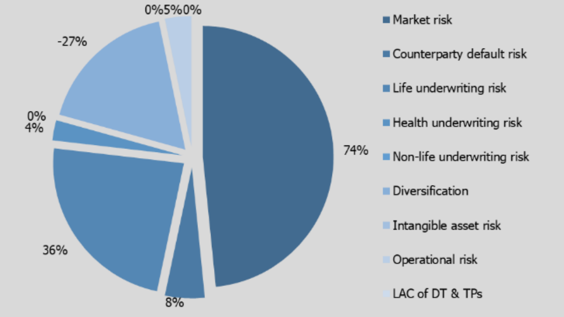
Source: Bank of Greece.

In Chart V.12, the great heterogeneity in the risk profile of insurance undertakings is obvious, especially in market risk and counterparty default risk, with shares in the risk profile ranging from 11.61% to 79.23% and from 2.50% to 56.97%.

Life insurance undertakings

For the two (2) insurance undertakings that exclusively underwrite life insurance business, the biggest risk is market risk (74.34%), showing a significant increase compared to the previous year (50.49%), followed by life underwriting risk with 36.11% (62.81% in the previous year) (Chart V.13). Counterparty default risk increased to 7.52%, from 3.94% the previous year, while operational risk decreased to 4.99%, from 6.06% in the previous year. Finally, health underwriting risk remained at similar levels to the previous year (3.82% in 2021, compared with 4.23% in 2020).

Chart V.13 Analysis of the risks of life insurance undertakings (December 2021)

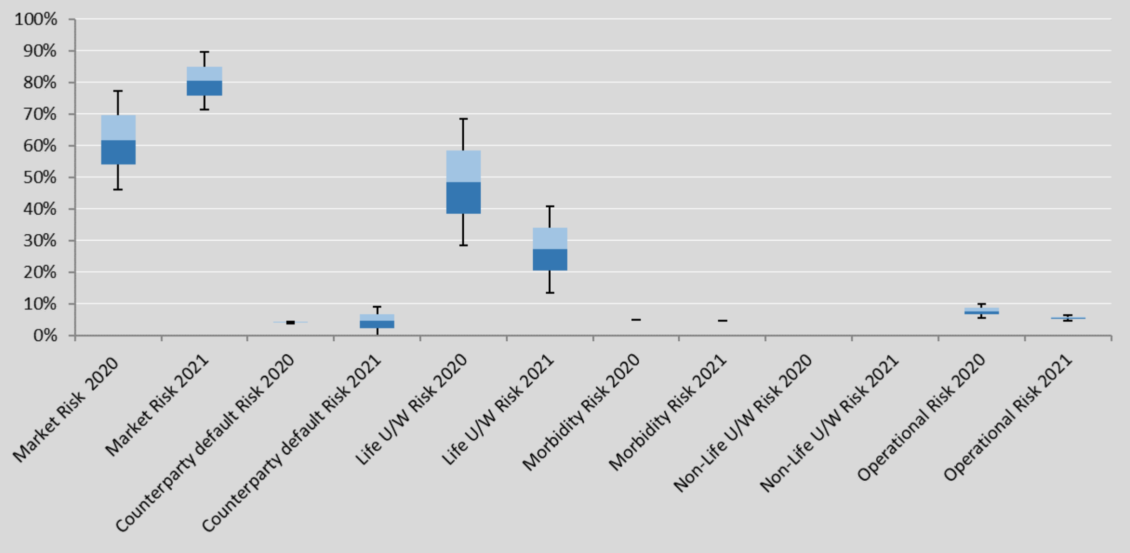


Source: Bank of Greece.

The diversification benefit is similar to that for non-life insurance (26.77%).

The above conclusions apply to all life insurance undertakings, with the risk profile across undertakings shown in Chart V.14.

Chart V.14 Distribution of risks of life insurance undertakings

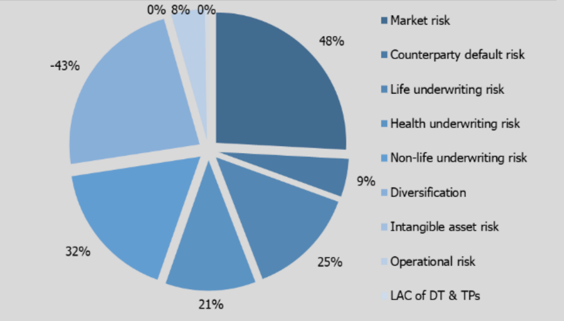


Source: Bank of Greece.

Composite insurance undertakings

For insurance undertakings writing both life and non-life business (composite insurance undertakings), the share of different risks in their risk profile varies significantly. The biggest risk is market risk, accounting for 48.29% (compared with 42.65% in the previous year), while non-life underwriting risk, life underwriting risk and health underwriting risk account for 32.21%, 25.42% and 20.91% respectively, compared with 34.09%, 31.19% and 18.55% in the previous year (Chart V.15). In addition, counterparty default risk is high, although it is reduced compared to previous years (around 8.79%, from 9.52% in 2020 and 10.16% in 2019). The diversification benefit is quite significant (reducing the risk by 42.94%), as these undertakings have greater potential to undertake unrelated or, in some cases, negatively correlated risks.

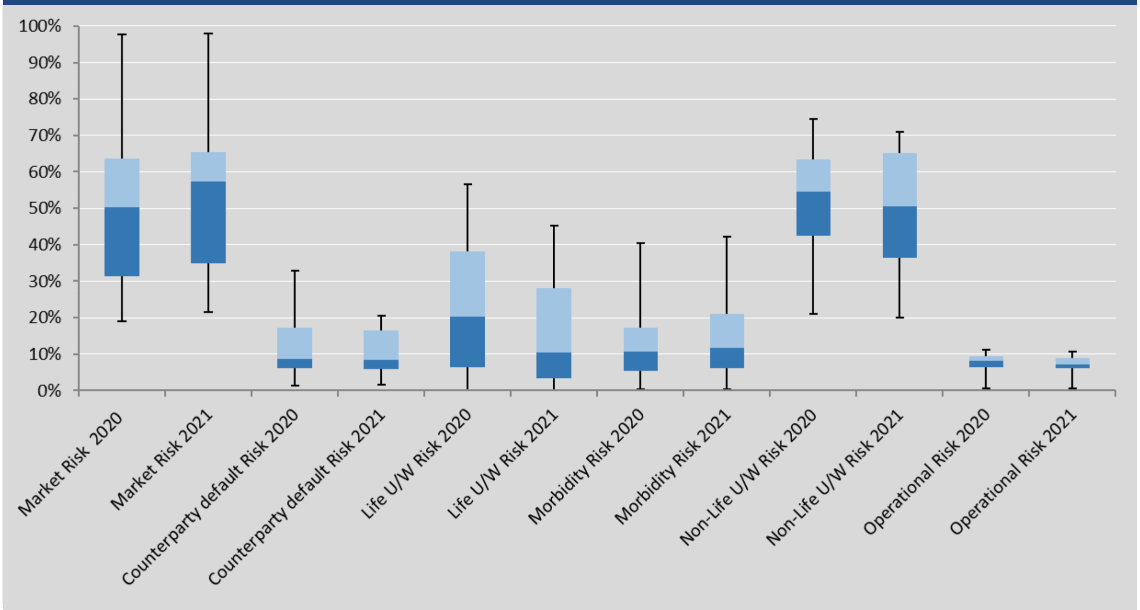
Chart V.15 Analysis of the risks of composite insurance undertakings (December 2021)



Source: Bank of Greece.

Chart V.16 shows the distribution among composite insurance undertakings.

Chart V.16 Distribution of risks of composite insurance undertakings



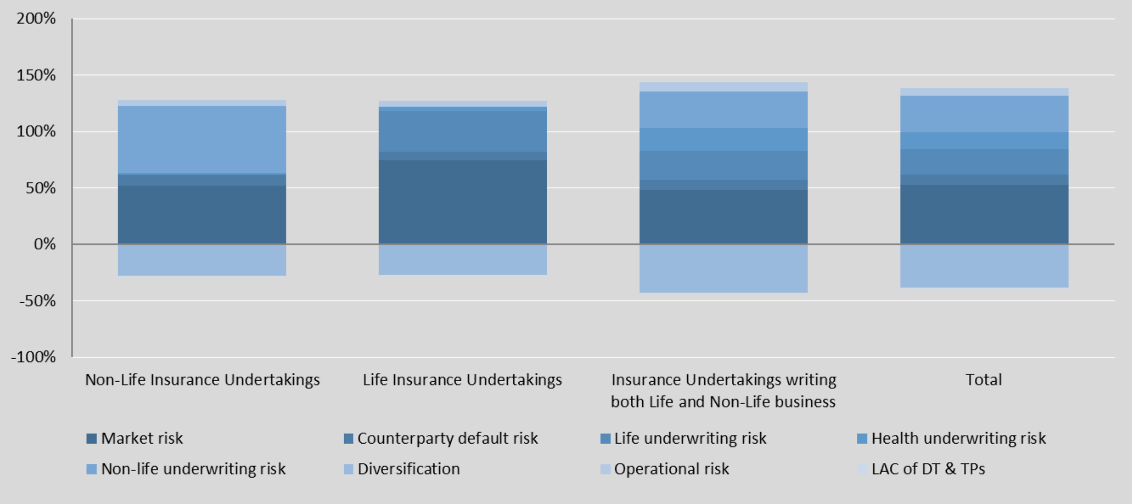
Source: Bank of Greece.

Chart V.16 reveals the considerable variations across undertakings, mainly stemming from the fact that composite insurance undertakings include both life insurance undertakings which underwrite non-similar to life health business and a significant number of composite insurance undertakings which underwrite mainly non-life business.

Similarly, the high variation of life underwriting risk per undertaking is due to the small number of insurers that undertake significant life underwriting risk. This risk is lower than in the previous year (25.42% in 2021, compared with 31.19% in 2020 and 28.42% in 2019).

Chart V.17 provides a comparative presentation of the risks per type of insurance undertaking.

Chart V.17 Distribution of risks per type of insurance undertaking (December 2021)

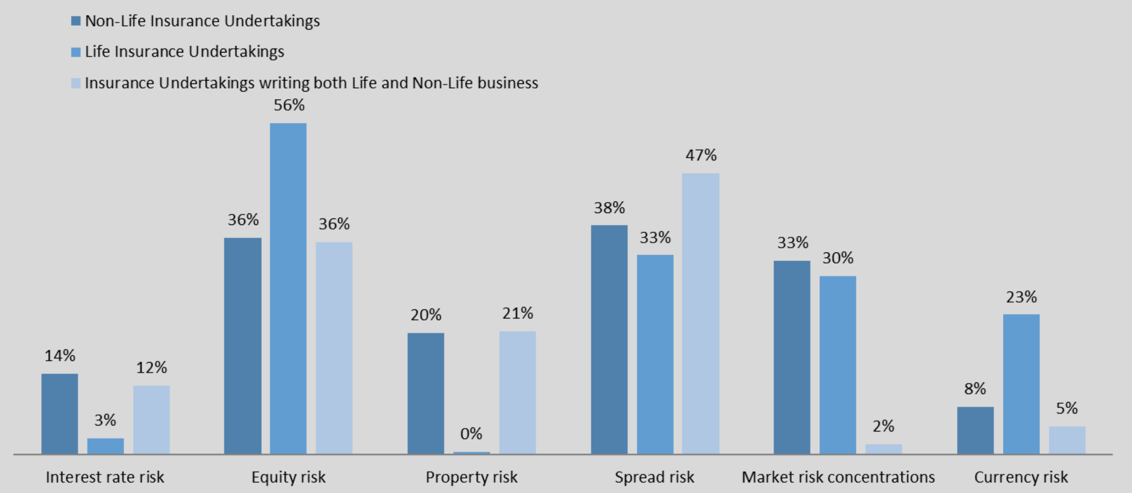


Source: Bank of Greece.

Market risk of insurance undertakings

Regarding market risk, which accounts for 52.72% of insurance undertakings' total risk, it appears that there are large variations across insurance undertakings (Chart V.18).

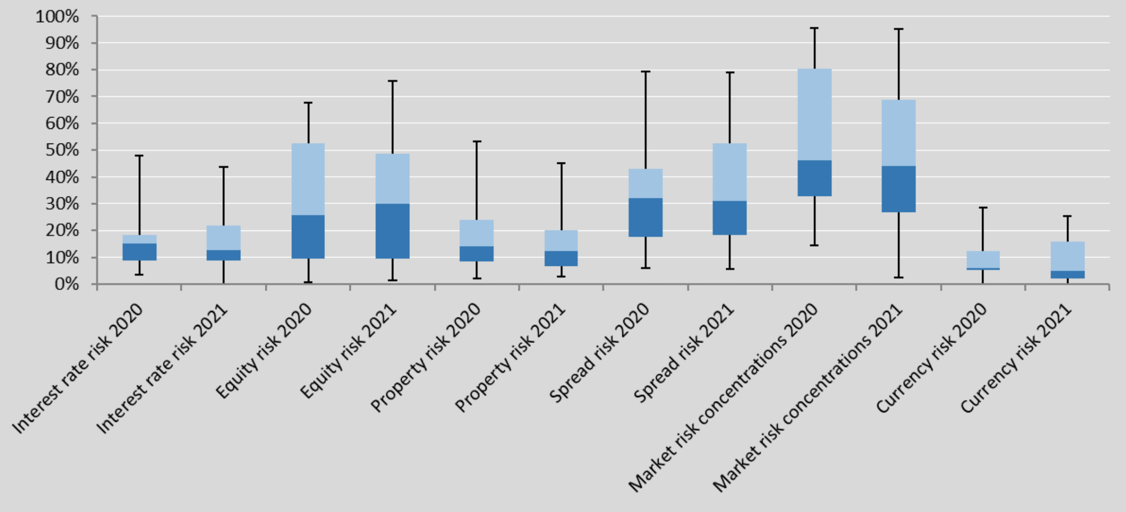
Chart V.18 Analysis of market risk in the insurance market (December 2021)



Source: Bank of Greece.

Non-life insurance undertakings are quite exposed to spread risk (38.47% of their total risk, compared with 35.13% in the previous year), equity risk (36.45%), market risk concentrations (32.57%) and property risk (20.46%). The distribution of non-life insurance undertakings' market risk is given in Chart V.19.

Chart V.19 Distribution of market risk for non-life insurance undertakings



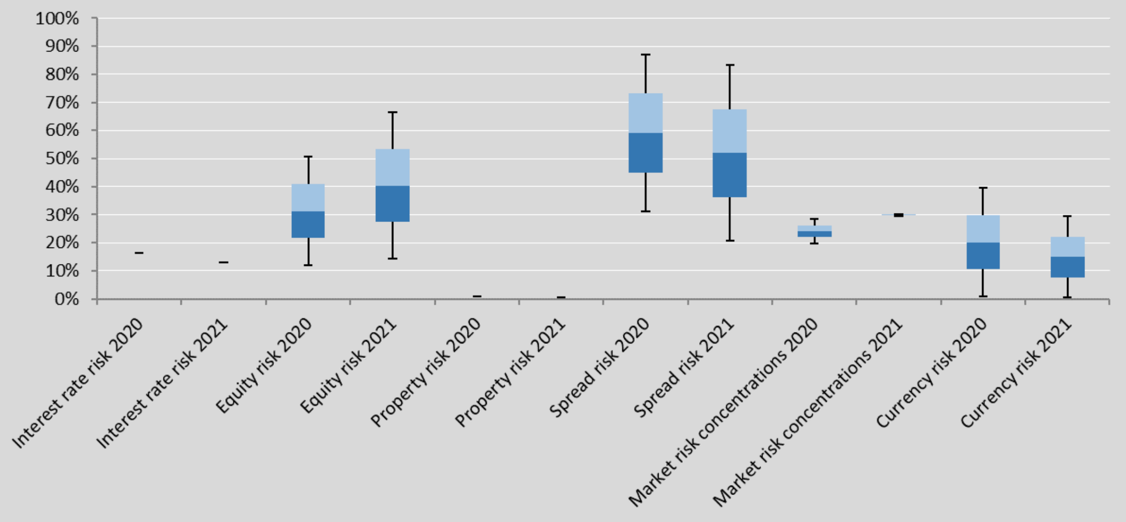
Source: Bank of Greece.

On the other hand, the most significant risk of life insurance undertakings is equity risk (55.68%), which increased significantly compared to the previous year (42.32%), as well as spread risk and market concentration risk, which account for 33.48% (43.18% in the previous year) and 29.99% (26.51% in the previous year). It is also remarkable that interest rate risk decreased significantly to 2.71%, from 3.52% in 2020 and 14.32% in 2019.

Property risk is almost zero, while currency risk fluctuated at 2019 levels (23.47% in 2021, 31.08% in 2020 and 21.86% in 2019).

The distribution of life insurance undertakings' market risks is given in Chart V.20.

Chart V.20 Distribution of market risk of life insurance undertakings



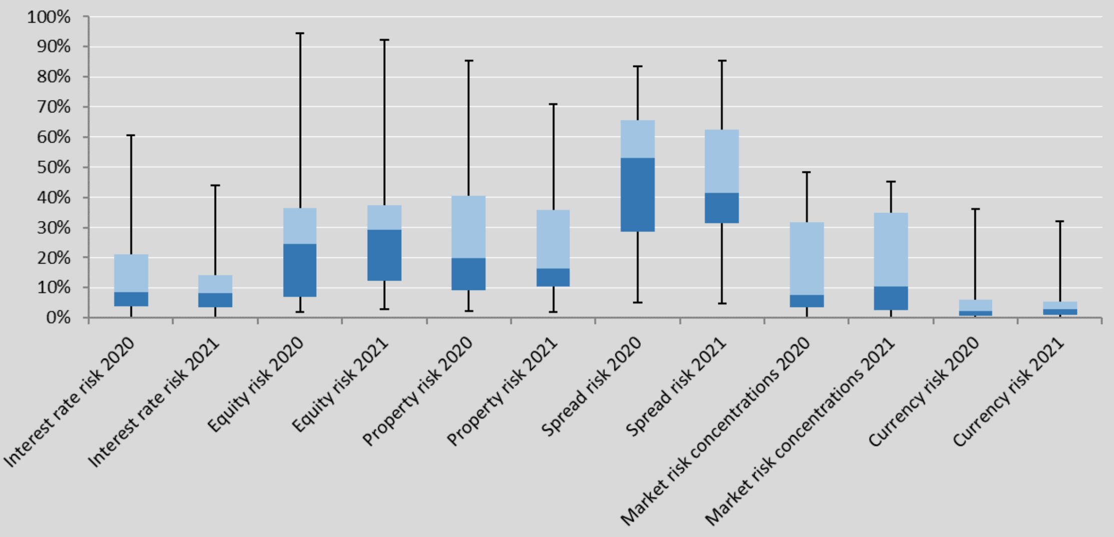
Source: Bank of Greece.

There is large variation in the exposure of composite insurance undertakings to market risk. In each market risk category, there are insurance undertakings with almost zero exposure and others with quite large exposure.

In these undertakings, the most significant component of market risk is spread risk (47.32%), followed by equity risk (35.67%), compared with 43.83% and 35.38% respectively in 2020.

The distribution of market risk across composite insurance undertakings is given in Chart V.21.

Chart V.21 Distribution of market risk for composite insurance undertakings



Source: Bank of Greece.

3. OTHER FINANCIAL INSTITUTIONS

3.1 LEASING COMPANIES – FACTORING COMPANIES – CONSUMER CREDIT COMPANIES

With regard to the regulatory framework on the operation of other institutions in the financial sector, Article 131 of Law 4887/4.2.2022 extended the financial leasing of real estate to individuals. Until recently, it was possible for individuals to acquire movable assets (e.g. a car) through leasing, but not real estate, as the law restricted its use only to professionals. Among other things, the new amendment allows borrowers with non-performing loans to transfer ownership of the mortgaged property to the credit institution by signing a lease agreement for a certain minimum period of time. In this way, an additional possibility of non-performing mortgage loans settlement is provided, without having to resort to an auction of the property.

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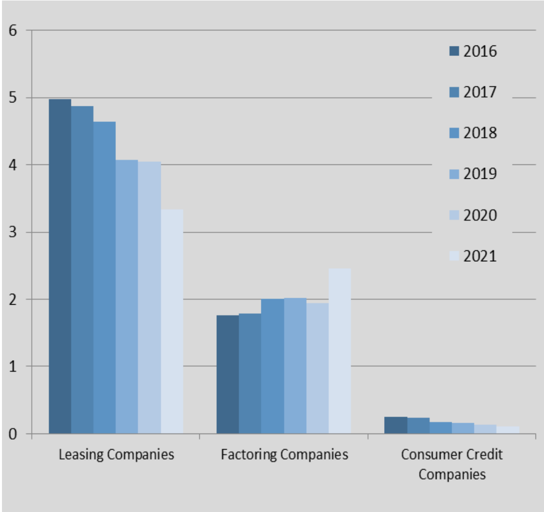
The assets of leasing companies shrank by 17.3% in 2021 to €3.34 billion, from €4.04 billion at end-2020 (see Chart V.22), mainly due to the consolidation of the balance sheet of one company through corporate transformation (separation of non-performing loans).

The assets of factoring companies followed the opposite course during the same period, rising to €2.46 billion in December 2021, significantly higher by 27% compared to December 2020 (€1.94 billion). This increase was mainly due to a rise in loans and advances to customers (excluding credit institutions).

The decline in the assets of credit companies observed in recent years continued in 2021, bringing them to €105.7 million in December, compared with €132.5 million at end-December 2020.

Chart V.22 Evolution of assets of other financial institutions

(billion euro)



Source: Bank of Greece.

Regarding the interconnection of other financial institutions with credit institutions, it should be noted that their liabilities to credit institutions increased significantly in 2021 to 18.7% of their total liabilities, compared with 14.7% at the end of the previous year. It is worth mentioning, however, that this interconnection mainly concerns borrowing from the parent companies.

At the same time, the claims of other financial institutions on credit institutions decreased slightly (from €215,000 to €167,000 in 2021) and amounted to 2.8% of their assets in December 2021, compared with 3.5% in December 2020.

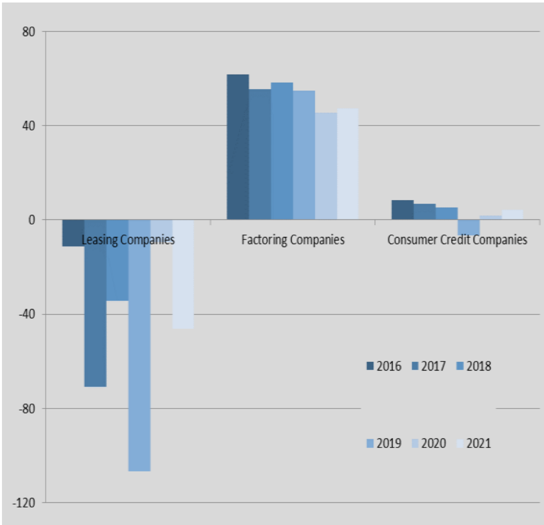
In terms of income statements, in 2021 leasing companies recorded increased losses of €46.2 million, compared with €9.3 million in 2020, which are primarily due to an increase in credit risk provisions and to the impairment of assets (financial and non-financial).

On the other hand, the profits of factoring companies remained almost unchanged and amounted to €47.4 million in 2021 (compared with €45.5 million in 2020).

Consumer credit companies also recorded significantly increased profits of €4.3 million in 2021, compared with €1.8 million in 2020 (see Chart V.23).

Chart V.23 Evolution of income statements of other financial institutions

(million euro)

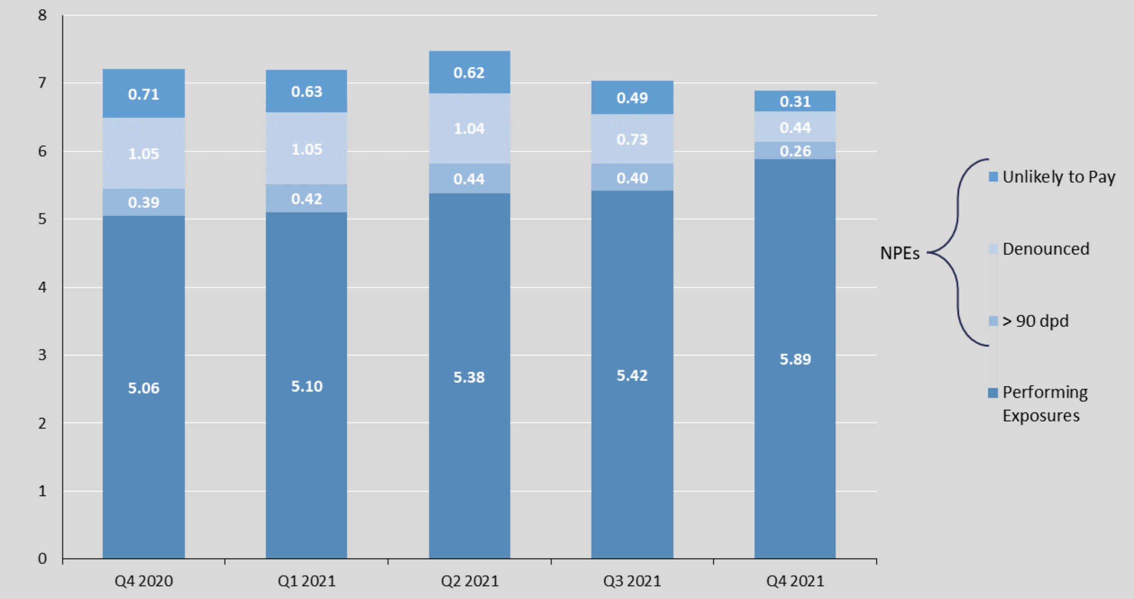


Source: Bank of Greece

Finally, non-performing exposures (on and off balance sheet), cumulatively for the three sectors (leasing, factoring and consumer credit companies), decreased drastically by 53.1% and reached €1 billion at end-December 2021 (Dec. 2020: €2.15 billion). Likewise, the percentage of non-performing exposures in total exposures (NPE ratio) decreased to 14.6% in December 2021, compared with 29.8% in December 2020 (see Chart V.24). This improvement is part of the wider effort of the significant banks to clean up their balance sheets. A positive development is the increase of performing exposures by approximately €500 million in the fourth quarter of 2021.

Chart V.24 Other financial institutions - Performing and non-performing exposures

(billion euro)



Source: Bank of Greece.

3.2 CREDIT SERVICING FIRMS (CSFs)

Under Law 4354/2015 and Bank of Greece Executive Committee Act 118/19.05.2017, the Bank of Greece has authorised a total of 26 credit servicers to provide servicing management of loan and credit receivables. Until today none of the CSFs has applied for authorisation to refinance receivables. From the 26 CSFs, 23 are active, following a merger between two CSFs and two withdrawals of authorisation. The activity of CSFs varies considerably. In particular, three out of 23 CSFs hold 79% of the market, as calculated based on the total value of managed exposures,[96] while the remaining 20 CSFs have a market share of 21%.

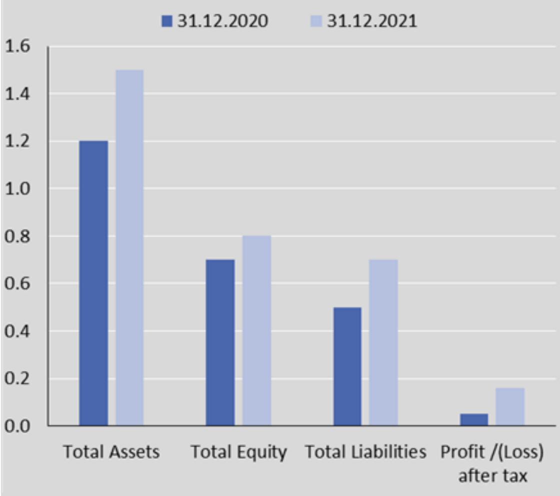
[96] Exposures include all debit instruments (loans and advances and debit securities) and off-balance-sheet exposures.

Cumulative data for CSFs

In 2021, the total assets[97] of CSFs increased by 22% compared to 2020, from €1.2 billion to €1.5 billion. As at December 2021, the total equity and total liabilities of CSFs also rose to €806 million (December 2020: €724 million) and €716 million (December 2020: 525 million), respectively. CSFs also improved their financial performance, as at December 2021, with total profits amounting to €165 million (Chart V.25).

Chart V.25 Aggregate economic data (2020 and 2021)

(billion euro)

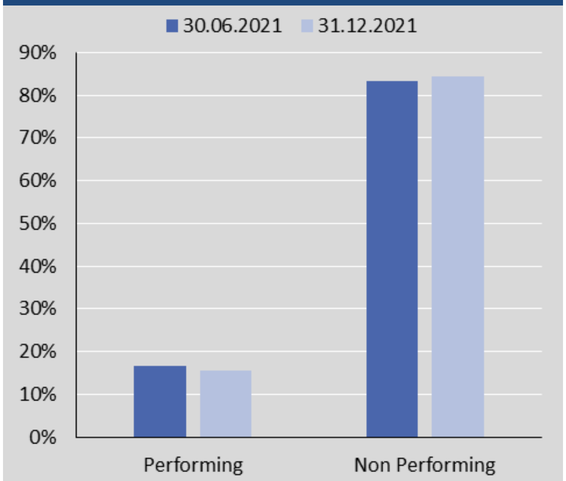


Source: Bank of Greece.

The portfolio of exposures under management is divided into exposures that are serviced on behalf of credit institutions and exposures that are serviced on behalf of credit servicing firms. Total exposures under management as at December 2021 amounted to €123 billion, including non-accrued interest, of which 31% (June 2021: 49%) were exposures managed by CSFs on behalf of credit institutions and 69% (June 2021: 51%) were exposures serviced by credit servicing firms. The above change in the structure of the portfolio is mainly due to the derecognition of securitised exposures of credit institutions that were transferred to credit acquiring firms and managed by CSFs.

The majority of exposures managed by CSFs during the last two years were transferred to them in the context of credit institutions' NPL reduction strategy. The portfolio of exposures under management during the second half of 2021 consisted mainly of non-performing exposures (84%) and, to a lesser extent, performing exposures (16%) (Chart V.26).

Chart V.26 Portfolio structure



Source: Bank of Greece.

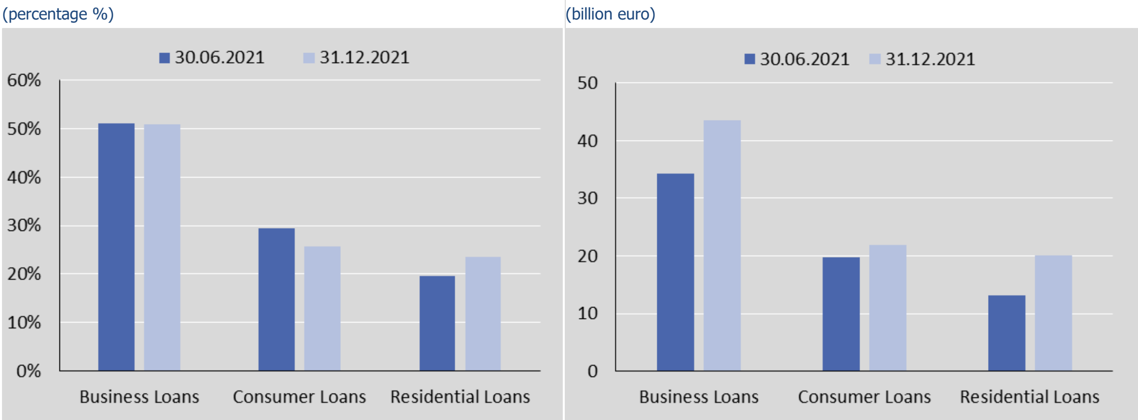
[97] Financial statements of 31.12.2021 are provisional and have not been audited by a certified auditor.

Management of non-performing exposures serviced on behalf of credit acquiring firms

The total amount of exposures managed by CSFs on behalf of credit acquiring firms stood at €85.6 billion as at December 2021 (June 2021: €67.3 billion), including non-accrued interest,[98] of which 96% are non-performing loans.

The portfolio includes mainly business loans (51%), consumer loans (26%) and residential loans (23%) (Chart V.27). In particular, from June to December 2021 the total portfolio grew, with the mortgage portfolio showing the largest increase. Changes in the portfolio structure are mainly due to the inflow of new loans from additional securitisations.

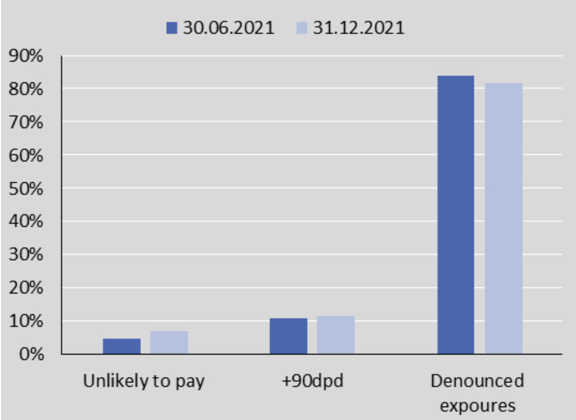
Chart V.27 Exposures under management by portfolio



Source: Bank of Greece. Source: Bank of Greece.

The majority of non-performing exposures that are under management are denounced exposures (81%), while 12% are exposures that are past due by 90 days or more and 7% are unlikely to pay exposures (Chart V.28).

Chart V.28 Non-performing exposures under CSF management (per category)



Source: Bank of Greece.

Repayments, liquidation of collateral and write-offs of exposures managed by CSFs on behalf of credit acquiring firms increased from €435 million as at June 2021 to €1.36 billion as at December 2021.

In particular, loan repayments, collateral liquidation and write-offs during the second half of 2021 amounted to €446 million, €305 million and €168 million, respectively.

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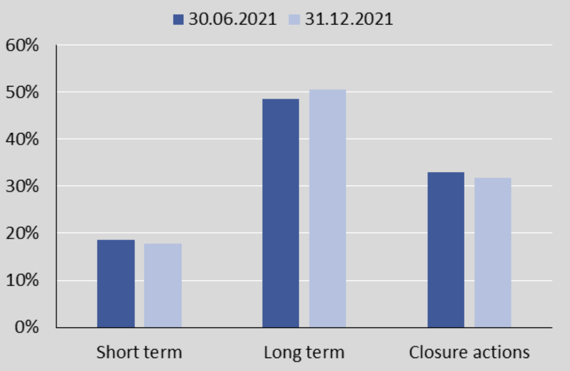
[98] According to Article 150 of law 4261/2014, credit institutions based in Greece shall cease to recognise on an accrual basis interest on loans or other credits extended, in any form, including claims from financial leasing under Law 1665/1986 (Government Gazette A194), after the lapse of a time period during which recognised interest on loans or other credits remains overdue, which may not exceed six (6) months with respect to loans to natural persons fully secured by real estate and three (3) months with respect to debts from other credits. After the expiry of the above time period, they may only carry out non-accounting calculation of interest, including any default and compound interest, where allowed, which shall be accounted for if and when collected.

Finally, in the second half of 2021, modifications affected 19% of the total portfolio managed on behalf of credit acquiring firms. As at December 2021, long-term modifications accounted for the largest share of modified exposures (50%), followed by resolution and closure actions (32%) and short-term modifications (18%)[99] (Chart V.29).

Chart V.29 Analysis of exposures under management that were modified



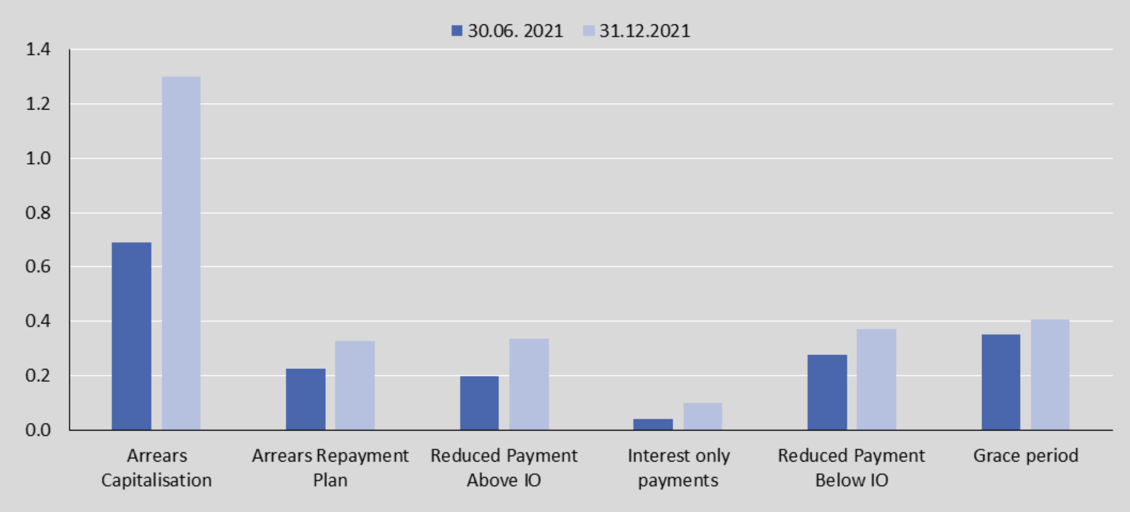
Source: Bank of Greece.

It should be noted that, as at December 2021, resolution and closure actions amounted to €5 million, compared with €3.1 million in June 2021, short-term modifications to €2.8 million (June 2021: €1.7 million) and long-term modifications to €8 million (June 2021: €4.6 million).

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. As at December 2021, capitalisation of arrears was the most common short-term modification (accounting for 46% of short-term modifications), 7% higher compared to June 2021[100] (Chart V.30a).

Chart V.30a Short-term modifications

(billion euro)



Source: Bank of Greece.

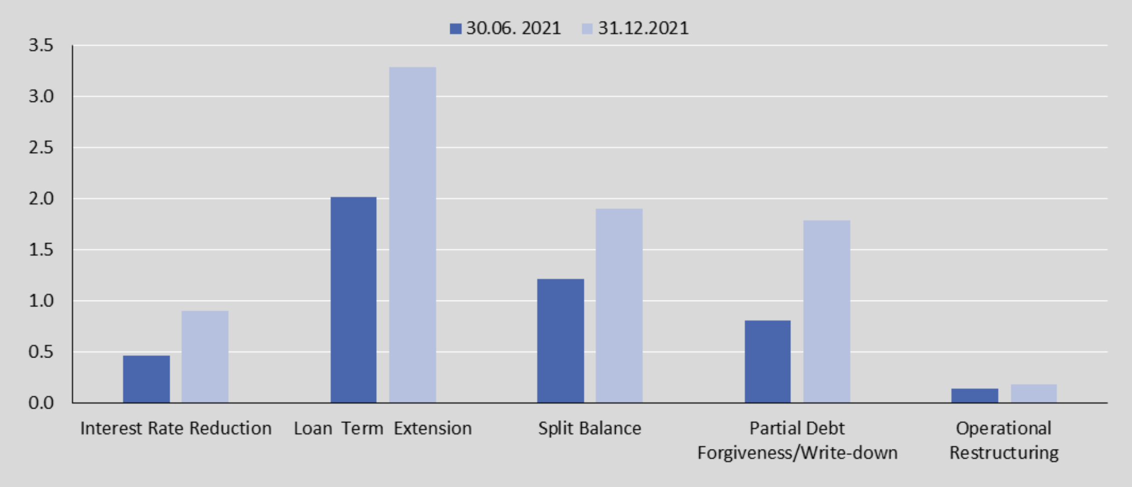
Long-term modifications are those with a duration of more than two years, based on conservative assumptions regarding the borrower's future repayment capacity throughout the repayment schedule. As at December 2021, the most common types of long-term modifications were the extension of the loan term (41%) (June 2021: 44%), split balance (24%) (June 2021: 26%) and partial debt write-down (22%) (June 2021: 17%) (Chart V.30b).

[99] Bank of Greece Executive Committee Act 175/2/29.07.2020, Annex V.

[100] June 2021 data refer to the latest available data, following re-submissions made to the Bank of Greece by CSFs.

Chart V. 30b Long-term modifications

(billion euro)



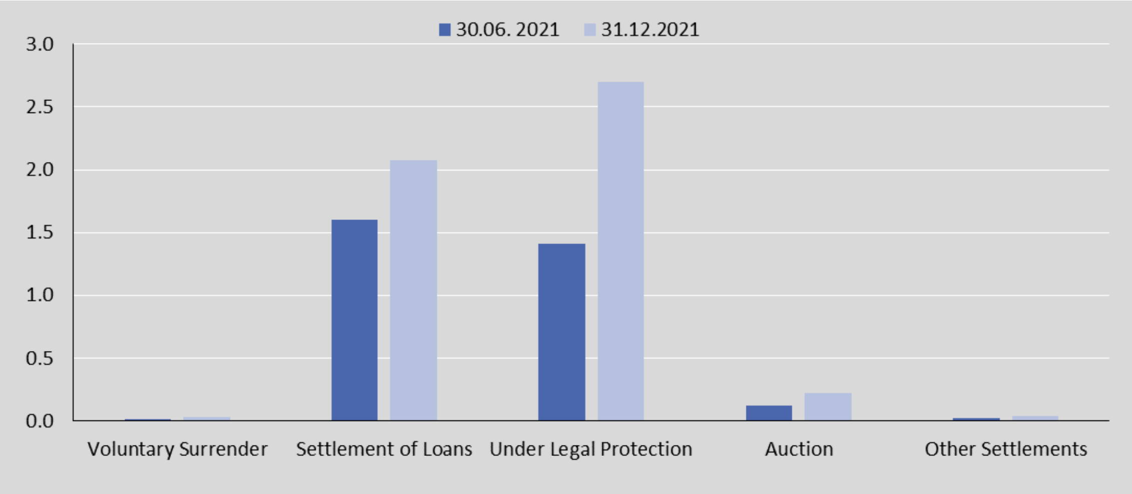
Source: Bank of Greece.

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

As at December 2021, most common types of resolution and closure actions were settlement of loans (40%, compared with 51% as at June 2021) and settlements under legal protection (53%, compared with 45% as at June 2021) (Chart V.30c).

Chart V.30c Resolution and closure actions

(billion euro)



Source: Bank of Greece.

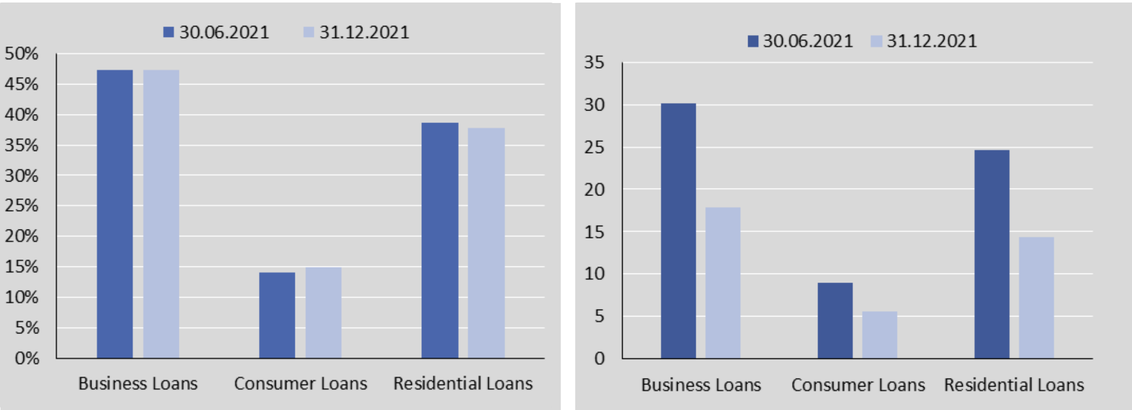
Management of non-performing exposures serviced on behalf of credit institutions

The total amount of exposures managed by CSFs on behalf of credit institutions decreased by 40.7% as at December 2021 compared to June 2021, as a significant amount of these exposures was transferred to "Management on behalf of credit acquiring firms" due to the derecognition of securitised portfolios. In particular, the total amount of these exposures was €37.8 billion, including €12 billion of non-accrued interest. It should be noted that 60% of the above amount was non-performing loans.

The portfolio of non-performing exposures managed on behalf of credit institutions consists mainly of business loans (47%), residential loans (38%) and consumer loans (15%)[101] (see Chart V.31). The total amount of these portfolios decreased significantly, with the largest decline being recorded by the mortgage portfolio (42%).

Chart V.31 Breakdown of exposures under management

(percentage %) (billion euro)



Source: Bank of Greece.

Repayments and collateral liquidation of the exposures that CSFs manage on behalf of credit institutions increased significantly from €1.1 billion as at June 2021 to €2.1 billion as at December 2021, including non-accrued interest. Repayments and collateral liquidation, during the second half of 2021, amounted to €887 million and €102 million, respectively (compared with €989 million and €75 million, respectively, in the first half of 2021).

Overall, the assessment of the data regarding the second half of 2021 shows that credit servicing firms increased slightly the rate of liquidation and repayment of exposures across the portfolios managed on behalf of credit institutions. The effective management of the exposures by credit servicing firms is considered essential. In particular, CSFs should effectively manage idle collateral for non-viable customers, which should be brought back to the economy and become productive again, while for viable customers, efficient restructuring solutions should be offered to ensure financial soundness and facilitate the conditional reintegration of their loans into banks' balance sheets.

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

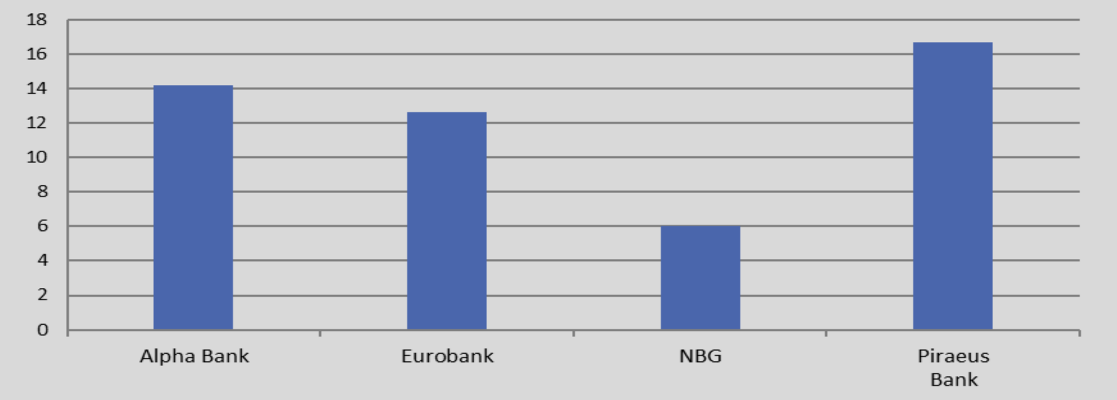
The effort to reduce the large stock of legacy non-performing loans (NPLs), as a result of the multi-year crisis, is based on a comprehensive framework of actions designed five years ago with the cooperation of all stakeholders. This framework rests on three pillars: a) strengthening the supervisory and regulatory framework for the management of NPLs; b) removing any institutional and legal impediments τo their effective management; and c) establishing and operating an effective secondary NPL market.

[101] It should be noted that in Chart 31 non-accrued interest is included.

Through the secondary NPL market, banks are able to sell NPLs, either directly or through securitisations, and clean up their balance sheets so that they can restart financing the real economy and perform their intermediation function. Combining securitisations with the implementation of the Hellenic Asset Protection Scheme (HAPS) of the Greek State, known as "Hercules",[102] banks have achieved a significant reduction of NPLs. By the end of 2022, the banking system is expected to achieve a single-digit NPL ratio. Therefore, it is clear that securitisations have been a significant tool in effectively managing banks' NPL stock.

At an aggregate level, a review of the securitisations carried out by the four systemically important banks illustrates that banks' participation in the programme differs across banks (see Chart 1).

Chart 1 Aggregate data on the securitisations of the 4 Greek Significant Institutions (SIs) (billion euro)

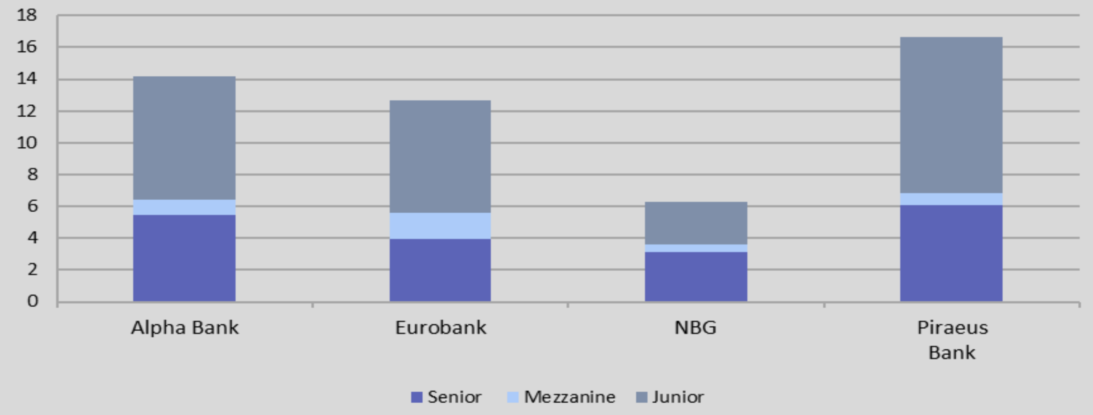


Source: Bank of Greece.

Out of the above securitisations, amounting to a total of €49.5 billion,[103] 37.7% have been included in the "Hercules" scheme, under which senior tranche notes[104] are held exclusively by banks (see Chart 2). The total amount of the guarantees granted by the Greek State amounts to €18.6 billion as at end-2021.

[102] Under this scheme, the Hellenic Republic guarantees the senior tranche notes of securitisations so as to reduce credit risk.
[103] It should be noted that the value of on-balance-sheet exposures is €47.4 billion and the difference is due to the inclusion of off-balance-sheet loans in the securitisation conducted by one significant bank.
[104] It should be noted that, for the purposes of calculating capital requirements, these notes carry a zero weight.

Chart 2 Allocation of securitisations per bank in senior, mezzanine and junior tranche notes (billion euro)



Source: Bank of Greece.

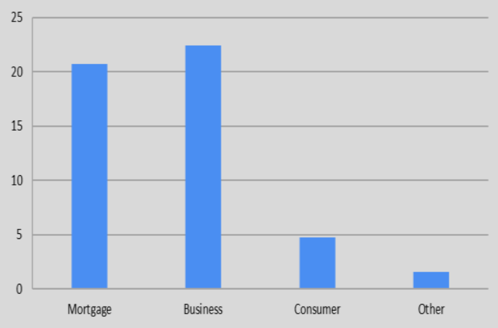
Banks' securitisations include both denounced loans (62.6%) and non-denounced loans (37.4%). Out of the total securitised loans (denounced and non-denounced), 44% were in forborne status at the time of sale.

Regarding the composition of securitisations per loan category, mortgage and business loans dominate, with percentages of 41.8% and 45.3% respectively.

The following charts present a breakdown of the securitisations by loan category and the percentage coverage with real estate collateral by loan category.

Chart 3 Breakdown of securitisations by loan category

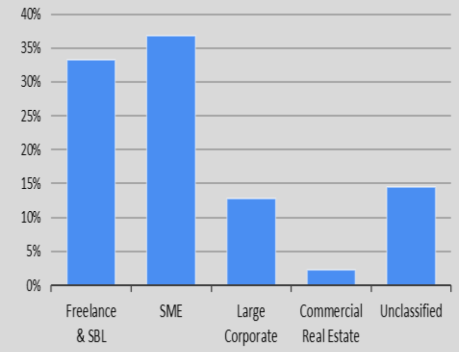
(billion euro)



Source: Bank of Greece.

Chart 4 Breakdown of business loans by subcategory

(percentage %)

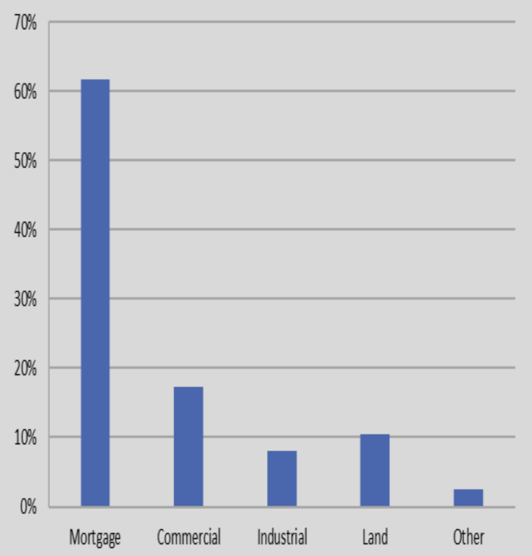


Source: Bank of Greece.

Loans to micro enterprises and small and medium-sized enterprises account for 70.1% of total business loans, while large corporate loans account for 12.8%.

It should be noted that 80.2% of the securitised loans are secured by real estate collateral, 60.8% of which are senior mortgages. Regarding the type of collateral, 61.7% concerns residential real estate and 7.3% represents commercial real estate, with much lower percentages for other real estate categories.

Chart 5 Allocation of real estate collateral per securitisation (%)

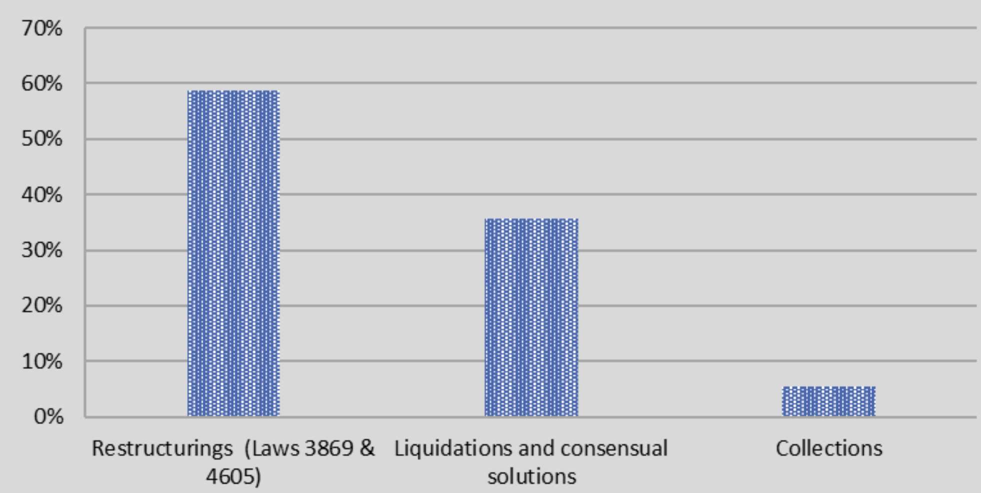


Source: Bank of Greece.

Securitisations have become instrumental to banks' efforts to clean up their balance sheets. However, an important parameter in the efficient operation of both the secondary market for NPLs and securitisations is the ability of Credit Servicing Firms (CSFs) to effectively manage these loans, making effective use of idle collateral in the case of non-viable customers and offering effective loan restructuring solutions to viable customers.

In this context, based on preliminary estimates initially submitted as part of the business plans, it is estimated that 72.7% of the underlying exposures will be collected. This collection rate is based on the initially proposed strategies for the management of the exposures: 58.6% will come from loan restructuring/modifications, 35.6% from liquidations and consensual solutions and 5.5 % from simple collections.

Chart 6 Collection rate per securitisation and per strategy pursued (%)



Source: Bank of Greece.

Note: Although the initial plans for loan management included in the securitisations did not include loan sales as part of the strategy, loan sale transactions are currently occuirng and this trend is anticipated to continue and growth further.

It is clear that securitisations have largely succeeded in cleaning up the banks' balance sheets and have improved their asset quality. However, transferring the NPLs outside the banks' balance sheets does not entail their removal from the banking system. NPLs continue to exist and their effective management is a prerequisite for achieving a final solution of the NPL problem and resolving private debt.

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

Regulatory framework

Law 4537/2018 transposed Directive 2015/2366/EU (Payment Service Directive II – PSDII) to Greek law, setting up the regulatory framework that governs payment services in the domestic market. Likewise, Law 4021/2011 transposed to Greek law the provisions of Directive 2009/110/EC on the taking up, pursuit and prudential supervision of e-money services. Under these laws, the Bank of Greece has been appointed as the competent authority to authorise and conduct prudential supervision of payment institutions (PIs), e-money institutions (EMIs), payment initiation service providers (PISPs) and account information service providers (AISPs). Furthermore, the Bank of Greece, by Executive Committee Act (ECA) 164/2/13.12.2019, as amended by ECA 178/5/2,10.2020, has specified the aforementioned regulatory framework that governs the operation of the institutions and providers in question.

Payment services and e-money services

According to Law 4537/2018, payment service providers[105] are allowed to provide the following payment services: a) services enabling cash to be placed on a payment account as well as all the operations required for operating a payment account; b) services enabling cash withdrawals; c) execution of payment transactions, including transfers of funds on a payment account (execution of direct debits, including one-off direct debits, execution of payment transactions through a payment card or a similar device, execution of credit transfers, including standing orders); d) execution of payment transactions where the funds are covered by a credit line for a payment service user (execution of direct debits, including one-off direct debits, execution of payment transactions through a payment card or a similar device, execution of credit transfers, including standing orders); e) issuing of payment instruments and/or acquiring of payment transactions; f) money remittance; g) payment initiation services; and h) account information services. In addition to the above, payment service providers may also provide ancillary services, such as functional and closely connected auxiliary services (e.g. exchange services, custody services, data processing and storage), the payment systems function, as well as business operations excluding the provision of payment services, in keeping with the obligations under the applicable legislation. Finally, Law 4537/2018 explicitly refers to the cases of payment services that are excluded from the provisions thereof.

Law 4537/2018 introduces the notion of "open banking", which is understood as a system of data sharing between the financial organisation that keeps the data of users of the system, including third-party providers. Therefore, the access to payment accounts is now allowed to third-party

[105] Payment service providers are divided into the following categories: (a) credit institutions; (b) electronic money institutions; (c) payment institutions; (d) post offices which are authorised under national law to provide payment services; (e) the European Central Bank and the national central banks when they do not act in their capacity as monetary or other public authorities; and f) the Greek Government and the other Member States or their regional or local authorities when they do not act in their capacity as public authorities.

entities (PISPs and AISPs) subject to the users' consent, and card issuing is disconnected from the institutions that maintain accounts (through Card-Based Payment Instrument Issuers – CBPIIs[106]). The aforementioned payment initiation services and account information services are governed by Law 4537/2018 and concern the new payment services, and – in relation to previously applicable Law 3862/2010 (PSD1) –aim at implementing open banking.

According to Law 4021/2011, EMIs issue e-money at par value on the receipt of funds for payment transaction purposes. Additionally, they redeem at any time and at par value the monetary value of e-money, upon request by the e-money holder. Finally, EMIs, as payment service providers, may provide all the aforementioned payment services referred to in Law 4537/2018 subject to authorisation by the Bank of Greece.

Authorisation and supervisory rules

The main fields of assessment of the institutions and providers in question comprise, as appropriate, the operations programme and the business plan; the amount of initial capital; measures to safeguard the funds of users (users of payment services); professional indemnity insurance; the fit and proper assessment of the beneficial owners, members of the board of directors and key function holders; the governance framework and internal control functions, including the obligations that are related to information systems and AML/CTF obligations.

Authorised institutions as well as providers are listed in the public register that is established by the Bank of Greece and maintained on its official web site. At the same time, the Bank of Greece updates the register of the European Banking Authority with information which is listed in its public register.

Once authorised, PIs and EMIs are allowed to provide payment services and e-money services through agents, after the Bank of Greece is notified and has assessed the relevant information required by the aforementioned regulatory framework. The Bank of Greece registers the agents in its official web site.[107]

Additionally, PIs and EMIs as well as providers located in Greece may provide payment and e-money services in another EEA Member State under either the freedom of establishment or the freedom to provide services. Likewise, payment institutions, e-money institutions and providers located in another Member State of the EEA may provide payment services domestically as long as the services in question are referred to in their authorisation granted by the home Member State.[108]

The basic rules of supervision of the institutions and service providers located in Greece concern, as applicable, the obligations of abiding by the provisions on capital adequacy, corporate (internal) governance, cooperation with agents and outsourcing agreements. Relevant decisions of the Bank of Greece specify the supervisory data that the institutions in question must report periodically for prudential supervision purposes.[109]

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[106] Card-Based Payment Instrument Issuers (CBPIIs) are essentially active in the service of issuing payment instruments and/or acquiring payment transactions and are authorised as either PIs or EMIs depending on the other payment services they provide.

[107] https://www.bankofgreece.gr/en/main-tasks/supervision/supervised-institutions.

[108] On the official website of the Bank of Greece, a register is kept of the PIs and EMIs that have notified the Bank of Greece of their intention to provide payment and electronic money services with a Community passport (https://www.bankofgreece.gr/en/main-tasks/supervision/supervised-institutions).

[109] Bank of Greece Executive Committee Act164/2/13.12.2019 and Bank of Greece Governor's Act 2651/20.1.2012, as currently in force.

Key figures

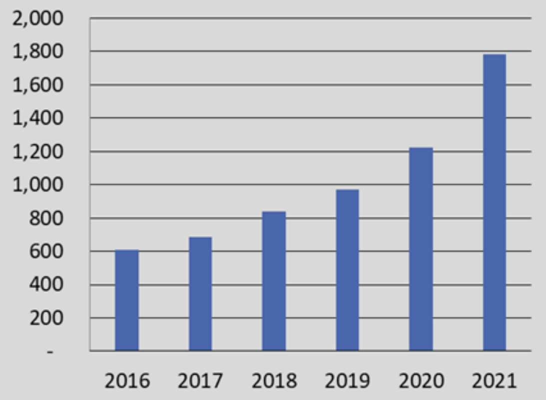
Up to March 2022, the Bank of Greece has authorised thirteen (13) PIs, three (3) EMIs and one AISP. Amongst them, two PIs assumed the separated acquiring business of important credit institutions.

The annual total value of payments carried out in 2021 by PIs amounts to €1.8 billion, up by 45.6% from €1.2 billion in 2020. The considerable increase in the payment volume in 2021 is due to a rise in remittances and an increase in acquiring card-based payment transactions through electronic platforms (e-marketplace).[110] Furthermore, 74% of PIs' activity for the year 2021 was conducted by two (2) PIs.

The total annual value of payment transactions conducted in 2021 by the three (3) EMIs amounts to €6.4 billion, up by 77.4% in relation to 2020 (€3.6 billion). This significant rise in the payment volume during 2021 is in particular due to the expansion of the activity of one (1) EMI abroad (through the use of Community passport). This EMI also accounts for 85% of the total annual value of EMI payments.

Chart V.32 Annual value of payment transactions by PIs

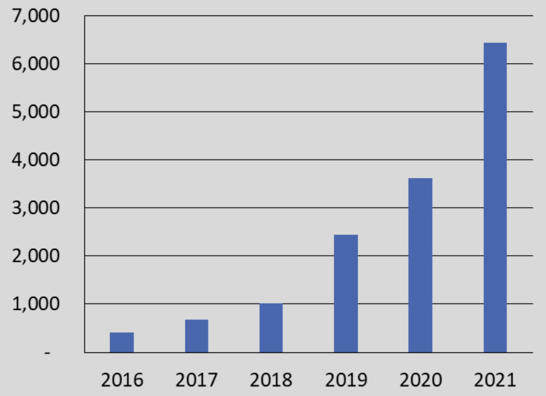
(million euro)



Source: Bank of Greece.

Chart V.33 Annual value of payment transactions by EMIs

(million euro)



Source: Bank of Greece.

[110] The term e-marketplace means a web-based platform developed and managed by a company, on which sellers register in order to distribute their goods electronically to buyers. The operation of an e-marketplace typically includes the conclusion of a collaboration agreement between sellers and the e-marketplace manager, the promotion of their goods in the virtual environment of the e-marketplace (website/application), the ordering of goods by buyers (users of the platform) by methods that vary depending on the implementation of the services and the options available to buyers.

VI. FINANCIAL MARKET INFRASTRUCTURES

Throughout 2021, the financial market infrastructures operated reliably and effectively, ensuring the smooth operation of the financial system, the implementation of the Eurosystem monetary policy and the maintenance of confidence in the common currency.

1. PAYMENT SYSTEMS

The payment systems fully met the high expectations of the public and the economy for swift and secure interbank and retail payment transactions, notably under pandemic conditions.

1.1 TARGET2-GR

The Greek component TARGET2-GR (T2-GR) of the Trans-European Automated Real Time Gross Settlement Express Transfer system TARGET2 operated seamlessly during 2021, with its level of operational availability reaching 100%. The number of domestic and cross-border interbank and customer payment orders transmitted through the system came to 947.7 thousand, up by 160.2 thousand (+20%) compared to 2020. The corresponding value of payment orders reached €951 billion, increased by €23 billion (+2.5%) year-on-year.

1.2 DIAS INTERBANKING SYSTEMS S.A.

The multilateral net settlement system for retail payments DIAS operated efficiently throughout the year, with its level of operational availability reaching 100%. The system processed 36.84 million additional payment orders compared to 2020 (+12.6%). Per interbank payment service provided (see Table VI.1), a significant increase was recorded in credit transfer transactions by 13% and in direct debit transactions by 14%. On the contrary, ATM transactions fell by 12% and electronic cheque clearing transactions by 8%. Finally, POS payment transactions to Greek State Agencies substantially increased by 18% in comparison with the previous year. In line with the increased overall number of transactions, their corresponding total value came to €344 billion, up by 15.8% compared to 2020.

Table VI.1 Transactions of DIAS payment system

(million)

Type of transactions	2021	2020	2019
Credit transfers and other funds transfers	281.64	249.11	239.62
Direct Debits	23.39	20.45	18.70
Cheques	2.31	2.51	3.05
ATM withdrawals	6.26	7.08	11.63
POS payments	15.81	13.38	13.28
Total	**329.4**	**292.53**	**286.28**

Source: DIAS S.A.

The evolution of the number and value of transactions processed by DIAS demonstrates the system's technical capability in responding to customers' increasing needs for electronic payment transactions. In parallel, it reaffirms natural and legal persons' confidence in the use of electronic payment services and the decrease over time in the use of traditional means of payment such as cash and cheques.

1.3 ATHENS CLEARING OFFICE (ACO)

The Athens Clearing Office (ACO) processed 31 thousand less cheques in physical form (change -15.03%) than those submitted for netting in 2020.

The daily average number of cleared cheques was 688 (-15.32%), from 813 in 2020. By contrast, the value of cleared cheques increased by almost €1 billion (+8%), with the daily average value of cleared cheques rising to €50.21 million (+7.6%) in 2021 (see Table VI.2).

Table VI.2 ACO cheque processing

	2021	2020	2019	Change 2021-2020	Change 2020-2019
Number of cheques submitted for clearing	179,006	210,668	305,575	-15.03%	-31.06%
Value of cheques submitted for clearing (million euro)	13,056	12,088	24,798	8.01%	51.25%
Daily average number of cheques submitted for clearing	688	813	1,189	-15.32%	-31.62%
Daily average value of cheques submitted for clearing (million euro)	50.21	46.67	96.49	7.60%	-51.63%

Source: ACO.

The observed annual decrease in the number of cheques submitted for netting confirms the gradual shift of payment service users' preference to electronic means of payment.

2. PAYMENT CARDS

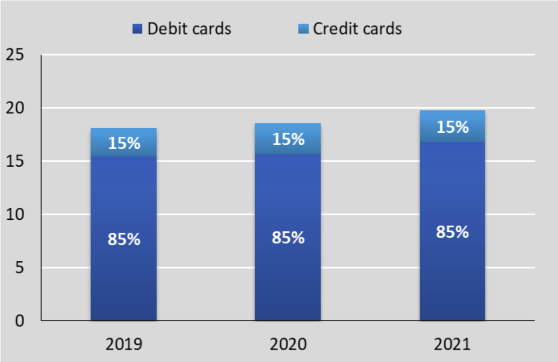
Throughout 2021, the continuous increase in their number as well as in the volume and value of the payment transactions indicated the importance of payment cards[111] as a means of payment, for both consumers and businesses.

2.1 NUMBER OF PAYMENT CARDS

At end-2021, the total number of active payment cards in circulation reached 19.7 million, up by 6% compared to end-2020 (see Chart VI.1).

Chart VI.1 Number of cards per card type

(million)



Source: Bank of Greece.

With respect to the various the types of cards, the number of debit cards increased by 7% to 16.8 million. A notable increase in the issuance of prepaid cards for the fifth consecutive year was recorded since they rose by 13% to 1.9 million. The number of credit cards increased by 2% reaching 2.9 million. Virtual cards also rose by 7% to 107 thousand. The increasing number of e-commerce transactions (i.e. through the internet) seems to be the main reason behind the continuing growth of issuance of prepaid and virtual payment cards.

[111] 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.

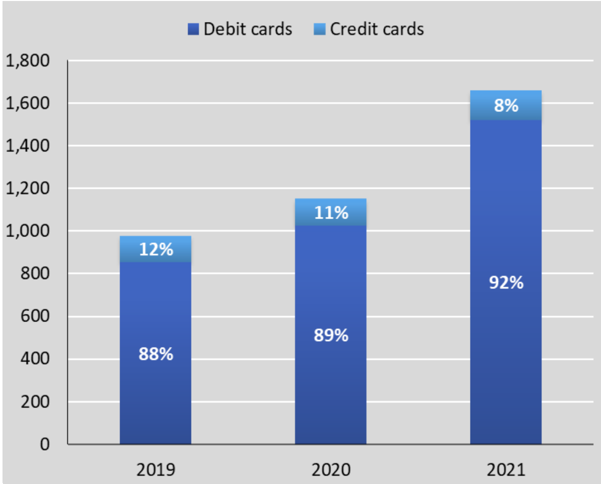
2.2 TRANSACTIONS WITH PAYMENT CARDS

The total number of transactions using payment cards reached 1,658 million, from 1,150 million in 2020, up by 44% (see Chart VI.2).

The number of transactions using debit cards rose by 48% to 1,523 million, from 1,029 million in 2020. Debit cards remained the leading substitute for cash, accounting for 92% of the total number of transactions using all types of payment cards. The number of transactions using credit cards reached 135 million, from 121 million in the previous year, up by 11%. Credit card transactions represented 8% of the total number of card transactions.

Chart VI.2 Number of card transactions

(million)



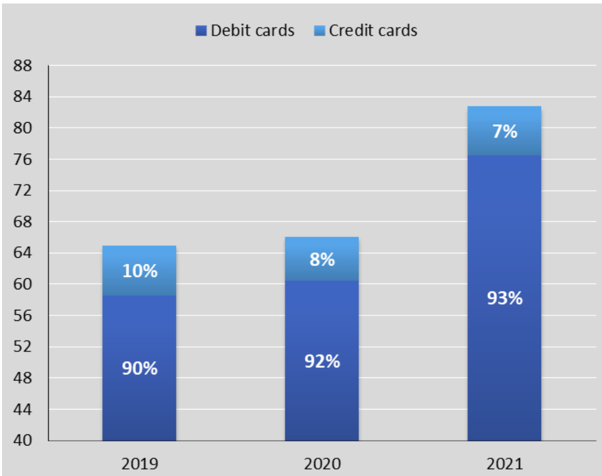
Source: Bank of Greece.

The total value of transactions using payment cards amounted to €83 billion, increased by 25% compared to 2020 (see Chart VI.3).

Debit cards accounted for 93% of the total value of transactions using all types of payment cards, while credit cards accounted for 7%, respectively.

Chart VI.3 Value of card transactions

(billion euro)



Source: Bank of Greece.

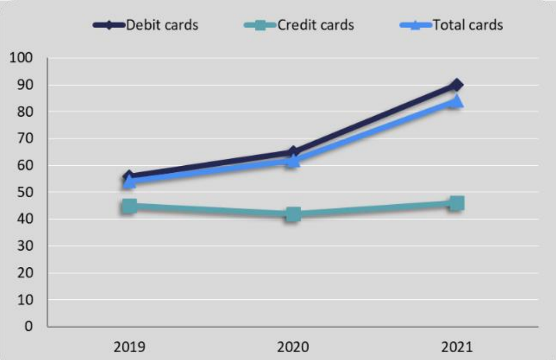
Compared to the previous year, in 2021 the average number of transactions per card increased by 35% to 84 transactions, from 62 transactions (Chart VI.4).

Based on the indicators of the relevant types of cards, the change in the average number of transactions per card is due to the substantial increase in the average value of transactions per debit card to 90, from 65 in 2020, and the rise in the average value of transactions per credit card to 46, from 42 in the previous year.

The average value of transactions per card rose by 18% to €4,186, from €3,550 in 2020 (see Chart VI.5).

Chart VI.4 Average number of transactions per card type

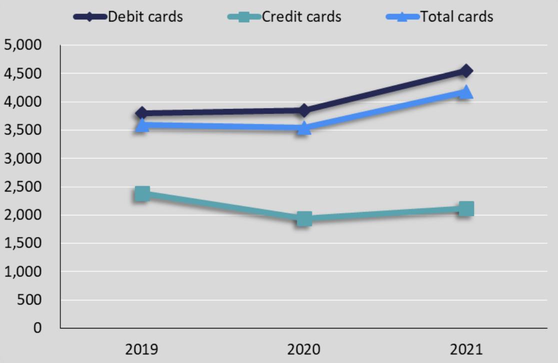
(transactions)



Source: Bank of Greece.

Chart VI.5 Average value of transactions per card type

(euro)



Source: Bank of Greece.

The increase in the average value of transactions per card is mainly due to the number and value of transactions using debit cards, given their larger volume. More specifically, the average value of transactions per debit card grew by 18% to €4,546, from €3,845 in 2020, while the average value of transactions per credit card rose by 9% to €2,117, from €1,938 in the previous year.

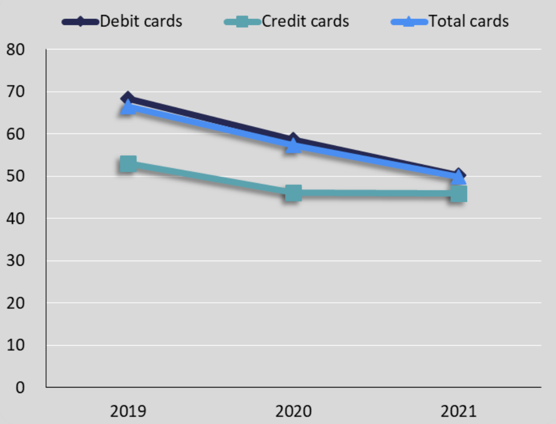
By contrast, the average value per transaction continued its decline in 2021 to €50, from €57 in 2020 and €66 in 2019 (see Chart VI.6).

The decline in the average value per transaction was mainly due to a drop in the average transaction value of debit cards to €50, from €59 in the previous year. Regarding transactions using credit cards, the average value per transaction slightly dropped to €45 from €46 in 2020.

The continuous decline in the average value per transaction is probably due to the reduction in households' and businesses' disposable income caused by the global health crisis, as well as the wider use of debit cards for the purchase of low-value products and services.

Chart VI.6 Average value per card transaction

(euro)



Source: Bank of Greece.

2.3 PAYMENT CARD TRANSACTIONS FRAUD

In 2021, the number of fraudulent transactions using payment cards fell by 11% compared to the previous year (see Table VI.3). The ratio of the number of fraudulent transactions to the total number of transactions, i.e. the fraud to transaction ratio, dropped to 0.02% and accounted for one fraudulent transaction per 4.2 thousand transactions.

Table VI.3 Fraud to transaction ratio - Volume

Period	Number of transactions	Number of fraudulent transactions	Fraud to transaction ratio
2021	1,657,644,753	392,390	0.02%
2020	1,149,860,845	442,234	0.04%
2019	976,105,758	250,637	0.03%

Source: Bank of Greece.

On the contrary, the value of fraudulent transactions rose by 4% over the previous year (see Table VI.4). Nevertheless, the ratio of the value of fraudulent transactions to the total value of transactions remained low at 0.02%, corresponding to €1 fraud value per €6.1 thousands transaction value.

Table VI.4 Fraud to transaction ratio - Value

(euro)

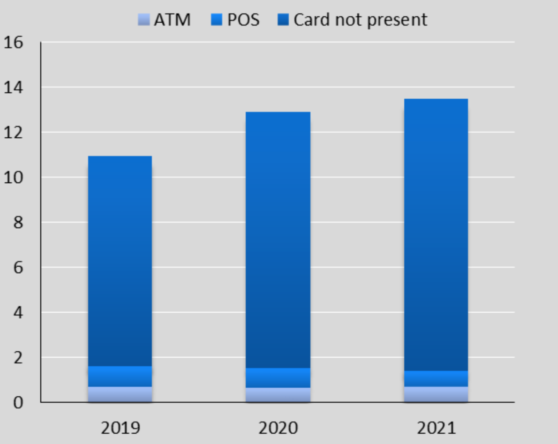
Period	Value of transactions	Value of fraudulent transactions	Fraud to transaction ratio
2021	82,716,394,764	13,441,849	0.02%
2020	66,027,713,462	12,884,106	0.02%
2019	64,924,923,979	10,909,231	0.02%

Source: Bank of Greece.

A breakdown of fraud per card transaction type, i.e. (a) ATM transactions and (b) POS payments and card-not-present transactions (CNP), shows that fraud is most prevalent in CNP transactions via the internet or mail/telephone order (see Charts VI.7 and VI.8).

Chart VI.7 Number of fraudulent transactions per transaction type

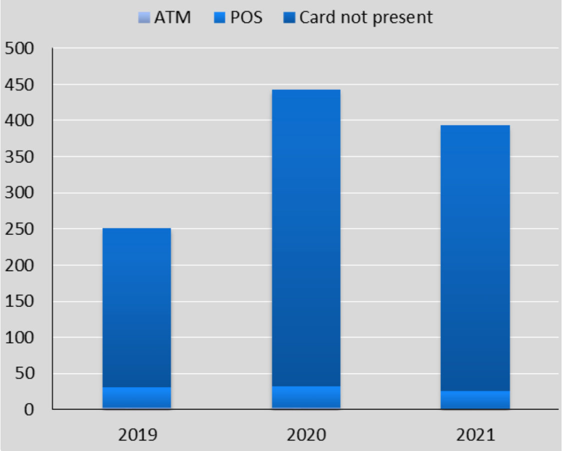
(thousand)



Source: Bank of Greece.

Chart VI.8 Value of fraudulent transactions per transaction type

(million euro)

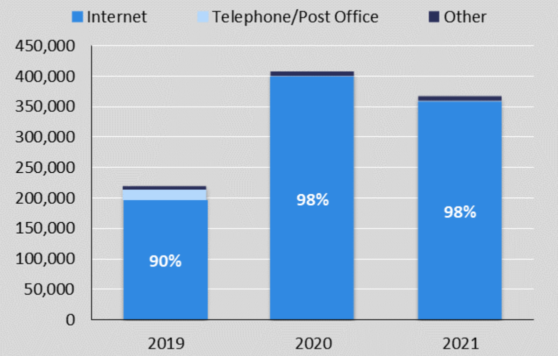


Source: Bank of Greece.

A further analysis of fraud cases in CNP transactions suggests that most of them were related to remote transactions via the internet (see Charts VI.9 and VI.10) and, in particular, to cross-border transactions with foreign entities, as in previous years.

Chart VI.9 Number of fraudulent transactions in CNP transactions

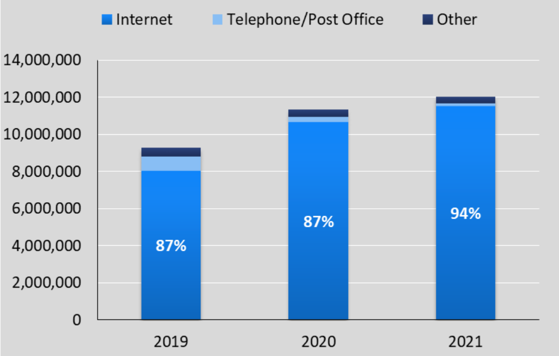
(transactions)



Source: Bank of Greece.

Chart VI.10 Value of fraudulent transactions in CNP transactions

(euro)



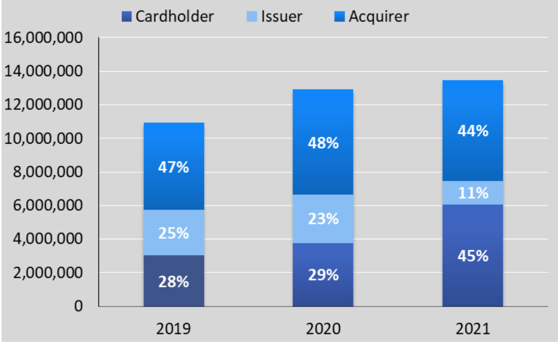
Source: Bank of Greece.

The financial losses arising from fraudulent transactions using payment cards reached €13.4 million in 2021, increased by 4% and 23% compared to 2020 and 2019 respectively (see Chart VI.11).

Financial losses were borne by the parties involved in the card transaction chain according to their degree of fault. Based on the distribution of losses, cardholders and card acquiring payment service providers bore 45% and 44% of total losses respectively. Card issuing payment service providers incurred 11% of total losses.

Chart VI.11 Loss distribution from fraudulent transactions

(euro)



Source: Bank of Greece.

3. CENTRAL COUNTERPARTIES

3.1 EUROPEAN DEVELOPMENTS

Volatility in European energy and gas markets over the past year and at the beginning of the current one has been at historically high levels. As a result, the initial margin requirements and the variation margin requirements for clearing members from central counterparties (CCPs) increased,[112] causing a commensurate increase in transaction costs for market participants.

Given the recent Russian invasion of Ukraine, with further negative effects on energy markets, the European Securities and Markets Authority (ESMA) has been closely monitoring developments in price volatility and margin requirements related to CCPs in energy and commodities markets. It is also in close contact with the relevant national competent authorities, focusing on the impact on clearing members and their clients in these markets.

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On 17 December 2021, ESMA published the conclusions of its assessment of the CCPs established in the United Kingdom (UK CCPs) regarding their systemic importance for the financial stability of the European Union (EU) and whether (or not) they should provide their services in the EU.

On this basis, three clearing services (provided by two UK CCPs) were identified as being of systemic importance for the EU. At the same time, ESMA concluded that the costs and risks of possible non-recognition of the provision of these services in the EU outweigh the benefits, at least in the short term. For this reason, ESMA in its Report proposed measures to mitigate the risks for European market participants from using these services.

Examples of these measures include:

- provision of appropriate incentives to limit EU exposures to UK CCPs;

[112] ESMA Report on Trends, Risks and Vulnerabilities – Risk Monitor No 1, 2022.

- revision of the compliance framework of third-country CCPs with the provisions of the European regulation;
- expansion of ESMA's supervisory and crisis management tools; and
- strengthening cooperation with UK authorities on recovery and resolution of CCPs.

In addition, on 8 February 2022, the European Commission decided to extend the equivalence of the UK CCPs by another three years, until 30 June 2025. In this context, the competent authorities of the European Economic Area (EEA) and the Bank of England signed in March 2022 a Memorandum of Understanding for the exchange of information of mutual supervisory interest concerning clearing members of CCPs and participants in central securities depositories, with a view to improving the effectiveness of their supervision.

In addition, in order to address financial stability concerns related to over-reliance on non-EU systemic CCPs and further develop competitive clearing services in the EU, in February 2022, the Commission launched a targeted public consultation to find ways to:

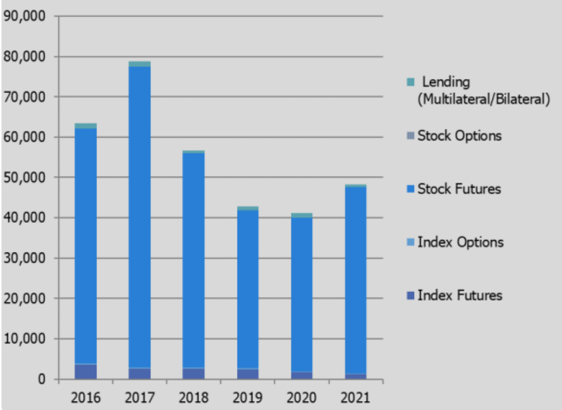
- improve the attractiveness of EU CCPs;
- reduce exposure to systemic CCPs outside the EU; and
- strengthen the supervision of EU CCPs.

On the basis of this consultation, in the second half of 2022, the Commission plans to propose substantial changes to the rules applicable to CCPs, their clearing members and their clients with a view to making the EU a more attractive market for the provision of competitive, secure and efficient central clearing services.

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 Stock Exchange (securities and derivatives markets, as well as securities lending facility) as well as transactions in derivatives on the Energy Exchange (the volume of the latter, however, is very low).

Chart VI.12 Average Daily Traded Volume in the Derivatives Market by derivative type and in the Securities Lending Facility



Source: Monthly Statistical Bulletin (Derivatives), Hellenic Exchanges – Athens Stock Exchange S.A.

During 2021, there were significant upward trends in the volume and value of derivatives and securities lending transactions cleared by ATHEXClear due to the improvement of market conditions and investor sentiment on the Athens Stock Exchange, with the General Index increasing by more than 10 percentage points within 2021.

More specifically, during the period under review, the average daily trading volume in the derivatives market and in the securities lending facility amounted to 48,233 transactions, up by 17.1% over the previous year (2020: 41,182 transactions) – as shown in Chart VI.12 and in Table VI.5. This change was due mainly to the increase observed in Stock Futures.

Table VI.5 Average daily traded volume in the derivatives market by derivative type and in the securities lending facility						
	Index Futures	Index Options	Stock Futures	Stock Options	Lending (Multilateral/Bilateral)	Total
2016	3,596	269	58,218	48	1,318	63,449
2017	2,508	379	74,494	98	1,226	78,705
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

Source: Monthly Statistical Bulletin (Derivatives), Hellenic Exchanges – Athens Stock Exchange S.A.

At the same time, the average daily value of transactions in 2021 amounted to €14.03 million, up by 13% from €12.37 million in the previous year (see Table VI.6 and Chart VI.13).

Table VI.6 Average daily traded value in the derivatives market by derivative type

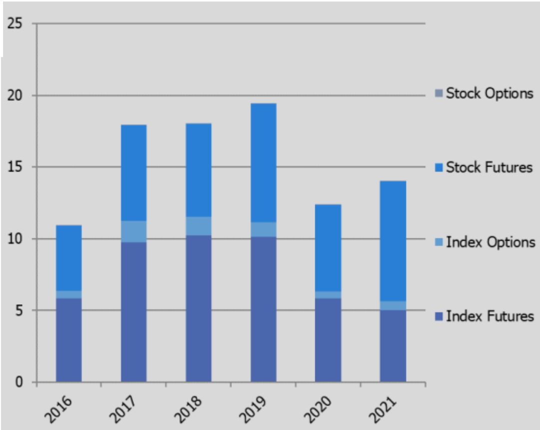
(in million euro)

	Index Futures	Index Options	Stock Futures	Stock Options	Total
2016	5.84	0.50	4.54	0.02	10.90
2017	9.73	1.49	6.66	0.04	17.93
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

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

Chart VI.13 Average daily traded value in the derivatives market by derivative type

(in million euro)



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

4. CENTRAL SECURITIES DEPOSITORIES

4.1 DEVELOPMENTS IN THE REGULATORY FRAMEWORK

The European Central Securities Depository Regulation – CSDR[113] – sets out common rules and harmonised procedures for the operation and supervision of Central Securities Depositories (CSDs) in order to enhance the safety and efficiency of securities settlement in the European Union (EU).

To achieve these objectives, the CSDR establishes, inter alia, short and harmonised settlement periods and provisions regarding compliance with the settlement process. The latter provisions apply in the EU since February 2022 and concern the measures that CSDs have to take in order

[113] 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.

to prevent and address the cases where the concluded transactions cannot be settled due to lack of securities or cash (settlement fail[114]).

In particular, CSDs are required, among other things, to:

- have procedures in place to facilitate the settlement of transactions on the intended settlement date, in order to minimise the exposure of their participants to counterparty and liquidity risks;
- promote early settlement on the intended settlement date through appropriate mechanisms;
- incentivise the timely settlement of transactions by its participants;
- monitor settlement fails of transactions and submit regular reports to the competent and relevant authorities;
- establish procedures to facilitate the settlement of those transactions that have not been settled on the intended settlement date, including a penalty mechanism as a deterrent for participants that cause settlement fails; and
- set up measures that enable them to suspend those participants that consistently and systematically cause settlement fails, as well as to disclose – under certain conditions – their identity.

The CSDs operating in Greece have amended their operating regulations in a timely manner and comply with the above provisions.

In addition, in accordance with the CSDR, in the specific cases of settlement fails due to lack of securities, after the intended settlement date and an extension period, a mandatory "buy-in" process[115] must be initiated. Although this is included in the provisions regarding the settlement process, the European Commission recently proposed an amend to the CSDR[116]postponing the implementation of this measure until a later stage and only if the effectiveness of the settlement process does not improve, as expected, after the implementation of the other provisions.

4.2 THE BANK OF GREECE SECURITIES SETTLEMENT SYSTEM (BOGS)

The operation of the Bank of Greece Securities Settlement System (System for Monitoring Transactions in Book-Entry Securities – BOGS) in 2021 was smooth, continuous and uninterrupted.

The extraordinary working arrangements introduced in 2020 due to the COVID-19 pandemic continued in 2021, without affecting the safety and the efficiency of the services offered by BOGS.

In terms of trading activity, the average daily value of transactions settled in BOGS in 2021 (buy/sell transactions, repos on securities, internal transfer of securities, etc.) decreased by 9% to €1.57 billion, from €1.72 billion in 2020. However, out of this total, the average daily value of the buy/sell transactions amounted to €742 million (i.e. 47% of the total), compared with €601 million in 2020, recording a significant increase of 24% due to the improved market conditions

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[114]"Settlement fail" means the non-occurrence of settlement or partial settlement of a securities transaction settlement on the intended settlement date, due to lack of securities or cash and regardless of the underlying cause.

[115]The buy-in process provides that those securities shall be available for settlement and delivered to the receiving participant within an appropriate time-frame.

[116] Proposal to amend the CSDR of 16 March 2022.

in 2021 and the inclusion of Greek government bonds in the Pandemic Emergency Purchase Programme (PEPP). In addition, the average daily volume of transactions (buy/sell transactions, repos on securities, internal transfer of securities, etc.) settled in BOGS in 2021 increased by 6% compared to the previous year, reaching 288 transactions, from 271 in 2020 (see Table VI.7 and Charts VI.14 and VI.15).

In general, as shown in Table VI.7 and in Charts VI.14 and VI.15, trading activity during 2021 showed significant fluctuations per month. These fluctuations are mainly due to the buy and sell transactions among BOGS' participants following the issuance of Greek government bonds (new issues and reopening of previous ones) carried out by the Public Debt Management Agency in 2021, as well as the exchange of PSI bonds[117] with existing bonds that took place in December 2021.

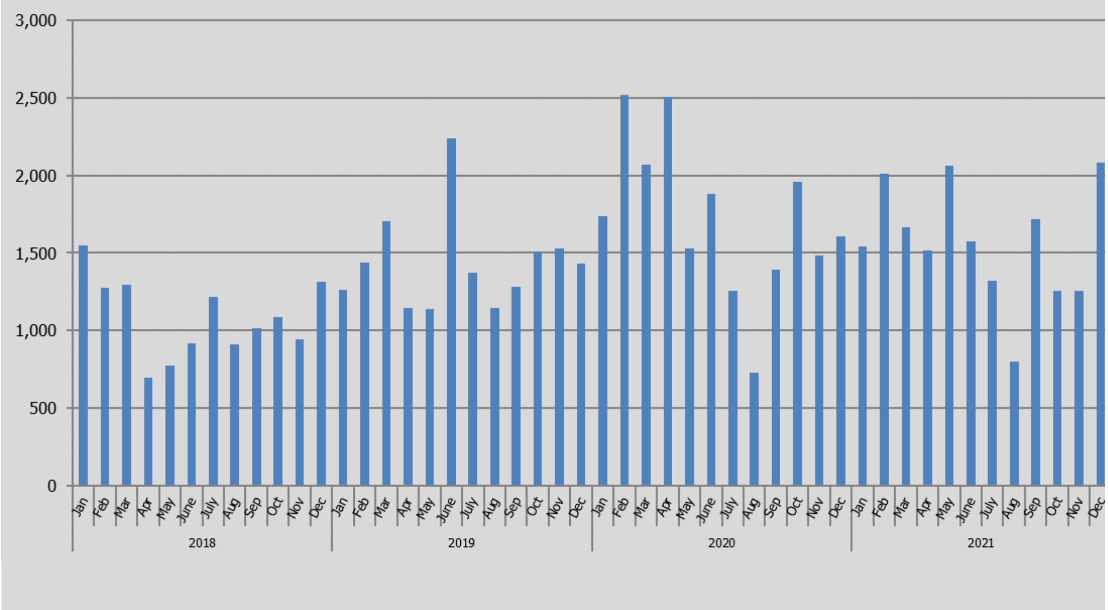
Table VI.7 Average daily value and volume of transactions settled in BOGS

	Daily average value (in million euro)				Daily average transaction volume			
	2018	2019	2020	2021	2018	2019	2020	2021
January	1,548.34	1,260.33	1,733.54	1,544.38	319.41	237.45	233.41	214.00
February	1,277.22	1,438.64	2,519.11	2,009.14	313.90	336.65	367.75	315.00
March	1,294.59	1,703.39	2,069.01	1,663.07	288.76	360,10	300.73	333.00
April	697.84	1,146.08	2,506.32	1,518.04	236.50	307.60	186.85	388.00
May	772.86	1,139.99	1,529.67	2,061.32	273.45	260.17	209.24	280.00
June	919.38	2,236.98	1,881.47	1,575.82	298.38	359.00	318.55	311.00
July	1,219.55	1,375.03	1,252.75	1,322.85	306.45	382.39	276.00	313.00
August	909.41	1,143.18	726.86	799.06	177.39	203.36	147.00	177.00
September	1,017.99	1,279.68	1,394.42	1,719.40	204.50	293.90	276.00	284.00
October	1,087.59	1,503.12	1,957.54	1,255.66	215.13	308.83	388.00	222.00
November	943.20	1,525.55	1,483.11	1,252.64	189.73	292.00	306.00	264.00
December	1,317.13	1,429.29	1,606.98	2,080.48	200.16	256.60	243.00	357.00
Monthly average prices	**1,083.76**	**1,431.77**	**1,721.73**	**1,566.82**	**252.00**	**300.00**	**271.00**	**288.00**

Source: Bank of Greece.

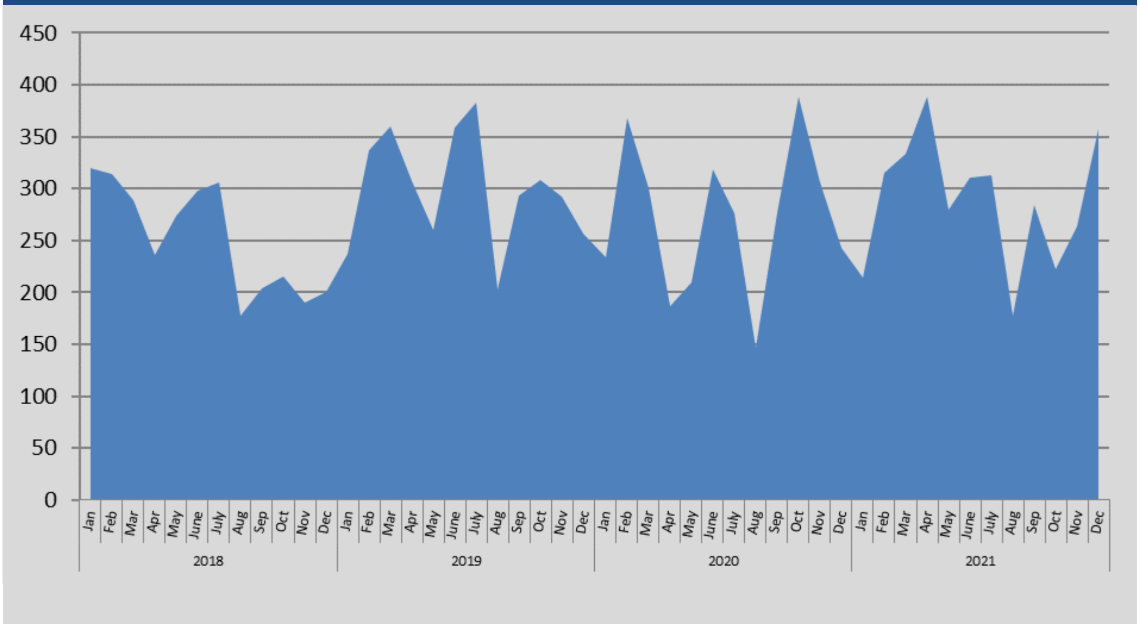
[117] The public- debt restructuring program with the participation of the private sector that holds Greek Government bonds (Private Sector Involvement – PSI).

Chart VI.14 Average daily value of transactions settled in BOGS (2018 - 2021)



Source: Bank of Greece.

Chart VI.15 Daily average volume of transactions in BOGS (2018 - 2021)



Source: Bank of Greece.

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

Settlement activity in the Dematerialised Securities System managed by the Hellenic Central Securities Depository (ATHEXCSD) showed a slight decrease in the number of transactions compared to 2020, while on the contrary it showed an increase in their value.

More specifically, the average daily number of stock exchange transactions settled in ATHECSD in 2021 was 30,386, having decreased slightly by 8% from 32,982 in 2020 (see Table VI.8 and Chart VI.16), while in 2019 it was only 27,523.

At the same time, the average daily value of the stock exchange transactions settled in ATHECSD in 2021 increased by 10% year-on-year to €71.65 million, compared with €64.47 million in 2020 and €66.27 million in 2019 (see Chart VI.17, Table VI.8).

A significant rise in Greek Government bond transactions was observed in 2021. Their average daily value reached €84.66 million in 2021, from €10.18 million in 2020, suggesting an increase in small investors' preference for them.

Table VI.8 Average daily number and average daily value of settled stock exchanges [1] in the Hellenic Central Securities Depository

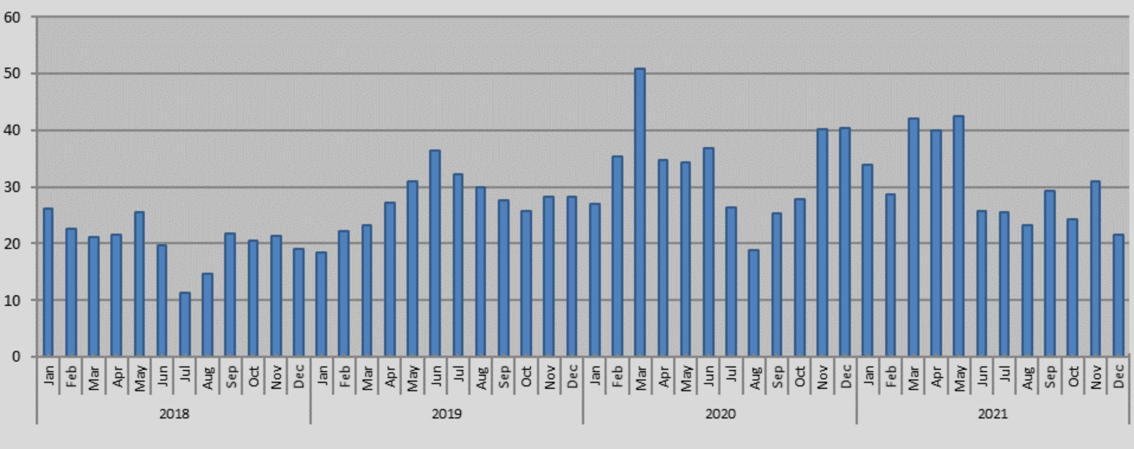
	Equities	Pref. Rights	Corporate bonds	ETFs	Government Debt	Alternative market (Stocks)	Total
Average daily number of transactions settled in ATHEXCSD							
2018	20,324	7	41	2	0	11	20,385
2019	27.383	40	64	3	0,49	32	27,523
2020	32,700	7	64	3	0.21	206	32.982
2021	29,939	56	7 5	2	2	312	30,386
Average daily 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	1 0, 2	119.7	65,407.7
2021	70.247,6	23.5	985 6	17.0	84.7	296.8	71.655,0

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 volume of Athens Exchange transactions settled in ATHEXCSD (2018-2021)

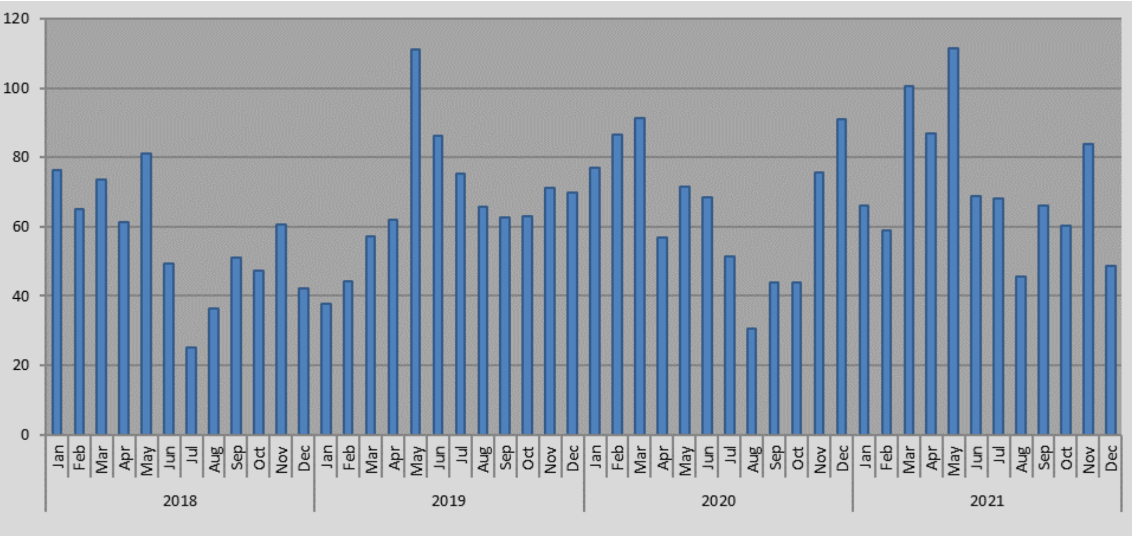
(in thousands)



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

Chart VI.17 Average cash value of Athens Exchange transactions settled in ATHEXCSD (2018-2021)

(in million euro)



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

SPECIAL FEATURE I
AN ANALYSIS OF TRENDS IN CORPORATE AND HOUSEHOLD DEPOSITS WITH DOMESTIC BANKS DURING THE PANDEMIC CRISIS

Evaggelia Georgiou
Hercules Voridis

1 Introduction – Initial remarks

The accumulation of private sector deposits during the most acute phases of the pandemic is an important phenomenon that should be taken into account in economic analyses, as it could impact the path of the economy in the coming period. For this purpose, we analysed deposit balances based on supervisory data[118] submitted by credit institutions to the Bank of Greece, focusing on the categorization of deposits by size of account balance,[119] as well as by depositor sector (i.e. households-natural persons and corporates-legal entities).

The category "natural persons" includes, in addition to households, self-employed persons and sole proprietorships, i.e. firms without legal form. In contrast, the category "corporates" refers to entities with legal form and includes non-resident corporations holding deposits with domestic banks, as well as insurance companies and financial firms other than banks.

Any potential association that could presumably be made between individual deposit categories based on the size of account balance and the income group or the total wealth of natural (or legal) persons should be made under the caveat that it is possible for deposit holders to have placed their money in more than one deposit accounts of lower balances and thus not to be included in the higher/upper categories of deposit accounts; it is also estimated that a plethora of inactive accounts is included in the lowest deposit category. It is also possible that the distribution of deposit balances is likely to be quite uneven within the price range defined by each category. To this extent, the definition of size categories is (theoretically) rather arbitrary and can lead to misinterpretations. For example, we consider it possible that the category €100,000-€500,000 mainly includes account balances of around €100,000 and not €500,000, otherwise the implicit average deposit amount for households is deemed too high for the Greek banking system, at least compared to international survey findings.[120]

2 Share of bank deposits by depositor sector

The share of corporate deposits in the deposits of systemic banks (which also largely reflects the situation for all banks) has gradually been increasing over recent years, but mainly during the pandemic, having reached 26.5% at the end of 2021, compared to 20.2% in 2019 and 18.5% in 2015, while the respective share of natural persons fell to 69.6% in 2021 from 70.3% in 2019 and

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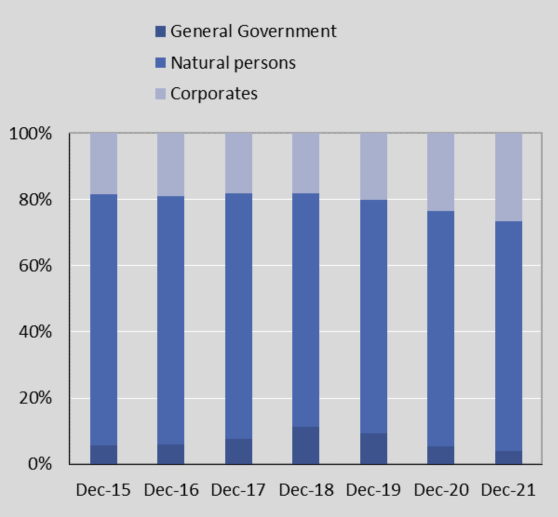
[118] These data are largely in line with deposit data based on monetary statistics.
[119] This categorization is based on the balance of accounts in millions of euros at the end of each reporting period and concerns the following categories: (<5,000 euros, 5,000-50,000 euros, 50,000-100,000 euros, 100,000-500,000 euros, 500,000-1 million euros, 1 million-5 million euros, 5 million-10 million euros and >10 million euros).
[120] There are no available analytical supervisory data for other countries similar to those available for Greece.

76% in 2015. The share of general government has also fallen to 4% in 2021 (see Chart 1A). The gradual strengthening in the share of corporate deposits accelerated during the pandemic years 2020-2021. These developments largely reflect the more positive development of bank credit expansion to corporations[121] in recent years, and especially during the pandemic firm liquidity support measures, in contrast to the household sector which has recorded a negative net credit flow for many years. An additional factor that positively affects corporate deposits with banks is the broader rise in electronic transactions. As for the share of general government in commercial banks, its decline in recent years reflects the more coordinated management of government assets achieved through government accounts with the central bank.

Chart 1A Share of deposits with systemic banks by depositor sector

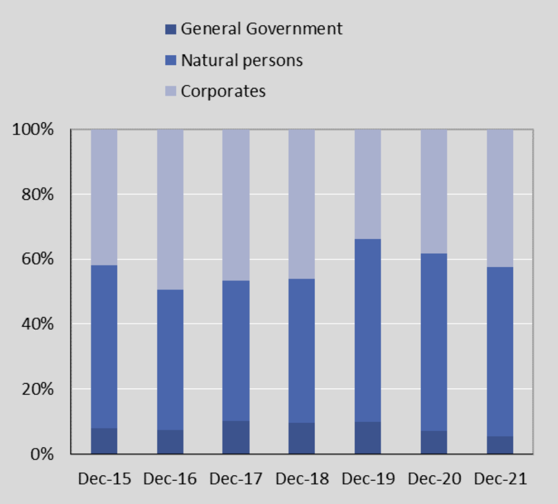
(% percentages)



Source: Bank of Greece.

Chart 1B Share of deposits with non-systemic banks by depositor sector

(% percentages)



Source: Bank of Greece.

The respective shares in the deposits with non-systemic banks (NSBs) show a relatively higher variance than those of systemic banks, since deposits with NSBs represent only a small part, i.e. 6% of total deposits in the Greek banking system, while many of these banks have limited geographical and/or sectoral coverage. The share of corporate deposits in total deposits with NSBs increased slightly between December 2015 and December 2021 from 42% to 43%, while that of natural persons increased somewhat more strongly, from 50% to 52% respectively. This development may be attributed to the fact that confidence in the banking system in general has been gradually improving since 2015 and the risk of bankruptcy and Grexit has been eliminated, while depositors have been increasingly seeking higher returns amidst this period of very low interest rates due to relatively higher deposit rates offered by NSBs compared to systemic banks. General government share in total NSB deposits has also fallen to 5% in 2021 (see Chart 1B). During the pandemic, depositor sector shares are similar to those of systemic banks, i.e. there is an increase in the share of corporates by 9 percentage points from 34% in 2019 to 43% in 2021, a decline in the share of natural persons from 56% to 52% and a decline in the general government share from 10% to 5% respectively.

[121] In the modern economy, money creation in the form of bank deposits is mainly related to the granting of new loans by commercial banks: When a bank grants a new loan, it simultaneously creates a new deposit in the borrower's bank account, thus creating new money.

3 Breakdown of household and corporate deposits by size of deposit account

As regards the breakdown of natural person deposits based on the size of account balance, relatively small fluctuations are observed across banks over time: deposit accounts ranging between €5,000 and €50,000 stand for the largest share in natural person deposits, almost unchanged since 2015 ranging around 41-42% (see Chart 2A). The second largest category concerns account balances between €100,000 and €500,000, with a 23-24% share, followed by deposit accounts of €50,000-€100,000 with a 19-20% share.The lower category of account balances under €5,000, represents 9-10% of total deposits of natural persons, while the category of account balances over €500,000 around 6% of the total.

Just because natural persons include, in addition to households, the self-employed and sole proprietorships, a portion of these deposits may relate to accounts used as working capital.[122] If deposits over €100,000 are considered to be a household savings option (and not working capital of enterpreuners), there is a high degree of confidence in the solvency of the Greek banking system, since, as is well known, the deposit guarantee scheme covers an amount of up to 100,000 only (not of course per deposit account, but per co-beneficiary per bank).

It is noted that during the period July 2015-December 2019 the increase in deposits in the banking system was supported by the return to the banking system of previously hoarded banknotes (cumulative positive net inflow of €29.6 billion during this period) and by the repatriation of funds from investments in financial assets abroad (€16 billion respectively).

As shown below, during the pandemic this confidence strengthened further and deposit accounts with domestic banks exceeding €100,000 increased sharply in an environment of very low interest rates and free cross-border movement of capital while international capital markets recorded an almost unprecedented and persistent rise. Another reading is that using bank deposits mainly as a means of maintaining elevated savings (in assets with higher liquidity than real estate/residences) is not only a sign of high confidence in the domestic banking system, but a manifestation of shortcomings in tems of financial literacy or great aversion to the risk of fluctuations in the nominal value of financial assets. Some, of course, turned to assets abroad. The picture that emerges from the International Investment Position regarding the financial assets of residents abroad is that households represent a significant part of the assets of the domestic private sector (excluding banks) abroad, especially as regards deposits and mutual funds abroad.[123] These are households-natural persons probably of higher incomes and perhaps of higher financial education. The years of the pandemic recorded relatively high outflows of funds abroad for placements in bonds in 2020 and in equity securities/mutual funds in 2021.

The number of deposit accounts for each size account category is not available. However, dividing the total balance of the deposits under each category by the average balance thereof (average of the minimum and maximum amounts that constitute the category's lower and upper limit), we obtain rough estimate with respect to the possible number of accounts included in each category.

[122] Based on monetary statistics, it is estimated that demand deposits (including current accounts) accounted for 20% of household deposits in December 2021, up from 13% in December 2019 and 9% in December 2015. Of course, electronic payments are also made by savings accounts, which also accept incoming remittances and make up the bulk of household deposits without, of course, allowing check blocks to be made available to the beneficiary.

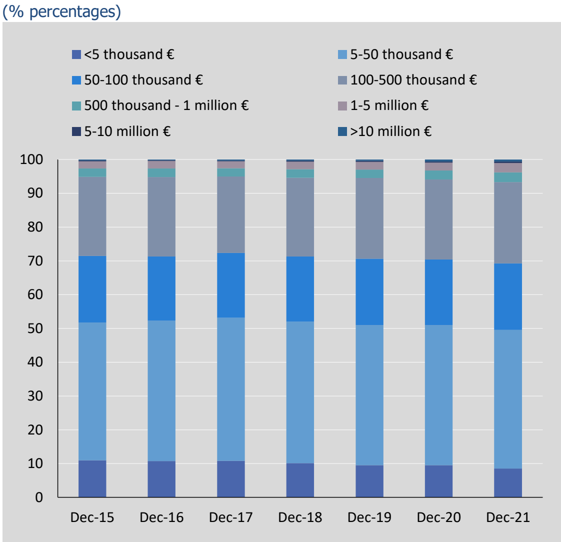
[123] In particular, it is estimated that domestic natural persons represent around 55-60% of total resident deposits abroad, 60% of mutual fund shares abroad and 10-15% of foreign bonds respectively.

For example, based on this calculation, it appears that in December 2021 the category of accounts up to €5,000 may have included more than 4.5 million accounts, the category €5,000-€50,000 may have included 2 million accounts, the category €50,000-€100,000 360,000 accounts, the category €100,000-€500,000 110,000 accounts, the category €500,000-€1 million 5,200 accounts, the category €1 million-5 million approximately 1,300 accounts, the €5 million-0 million category around 80 accounts and the top category, i.e. deposits exceeding €10 million, could include up to a maximum of 84 accounts.

It would be interesting to further associate this data with those from other sources that provide information on the distribution of household income and wealth including real estate. The ECB Household Finance and Consumption Survey found that 90% of households in Greece in 2018 had financial assets in the form of deposits, 3% had claims on private loans, 1% owned shares, while holdings of mutual fund shares, pension/insurance plans, bonds and other assets accounted for less than 1%. According to the same survey, the median value of a deposit in Greece is estimated at €1,000, while only 39% of Greek households stated that they were able to save in the sense that their income exceeded their regular expenses. Based on similar field surveys for other countries, the median deposit account value of US households is estimated at $5,300 (average value $41,600, Federal Reserve Survey of Consumer Finances for 2019) and German households at €9,900 (average value €27,600, Bundesbank Survey Panel on Household Finances for 2017).

Chart 2A Share of natural person deposits by account balance category

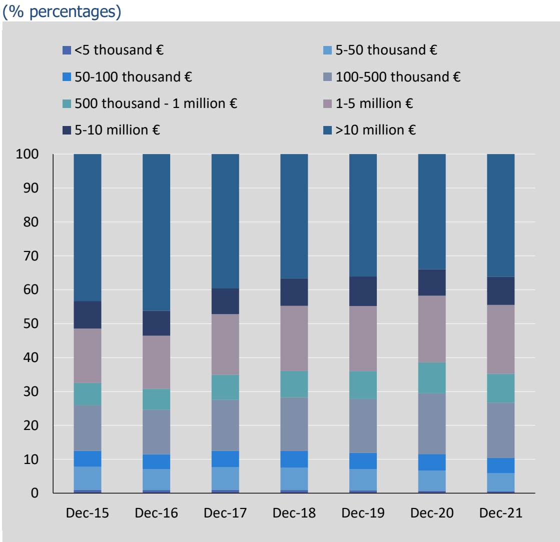
(% percentages)



Source: Bank of Greece.

Chart 2B Share of corporate deposits by account balance category

(% percentages)



Source: Bank of Greece.

As regards corporate deposits, the highest size category, i.e. deposit accounts exceeding €10 million stands for the largest share. Although one would expect, after 2015 and the restoration of confidence in the banking system, that the share of these deposits would have increased, it has fallen to about 36% over the last three years from 42% in 2015. However, the share of medium and higher-sized corporate accounts of over €100,000, rose in total from 44% to 53% in 2021 (see Chart 2B). This may be attributed to the growing familiarity of consumers with electronic transactions (as opposed to cash received that can be kept in a company's safe box/vault) and, during the pandemic, bank borrowing of many small and medium-sized enterprises. The share of the €50,000-€100,000 category remains basically stable at around 5%, while the share of the two lower categories up to €50,000 declined slightly during the pandemic (from 8% to 6%), reflecting the larger liquidity constraints that small businesses are still facing, despite the fiscal support they have received during the pandemic. It is noted that about 70% of corporate deposits consist of accounts over €500,000, which corroborates the fact that the evolution of corporate deposits is interpreted mainly on the basis of large corporate deposits.

4 Analysis of deposits during the pandemic by account size category (December 2019-December 2021)

Between December 2019 and December 2021, account balances increased across all sub-categories of deposit accounts (see Table 1). Deposits of natural persons increased during this period by a total of €19.7 billion. As shown in Figure 3A, most of this absolute change concerns the second lowest category, €5,000-€50,000. To a large extent, this is probably due to the fiscal measures adopted in 2020 and 2021 to outweigh the loss of income that social distancing measures to address the pandemic would otherwise bring about, thus contributing to money creation in the economy, along with reduced consumption during this period. Subsequently, a significant part of the rise in deposits concerns the next two higher categories €50,000-€100,000 and €100,000-€500,000, for which the contribution of both precautionary as well as forced saving is also likely to start increasing.

Table 1 Change in deposits during the pandemic

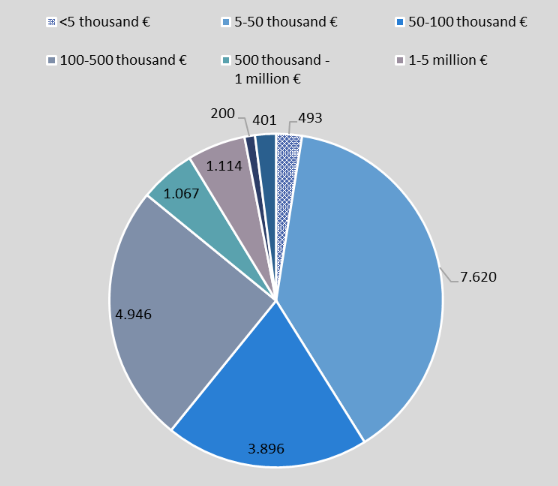
	Absolute change (million euro)			Percentage change (%)		
	Dec 2019-Dec 2020	Dec 2020-Dec 2021	Dec 2019-Dec 2021	Dec 2019-Dec 2020	Dec 2020-Dec 2021	Dec 2019-Dec 2021
Natural persons						
<€5,000	1,012	-520	493	9.1	-4.3	4.4
€5,000-€50,000	4,346	3,274	7,620	9.0	6.2	15.7
€50,000-€100,000	1,751	2,145	3,896	7.6	8.7	17.0
€100,000-€500,000	2,169	2,777	4,946	7.8	9.2	17.7
€500,000-€1 million	501	565	1.067	17.5	16.8	37.3
€1 million-€5 million	305	808	1.114	11.4	27.2	41.7
€5 million-€10 million	69	131	200	18.1	28.9	52.3
>10 million	300	101	401	68.7	13.7	91.8
Total	**10,454**	**9,282**	**19,736**	**8.9**	**7.3**	**16.9**
Corporates/Legal persons						
<€5,000	2	20	22	0.7	6.4	7.1
€5,000-€50,000	425	252	677	19.3	9.6	30.7
€50,000-€100,000	486	303	789	29.1	14.1	47.3
€100,000-€500,000	2.337	1.009	3.346	42.0	12.8	60.1
€500,000-€1 million	1.166	611	1.776	40.5	15.1	61.7
€1 million-€5 million	1.971	2.375	4.346	29.3	27.3	64.6
€5 million-€10 million	383	1.087	1.471	12.5	31.6	48.1
>€10 million	2.364	4.740	7.104	18.7	31.6	56.2
Total	**9,135**	**10,396**	**19,531**	**26.1**	**23.5**	**55.7**

Source: Bank of Greece.

If we separately analyse the evolution of deposits in 2020 and 2021, in the bottom category of balances up to €5,000 the previous increase in 2020 by €1 billion (9%) quickly reversed by about one half in 2021, as the economy gradually restarted and support measures were gradually lifted. This category is likely to be associated with low incomes that have a low saving capacity or deposit accounts used just for payroll credit and electronic payments, but not as a means of savings (see Table 2 and Chart 3B). In the second lowest category, that of €5,000-€50,000, the increase by €4.3 billion in the first year of the pandemic continued in 2021, but started to de-escalate both in absolute size (to €3.3 billion) and in terms of percentage change (from 9% to 6%). In addition to the phasing out of support measures and the restart of the economy, this category is likely to be more pronounced in 2021 and the impact due to the expiration of loan moratoria or deferrals of other liabilities, as well as the recovery of consumption. The subsequent size account categories, i.e. those amounting to €50,000-€100,000, €100,000-€500,000, €500,000-€1,000,000, and €1,000,000-€5,000,000, continued to grow between 2020 and 2021 and in fact at a stronger (or almost constant) rate, i.e. these categories continued to accumulate deposits at a relatively stable pace either for savings or due to increased needs for working capital as long as they relate to self-employment/sole proprietorship. Higher deposit account categories, i.e. those between €5 million and €10 million, grew at a faster pace between 2020 and 2021, while the increase in those above €10 million slowed down significantly. It is reasonable though to assume that categories over €5 million relate to a minimum number of accounts/depositors and that they are more volatile and less representative of the total. Based on the simple calculation for estimating the number of accounts in each deposit category that was mentioned above, it is estimated that categories over €5 million may concern even less than 200 accounts.

Chart 3A Absolute change in deposits by natural persons

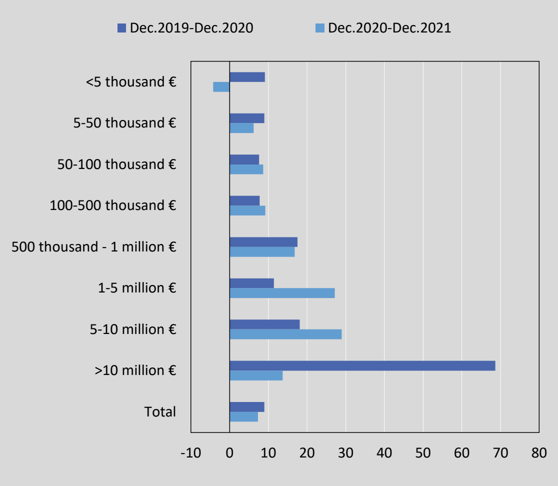
(December 2019 - December 2021, million euro)



Source: Bank of Greece.

Chart 3B Percentage change in deposits by natural persons by account size

(percentages %)



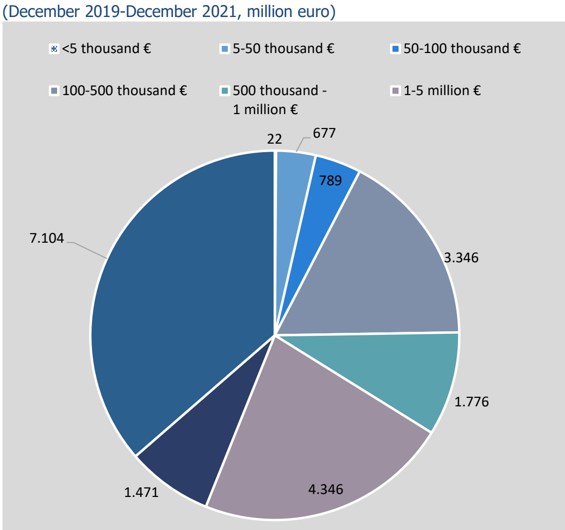
Source: Bank of Greece.

In terms of corporate deposits, the increase over the 2020-2021 period amounted to a cumulative €19.5 billion (see Table 1). In absolute terms, most of the increase concentrated in the categories of accounts over €10 million (€7 billion), €1 million-€5 million (€4.3 billion), €100,000-€500,000 (€3.3 billion), €500,000-€1,000,000 (€1.8 billion) and €5 million-€10 million (€1.5 billion) (see

Chart 4A). The three lower categories, under €100,000, recorded a much smaller increase. A significant positive contribution to the deposits of non-financial corporations in 2020 was made by the net increase in corporate bank lending in the context of corporate liquidity support programs through banks.[124] Chart 4B shows that the percentage increase in deposits was significantly more pronounced in 2020 for accounts from €5,000 to €1 million, reflecting the impact of support measures and bank loans extended to relatively smaller companies, while increase slowed down significantly in 2021. The category of corporate accounts amounting to €1 million-€5 million recorded an almost constant growth in 2020 and 2021, while for the category of less than €5,000 and the two highest categories of accounts comprising those between €5 million to €10 million and those exceeding €10 million (representing around 45% of total corporate deposits), deposit growth was stronger in 2021, which may reflect an additional impact from the restart of the economy, the strong turnover recovery in sectors such as retail and tourism and, more generally, the high growth rates of economic activity from the second quarter of the year onwards.

Chart 4A Absolute change in corporate deposits

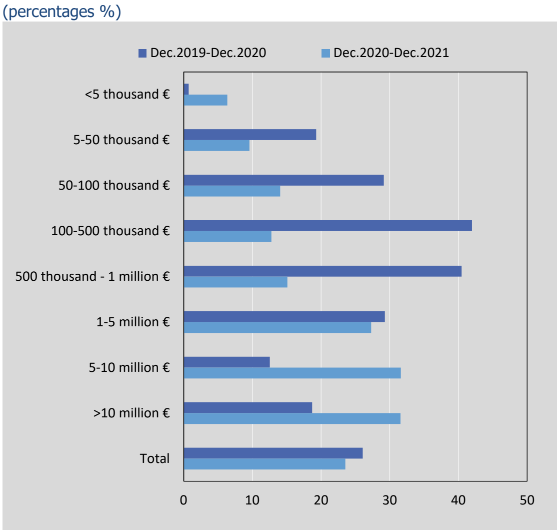
(December 2019-December 2021, million euro)



Source: Bank of Greece.

Chart 4B Percentage change in corporate deposits by account size

(percentages %)



Source: Bank of Greece.

5 Excess deposits during the pandemic period by deposit account size category

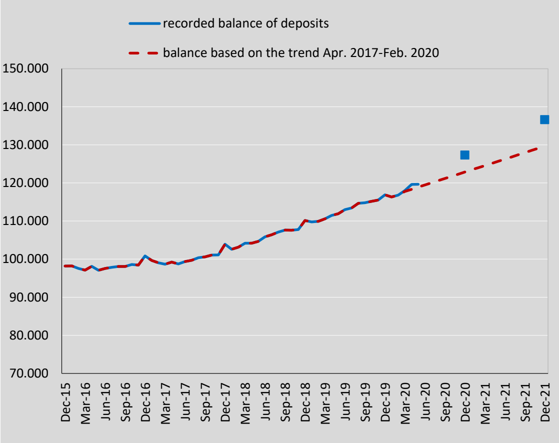
The following is a simple calculation to estimate "excess" deposits, ie the amount by which deposits recorded at end-2020 and at end-2021 exceeded the level that would prevail if deposits continued to rise in the years of the pandemic following their previous trend from April 2017 to February 2020. In Charts 5A and 5B, the red dashed line represents the level of deposits of natural persons and corporations respectively, as if the upward trend of the period April 2017-February 2020 had continued. In this way, we attempt, in a first simple approach, to eliminate the effect of forced and precautionary savings, of moratoria and other payment deferrals as well as of other fiscal measures, but also of the enhanced firm credit support that took place during the pandemic. The blue line and the blue dots indicate the amount of deposits actually recorded during the pandemic period; thus, the distance between the dots and the red dashed line therefore represents

[124] The net flow of bank financing to these companies amounted to € 6.7 billion in 2020 and € 2.5 billion in 2021.

"excess" deposits. According to this calculation and Table 2, excess deposits of natural persons amounted to 4.5 billion euros in December 2020 and 7 billion euros in December 2021, with a deviation of 3.6% and 5.4% from trend respectively. Excess deposits of natural persons should therefore reflect: (i) a higher degree of savings during the pandemic; (ii) the extent to which fiscal measures overcompensated income losses and constituted net subsidies/transfers or a permanent tax relief,[125] (iii) the fast rate of economic recvovery in 2021, which outpaced that of the period 2017-2019, but also (iv) technical factors related to the direct payment of state aid in bank accounts which, in combination with the wider use of electronic payments in pandemic period, possibly led tothe substitution of cash with commercial bank money.

Chart 5A Excess deposits by natural persons during the pandemic

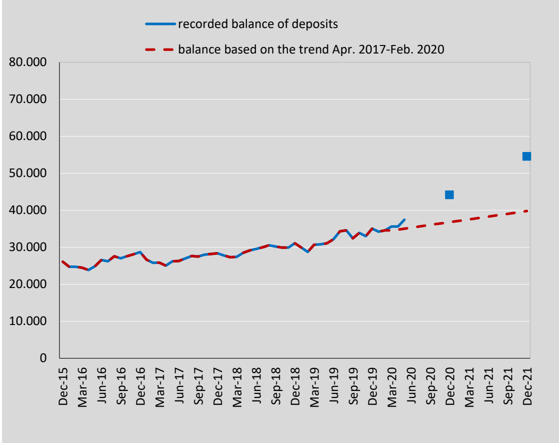
(million euro)



Source: Bank of Greece.

Chart 5B Excess deposits by corporates/legal persons during the pandemic

(million euro)



Source: Bank of Greece.

Regarding the breakdown by individual account category, Table 2 and Chart 6A show that the two lowest categories of deposit accounts, up to €50,000, recorded in December 2020 the highest deviation from trend compared to the other categories, representing more than three quarters of total deviation. The deviation of these two categories showed signs of de-escalation in 2021 either in absolute size (up to €5,000) or in terms of further growth (€5,000-€50,000). Nevertheless, the deviation in the categories of deposit accounts up to €50,000 remained high in 2021, representing 55% of the total. For the medium and higher categories of accounts over €50,000, the deviation from trend widened further in December 2021 compared to December 2020 at an accelerating rate, in most cases. This fact rather indicates a positive effect from the significant economic recovery, to the extent that deposits of natural persons are also directly affected by self-employed persons and/or unincorporated businesses. Dependent labour income is certainlyaffected by economic fluctuations, but it is known to be more stable than corporate income. Moreover, the available data indicate a slight increase in dependent labour income between 2020 and 2021 (2021: 1.7%, 2020: -2.5%).

[125] For example, the repayable advances scheme of € 5.5 billion in 2020 and € 2.7 billion in 2021, which also included/concerned sole proprietors and unincorporated businesses, is expected to be gradually repayed by around ¼, oor the abolishment of εισφορά αλληλεγγύης, a measure of € 700 million.

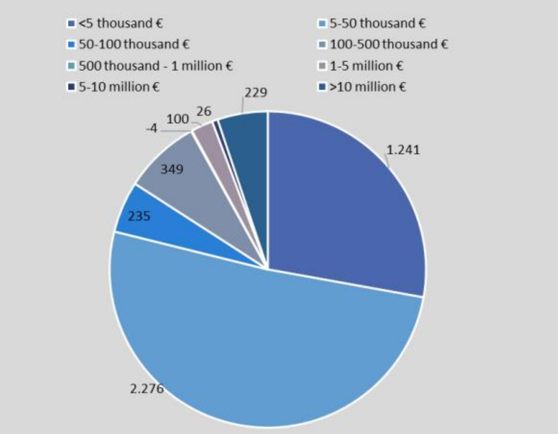
Table 2 Deviation of deposits from the trend of the period April 2017-February 2020

	Deposit deviation (million euro)		
	May 2020	Dec 2020	Dec 2021
Natural persons			
<€5,000	518	1,241	640
€5,000-€50,000	202	2,276	3,166
€50,000-€100,000	-108	235	782
€100,000-€500,000	312	349	1,060
€500,000-€1 million	2	-4	281
€1-€5 million	-59	100	663
€5-€10 million	-68	26	102
>10 million	-35	229	260
Σύνολο	**764**	**4,452**	**6,954**
Corporates/Legal persons			
<€5,000	11	-12	-4
€5,000-€50,000	72	246	339
€50,000-€100,000	16	329	482
€100,000-€500,000	110	1,668	2,022
€500,000-€1 million	98	968	1,250
€1-€5 million	264	1,239	2,761
€5-€10 million	89	267	998
>10 million	1,749	2,683	6,937
Total	2,408	7,389	14,786

Source: Bank of Greece.

Chart 6A Excess deposits by natural persons in December 2020

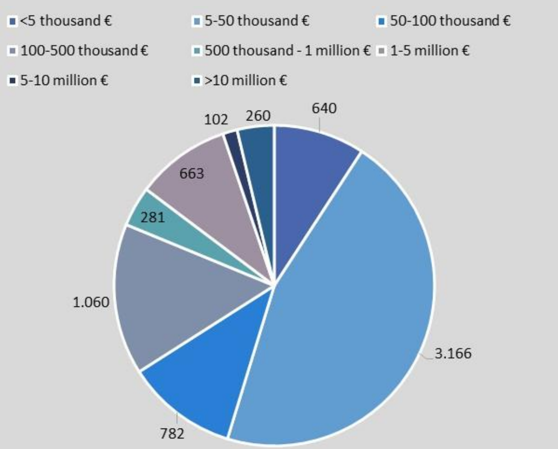
(million euro)



Source: Bank of Greece.

Chart 6B Excess deposits by natural persons in December 2021

(million euro)

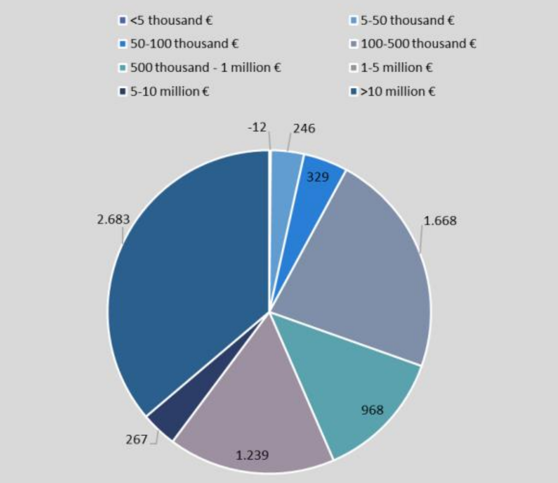


Source: Bank of Greece.

For corporates, excess deposits are estimated at €7.4 billion in 2020 and €14.8 billion in 2021, which is much higher than in the case of natural persons (see Table 2). Based on the breakdown by category of corporate account, Table 1 and Charts 7A and 7B show that, with the exception of the category under €5,000, the deviation of corporate deposits from trend widened further in 2021 compared to 2020 for all categories of deposit accounts, especially for those over €1 million.

Chart 7A Excess deposits by corporates in December 2020

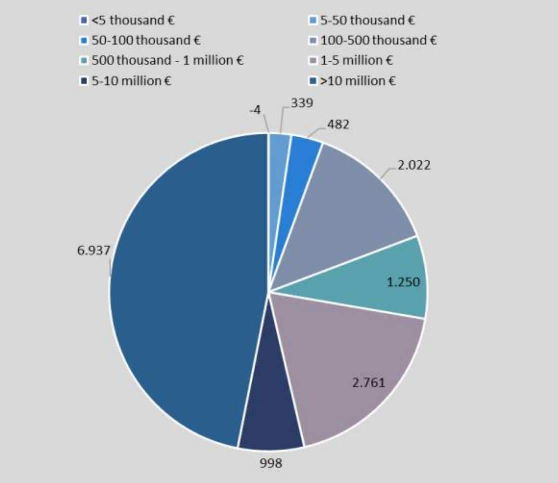
(million euro)



Source: Bank of Greece.

Chart 7B Excess deposits by corporates in December 2021

(million euro)



Source: Bank of Greece.

6 Summary – General remarks

In recent years, there has been a gradual expansion of the share of corporate deposits and a gradual decline of the share of households in total deposits with Greek banks. This is in line with the fact that credit expansion to corporates has generally been more positive since 2016 and has been particularly strong during the pandemic. On the contrary, the persistently negative net flow of bank loans to households for many years has had an adverse impact on their deposits.

About half of the total balance of natural persons' accounts concerns deposits of up to €50,000, 44% concerns account balances within €50,000-€500,000 and the remaining 6% concerns deposit accounts of over €500,000.

Between December 2019 and December 2021, most part (60%) of the absolute increase in natural persons deposits came from the categories of accounts between €5,000 and €100,000, while an additional 25% of the absolute increase came from the category €100,000 to €500,000. A closer look into the years 2020 and 2021 shows that for accounts of natural persons with a very low balance of up to €5,000, the increase in deposits recorded in 2020 quickly reversed in 2021, while for accounts up to €50,000 the increase begun to slow down somewhat. Therefore, it is estimated that these developments reflect, *inter alia*: (a) fiscal support and payment deferral measures taken during the pandemic to support employees in affected sectors of the economy in order to maintain existing jobs and support disposable income and (b) lower consumption due to the implementation of social distancing measures. Deposit accounts of over €50,000 continued to grow steadily or accelerated in 2021, i.e. these categories continued to accumulate deposits, which may be associated with faster economic recovery combined with an increased propensity to save.

An estimate for excess deposits of natural persons shows that the two lowest categories of deposit accounts up to €50,000 recorded in December 2020 the highest deviation from trend compared to the other categories (representing this year more than three quarters of the total deviation of natural person deposits), which, however, showed signs of de-escalation thereafter. In contrast, for the medium and higher categories of deposit accounts, the deviation from trend remained stable or accelerated in 2021. This fact is probably indicative of the fact that, as mentioned above, these deposits are more affected by the economic recovery, possibly because in some degree they directly reflect business/self-employed activity. On the other hand, it is possible that the increase in deposits of a higher balance to be motivated by saving, not necessarily associated with dependent employment income, in an environment of limited perceived investment alternatives.

Unlike natural persons, corporate deposits consist mainly, at a rate of more than 70%, of accounts over €500,000. As a result, their general evolution is mainly influenced by those of larger companies.

Between December 2019 and December 2021, the most significant part (more than 90%) of the absolute increase in corporate deposits came from the categories of accounts over €100,000. The growth in corporate deposits slowed significantly in 2021 for the categories of accounts from €5,000 to €1 million, while it remained relatively stable or accelerated for the very low accounts below €5,000 and for those over €1 million. This development probably partly reflects the evolution of bank lending to over the last two years as the resources of development insitutions available to small and medium-sized enterprises in 2021 were more limited than in 2020. Excess corporate deposits expanded further in 2021 compared to 2020 for all categories of deposit accounts, mainly for accounts over €1 million.

SPECIAL FEATURE II
THE NEW BANKRUPTCY LEGISLATION (LAW 4738/2020)

Maria Pallikari[126]

Maria Tsagkouli

This Special Feature provides an overview of the changes introduced by the new bankruptcy legislation. In particular, the new bankruptcy framework was adopted by Law 4738/2020 "Debt settlement and provision of second chance, and other provisions" (Government Gazette A 207), implementing Directive (EU) 2019/1023[127] into national law. Law 4738/2020 overhauls the legal framework for addressing financial weakness, collective satisfaction of creditors and discharge of debt of any person (natural or legal) which undertakes an economic activity (business or not), [128] by integrating all different debt settlement tools into a single framework.

In particular, the law describes the procedures to be followed (i) at an early/pre-bankruptcy stage for the prevention of over-indebtedness and the preventive restructuring of debts; and (ii) for the bankruptcy and discharge of debtors.

The basic tools provided at the pre-bankruptcy stage are the following:

- early warning tools such as debtor notification digital mechanisms and provision of consulting services by specialised centres and bodies;
- the new out-of-court settlement procedure; and
- the pre-bankruptcy rehabilitation procedure.

In the context of updating the bankruptcy legislation, digital procedures for out-of-court settlement are adopted, facilitating and speeding up the relevant procedure. It is worth noting that, as a result of the digitisation of procedures, the Arrears Resolution Procedure (ARP) of the Banking Code of Conduct[129] [130] is now accelerated and automated.

In the following paragraphs, the key changes introduced by Law 4738/2020 are presented.

1. Early warning tools

[126] Special thanks are due to Mr. I. Plaskovitis and to the colleagues from the Legal Department for their valuable comments and remarks.

[127] Directive (EU) 2019/1023 of the European Parliament and of the Council of 20 June 2019 on preventive restructuring frameworks, on discharge of debt and disqualifications, and on measures to increase the efficiency of procedures concerning restructuring, insolvency and discharge of debt, and amending Directive (EU) 2017/1132 (Directive on restructuring and insolvency).

[128] Excluding public bodies and financial institutions for which special insolvency proceedings are envisaged.

[129] Specifically, it is provided (Law 4818/2021, Article 39) that Step 2 of the Arrears Resolution Procedure (ARP) of the Banking Code of Conduct (BCC), which includes the submission of an application and supporting documents by the defaulting debtor, and Stage 4 of the ARP, which includes the submission of a proposal by the financial institution, will be carried out exclusively through a digital platform. approval by the debtor, the platform automatically obtains the necessary data for the assessment of the application from existing databases (General Secretariat for Information Systems, Tiresias Credit Registry, etc.). Access to the data of the digital BCC platform is exclusively granted to the debtor, the financial institution concerned and the Bank of Greece as supervisory authority.

[130] For the current framework governing the Banking Code of Conduct, see Law 4224/2013, Article 1, para. 2, as currently in force, and Bank of Greece Credit and Insurance Committee decision no. 392/1/31.05.2021.

The new mechanism of debtors' early warning is introduced for the first time in the Greek legislative and regulatory framework and is expected to contribute to preventing over-indebtedness and averting the creation of debts that are difficult to sustain.

In particular, a digital mechanism for early warning of debtors of three levels of insolvency (low, medium, high) is introduced, targeting both natural and legal persons. The mechanism is provided through a dedicated digital platform, through which the person concerned submits an application. By this application, the person concerned allows the supervisory authority (Special Secretariat for Private Debt Management) to search, access, collect, process and cross-reference data concerning that person, in order to determine its insolvency risk and its classification, as well as to propose how to deal with the risk.

Upon completion of this procedure, natural persons without income from business or self-employment, who have been classified as moderate or high risk, can contact the Borrower Service Centre or the Borrower Service Office of their district of permanent residence and receive free specialised services (e.g. information on the legal framework and general terms of loan agreements and debt settlement agreements, assistance in understanding the proposed terms of debt settlement loan agreements, etc.). Similarly, natural persons with income from self-employment, as well as natural or legal persons with income from business activity, who have been classified as medium or high risk, can apply to the competent Professional Chamber or Professional Association or Institute of Institutional Social Partners and receive free specialised business consulting services, for guidance and business support purposes.

2. The new out-of-court settlement mechanism

Both the new out-of-court settlement and the rehabilitation procedure are preventive restructuring procedures and aim to maintain the viability of companies whose insolvency can be prevented if they are restructured.

The new out-of-court settlement mechanism provides for a multilateral procedure of negotiation between debtor and creditors. It applies to debts to financial institutions (i.e. credit or financial institutions, leasing companies, factoring companies, credit servicing firms, credit acquiring firms), to the State and to Social Security Funds. The procedure is completely out of court, no appeal is allowed and no procedural rights are generated; it is conducted electronically through a dedicated digital platform for electronic submission and management of applications managed by the General Secretariat for Information Systems of the Ministry of Digital Governance in collaboration with the Special Secretariat for Private Debt Management. It is a confidential procedure as to the existence and content of the negotiations for all participants (the debtor, the participating creditors, the employees of the competent services of the State and the Social Security Funds), while any disclosure of information to third parties requires prior written agreement of all participants in the negotiation.

The application for out-of-court settlement can be submitted by any natural or legal person with bankruptcy capacity[131] (except for some legal persons, e.g. credit and financial institutions, insurance and reinsurance undertakings, etc.) and is submitted electronically by the debtor to the Special Secretariat for Private Debt Management through the electronic platform provided for by the Law. Debtors with at least 90% of their total debt to a single financial institution or with total

[131] See the section on bankruptcy below, which states that all natural persons now have bankruptcy capacity.

debts not exceeding €10,000 do not fall within the scope of out-of-court settlement.[132] This different treatment is explained by the fact that bilateral negotiation is more effective for debtors who are cooperative and owe to a single creditor.

The out-of-court settlement procedure can also be initiated by the State, the Social Security Funds or the financial institutions as creditors, inviting a debtor to out-of-court settlement of his debts and setting a deadline for the submission of the above application (up to forty-five days).

After submitting the application, the participating creditors-financial institutions may submit a settlement proposal to the debtor. If the debtor, the majority of the participating creditors[133]-financial institutions (in terms of value of the receivables) and at least the envisaged percentage of participating creditors with special privilege[134] agree, the creditors who agree and the debtor sign a restructuring agreement. It should be noted that within ten (10) days from the receipt of the proposal from the creditors, the debtor can submit a request for mediation which must be accepted by the majority of financial institutions in terms of the value of the receivables concerned. If the agreement is approved by the debtor and the majority of creditors, it is notified to the State and the Social Security Funds, so far as they are concerned, through the electronic platform. On expiry of a period of fifteen (15) working days from the notification of the agreement, the debt restructuring agreement is considered, under certain conditions, as accepted by the State and the Social Security Funds without needing any further action.[135]

In any case, if the restructuring agreement is not signed within two months from the submission date of the application for out-of-court settlement, the procedure is considered terminated as unsuccessful. Within the same deadline, the participating creditors-financial institutions may reject the debtor's application and not submit a proposal for settlement. This demonstrates the consensual nature of the procedure, which is based on creditors'-financial institutions' discretion and depends on their assessment. Notification of the rejection signifies the immediate termination of the procedure as unsuccessful.

During the intervening period from the submission of the application to the completion of the procedure in any manner as described hereinabove, any enforcement actions and enforcement proceedings on claims against the debtor are suspended. Once a restructuring agreement has been reached, the acceleration of enforcement by the affected creditors is prohibited and enforcement actions against the debtor are automatically suspended throughout the term of the restructuring agreement in relation to claims settled thereunder , subject to the debtor's compliance with the agreement. Similarly, as far as claims of the State and the Social Security Funds against the debtor are concerned, from the date of entry into force of the approved restructuring agreement the taking of enforcement actions and continuation of the enforcement proceedings, as well as criminal prosecution for offences referred to in Article 25 of Law 1882/1990, are suspended.

Furthermore, debtors may receive a subsidy for the payment of instalments on loans which are secured by their principal residence. The subsidy is granted for five years from the date of the

[132] For details on further exclusions from the out-of-court settlement procedure, see Article 7 para. 3 of Law 4738/2020.

[133] "Majority of the participating creditors" is defined as a percentage of sixty percent (60%) of the total receivables of financial institutions which participate as creditors (Article 6 para. 1e of Law 4738/2020).

[134] "Percentage of participating creditors with a special privilege" is defined as forty percent (40%) of the total receivables of financial institutions secured by a mortgage, mortgage prenotation, pledge or other special privilege under Article 976 of the Code of Civil Procedure, which participate as creditors (Article 6 para. 1f of Law 4738/2020).[135] See Article 21 of Law 4738/2020.

[135] See Article 21 of Law 4738/2020.

application for out-of-court settlement of debts. It is granted to debtors who cumulatively meet the relevant criteria (e.g. the balance of the debtor's debt from the loan secured by his/her principal residence does not exceed an amount of €135,000 in the case of single-person households, increased by €20,000 for each additional member of the household, with a maximum amount of €215,000 per creditor).[136] The law sets a cap on the instalment subsidy depending on the composition of the household, with a monthly instalment subsidy cap of €210, regardless of household composition. Furthermore, the cap – as a percentage – is connected to the amount of the monthly instalment and the classification of the loan (performing or in arrears and duration of arrears).

3. The pre-bankruptcy rehabilitation procedure

According to the new framework, any person who carries out business activity, has his/her main interests in Greece and is in current or potential inability to fulfil his overdue financial obligations can request the confirmation of the rehabilitation agreement. In fact, he/she can submit the above application even when he/she is in no current or potential inability, if there is simply a likelihood of insolvency, which can be eliminated by this procedure. The rehabilitation agreement may refer to any restructuring of the debtor's assets and liabilities.

Law 4738/2020 classifies creditors to those who have special privileges and all other creditors. The rehabilitation agreement is confirmed in the following cases:

i) With the agreement of the debtor and creditors representing more than 50% of the claims, for those that have a special privilege, and more than 50% for the other claims, in each case of those affected by the rehabilitation agreement. The claim of a creditor is not affected when, under the rehabilitation agreement, the legal status that the creditor had before the confirmation of the rehabilitation agreement is not affected.

ii) Without the agreement of the debtor, but with the agreement of the creditors representing the above percentages, if the debtor is, at the time of reaching the agreement, in cessation of payments.

It should be noted that the rehabilitation agreement which has not been approved by creditors representing the majority of claims of the above categories may, under certain conditions, become binding on creditors who do not agree, provided that it has been approved by creditors representing more than 60% of the total claims and more than 50% of the claims with special privilege.

As already noted, the new legislation allows creditors to submit the rehabilitation application themselves (without the participation of the debtor) and also to request the appointment of a special agent responsible for managing fully or partly the debtor. Thus, if the debtor is a company, it can continue its operation, avoiding any possible inappropriate management until the issuance of the decision to confirm the rehabilitation agreement (e.g. by fraudulent transfers at the expense of creditors).

Moreover, an important innovation of Law 4738/2020 is that, under the envisaged conditions, the State (and in general of public bodies) is presumed to consent to the rehabilitation procedure. In particular, these bodies are considered to consent to a rehabilitation agreement, even if they do not sign it, in any case where: a) the certified principal debt to them does not exceed €15,000,000; and b) according to the report of the properly qualified expert, the certified principal debt does not exceed the claims of private creditors; and c) according to the same report, the debtor will not

[136] For the other conditions, which must be met cumulatively, see Article 28 para. 2 of Law 4738/2020.

be in a worse position compared to the debtor's bankruptcy scenario. This facilitates the conclusion of rehabilitation agreements, especially in cases of debtors who would otherwise find it difficult to obtain the required agreements.

In order for the rehabilitation agreement to be valid, the court needs to confirm it, unless the contracting parties agree to apply all or part of its terms even without the court's confirmation. The court confirms the rehabilitation agreement when, in addition to the above-mentioned conditions regarding the agreement of the creditors and/or the debtor, all the following conditions are met:

1. the rehabilitation agreement is likely to provide a reasonable prospect of ensuring the debtor's viability;
2. the principle of non-deterioration of creditors' position is probably observed;
3. the rehabilitation agreement is not the result of wilful misconduct of the debtor and does not infringe provisions of mandatory law, in particular competition law;
4. the rehabilitation agreement treats creditors who are in the same position on the basis of the principle of equal treatment; and
5. the debtor agrees, in the case of an application not initiated by him/her, in accordance with indent (ii) above.[137]

The decision confirming or rejecting the rehabilitation agreement is published without delay in the Electronic Solvency Register.

From its confirmation, the rehabilitation agreement binds all relevant creditors, even if they are not parties to the agreement.

Upon confirmation of the agreement:

1. the prohibition or the constraint on cheque issuance imposed prior to the start of the rehabilitation procedure is lifted *ipso jure*;
2. the criminal prosecution for the misdemeanours of issuance of bounced cheques, non-payment of debts to the State, as well as delay in the payment of debts to Social Security Funds are suspended, if the above offences were committed before the submission of the application for confirming the rehabilitation agreement;
3. the debts regulated by the rehabilitation agreement to the State and the Social Security Funds become performing to the extent that the agreement is complied with;
4. if envisaged, any attachments due to debts regulated by the agreement shall be lifted. These acts will no longer be prosecuted in case of full and timely fulfilment of the debtor's obligations arising from the rehabilitation agreement.

4. Bankruptcy

In case the preventive debt restructuring is not successful, the bankruptcy procedure is applied. Law 4738/2020 simplifies considerably the bankruptcy procedure and accelerates the liquidation

[137] The debtor's consent is considered to have been provided if, until the hearing of the application for confirmation, he/she does not submit an intervention against its acceptance. Even in this case, the court can proceed with the confirmation of the agreement, if from the application and in particular from the report of the properly qualified expert it emerges that the rehabilitation agreement will not make the debtor's legal and financial situation worse than it would have been without the agreement.

of the estate. The law disconnects bankruptcy capacity from business status, allowing natural persons with no business status to go bankrupt. Moreover, the Law introduces provisions that protect the collateral, reduce the suspensions and offer the facilities to prevent unsuccessful auctions. The electronic conduct of auctions using the e-auction platform is key, helping to ensure a high degree of transparency and publicity. Moreover, the small-sized bankruptcies procedure[138] is simplified and the problem of long-lasting bankruptcy proceedings is addressed by capping the duration of bankruptcy proceedings at five years.

The declaration of bankruptcy is subject to the debtor having ceased payments, i.e. being permanently unable to meet his/her overdue debts as they fall due. The Law also sets out clear quantitative criteria for proving cessation of payments in order to facilitate the judicial judgment. The debtor is presumed to have ceased his/her payments when he/she is unable to repay at least 40% of his/her total overdue liabilities to the State, Social Security Funds or credit or financial institutions for a period of at least 6 months and his/her non-performing liability exceeds €30,000.[139]

Crucially, the Law enables all natural persons to be discharged of their remaining debts within three years (or even within one year under certain conditions[140]) after the liquidation of their estate. It is worth noting that the debtor who is declared bankrupt does not lose his/her license to practice, in line with the general spirit of the Law to give the debtor a second chance, aiming at his/her quick reintroduction to the production procedure and the creation of post-bankruptcy estate.

5. Vulnerable debtors

With regard to the protection of a debtor's principal residence, a new method is introduced, allowing vulnerable debtors, i.e. those who cumulatively meet the income, property and other criteria set out in Article 3 of Law 4472/2017, to remain in their principal residence as lessees, entitled to buy it back at the end of the lease period, in case: a) they are declared bankrupt or b) their principal residence is under enforcement proceedings by creditors secured with the main residence as collateral. In particular, upon request of the vulnerable debtor, the Sale and Lease Back Organisation undertakes the responsibility for i) the acquisition and ii) lease back of the debtor's principal residence in exchange for rent, subsidised by the State, for a period of 12 years, as well as iii) the sale back of the property to the debtor in the future at a buy-back price. Under this arrangement, the debtor can continue to live in his/her principal residence, avoiding being evicted by a third party acquiring his/her property, and is also able to regain ownership of the property if

[138] Small-sized bankruptcies are defined as those in which the debtor meets the criteria for being classified as a very small entity under Article 2 of Law 4308/2014.

According to this article, very small entities are those which, at the balance sheet date, do not exceed the limits of at least two of the following three criteria:

a) Total assets: €350,000.

b) Net amount of turnover: €700,000.

c) Average number of employees during the period: 10 people.

Limited partnerships, general partnerships, sole proprietorships and any other entity that is obliged to comply with Law 4308/2014 under any tax or other legislative provision are classified as very small entities provided that that their turnover does not exceed an the amount of €1,500,000. However, for the purposes of regulating small-sized bankruptcies under Law 4738/2020, in the case of legal entities, if their net turnover exceeds €2,000,000, they are not considered as very small entities.

[139] In small-sized bankruptcies, the presumption differs in terms of the required percentage of the unpaid total overdue liabilities of the debtor (i.e. non-payment concerns at least 60% of his/her total overdue liabilities), the other conditions being the same (Article 176 Law 4738/2020).

[140] Article 192 para. 2 taken in conjunction with Article 92 para. 3 of Law 4738/2020.

he/she so wishes. Pending the establishment of the above organisation, a transitional regime is in force according to which the State pays a subsidy to the vulnerable debtor while the latter must continue to service the loan for his/her principal residence.[141]

In conclusion, Law 4738/2020 replaces and incorporates a number of individual regulatory provisions in a single text, making it easier for persons subject to its arrangements to understand the procedures and the applicable provisions. However, the value of the new framework lies mainly in the overhaul of the relevant provisions, aiming to provide a solution to over-indebted companies and individuals. The new provisions seek through preventive restructuring to ensure that undertakings and entrepreneurs in financial difficulty but with prospects for being viable will be able to continue their operations, as well as that, where this is not possible, entrepreneurs and other over-indebted natural persons will be given a second chance through the discharge of their debt. It is very important that financial institutions make use of the tools provided for in the Law and support debtors with prospects for being viable, in order for their debts to become performing in the future, thus contributing to the improvement of their own loan portfolio quality. Therefore, the new framework can significantly contribute to the effort to tackle non-performing loans, while at the same time preventing new ones from being created at an early stage.

[141] Law 4916/2022, Articles 13-26.

SPECIAL FEATURE III
THE NEXT DECADE OF EU MACROPRUDENTIAL POLICY

Katerina Lagaria

The European Union (EU) macroprudential policy framework is intended to prevent and mitigate systemic risk and safeguard the resilience of the financial system as a whole. It was introduced in the wake of the Global Financial Crisis (GFC) with the provisions of Regulation (EU) 575/2013 (Capital Requirements Regulation – CRR)[142] and of Directive 2013/36/EU (Capital Requirements Directive - CRD),[143] which adopted the relevant regulatory standards of the Basel Committee for Banking Supervision (BCBS).[144] In July 2021, the European Commission (EC) issued a call for advice to the European Systemic Risk Board (ESRB), the European Banking Authority (EBA), and the European Central Bank (ECB) on reviewing this framework by end-March 2022.

The review primarily aims to improve the effectiveness, efficiency and transparency of the EU macroprudential framework over the next decade. In order to assess the framework's effectiveness, it is necessary to assess whether it reduces systemic risk, particularly the occurrence and impact of crises on the financial system. With this medium-term prospect in mind, the ESRB, the EBA and the ECB have elaborated their responses and submitted them to the EC.[145] This Special Feature presents some key proposals put forward by the abovementioned bodies,[146] with particular emphasis on proposals pertaining to new macroprudential policy measures and necessary improvements/adjustments to existing ones.

It should be pointed out that designated/macroprudential authorities of EU Member States maintain their competence on macroprudential policy issues in their jurisdictions, subject to coordination at EU level.[147] More specifically with regard to countries participating in the Banking Union

[142] OJ L 176, 27.6.2013, pp. 1-337.

[143] OJ L 176, 27.6.2013, pp. 338-436.

[144] Basel III framework, see Basel Committee on Banking Supervision, *Basel III: A global regulatory framework for more resilient banks and banking systems*, December 2010 (rev. June 2011), available at: https://www.bis.org/publ/bcbs189.htm.

[145] The ESRB proposals concern the Member States of the EU and the European Economic Area (EEA), those of EBA concern EU Member States, and the proposals of the ECB concern countries participating in the Banking Union (BU). The responses of the ESRB, the EBA, and the ECB to the EC's call for advice have been made public and are available at: https://www.esrb.europa.eu/pub/pdf/reports/esrb.reviewmacropruframework.220331~65e86a81aa.en.pdf, https://www.ecb.europa.eu/pub/pdf/other/ecb.responsetothecallforadvice~547f97d27c.en.pdf?93c147e7a65d41abaf7c2e1fc5519246 και https://www.eba.europa.eu/sites/default/documents/files/document_library/Publications/Other%20publications/2022/1031866/EBA%20advice%20on%20the%20review%20of%20the%20macroprudential%20framework.pdf.

[146] ESRB and ECB proposals are more detailed and analytical, whereas the EBA does not respond to all of the questions raised by the EC's call for advice.

[147] The ESRB is the competent body for macroprudential oversight of the EU financial system, which monitors and assesses systemic risks and, if necessary, issues warnings and recommendations to EU/EEA Member States. It also acts as a coordination and information hub for Member State notifications of macroprudential policy measures.

(BU),[148] the ECB may apply higher requirements for capital buffers than those applied by the national authorities[149] in accordance with Article 5(2) of Regulation (EU) No 1024/2013.[150]

The four broad areas for the EU macroprudential policy framework review

The discussion on the next decade of the EU macroprudential policy framework covers four broad areas: (a) the overall design and functioning of the buffer framework; (b) missing or obsolete instruments; (c) internal market considerations; and (d) global risks. It also touches upon additional issues brought into sharper focus over the first decade of the macroprudential policy framework's application around the world following its introduction in 2010 with the "Basel III Capital Accord".

The key proposals of the ESRB, the EBA and the ECB

The EU macroprudential policy framework review places particular emphasis on assessing Member States' first widespread use of macroprudential policy instruments, particularly capital-based buffers, in crisis conditions, i.e. the COVID-19 pandemic. These instruments (see Table 1) were used, albeit to a limited extent,[151] to strengthen banks' capital adequacy and maintain the flow of credit to the real economy, mainly bolstered by fiscal support measures to address the pandemic's impact.

Table 1 Overview of key ESRB, EBA, and ECB proposals on the macroprudential policy framework review

(March 2022)

Tool	Aim	Proposals	Legal basis
Countercyclical capital buffer (CCyB)	• Prevent and mitigate excessive credit growth • Reduce procyclicality	• Positive CCyB rate in a standard risk environment • Early, proactive and forward-looking use of the CCyB, taking into account additional indicators capturing cyclical systemic risk • Shorter CCyB implementation phase without having to prove exceptional circumstances	Basel III and EU legislation
Systemic Risk Buffer (SyRB)	Prevent and address systemic risk build-up and limit (direct and indirect) exposure concentrations	• Positive SyRB rate in a standard risk environment • Revise cumulation rule of broad and sectoral SyRB rates • ESRB report to identify systemic risks to which the SyRB may be applied	EU legislation
O-SII buffer	• Prevent and address potential negative impact of an O-SII failure on the domestic or European/global financial system • Prevent moral hazard	EBA to be given mandate to develop a common O-SII buffer calibration methodology	Basel III and EU legislation
Borrower-based measures (BBMs)	• Prevent borrower overindebtedness in the real estate sector • Prevent and mitigate systemic risks stemming from the real estate sector	Introduce a data collection requirement for a minimum set of common lending standard indicators for new loans secured by residential real estate (RRE)	EU legislation

[148] Bulgaria and Croatia have been part of the BU since 1 October 2020, alongside euro area Member States.

[149] Microprudential supervision over systemic banks in BU countries has been assigned to the ECB under Regulation (EU) No 1024/2013.

[150] OJ L 287, 29.10.2013, pp. 63-89.

[151] According to ECB estimates for the euro area, macroprudential authorities released or reduced more than €20 billion of capital buffer requirements at the onset of the pandemic, while microprudential measures for the temporary release of Pillar 2 Guidance (P2G) and the adjustments to Pillar 2 Requirements (P2R) amounted to €120 billion of bank capital. See ECB, Financial Stability Review, May 2020, pp. 95-96.

Articles 124, 164 and 458 CRR measures	Prevent/mitigate risks in systemically important sectors (e.g. real estate)	Consolidate into a single article all CRR macroprudential risk weight measures for exposures secured by real estate	EU legislation
Article 458 CRR measures	Address systemic risk at Member State level (as 'last resort' measure)	• Streamline authorisation procedures • Simplify the procedure for extending a measure under Article 458 CRR	EU legislation

A. Overall design and functioning of the buffer framework

There are three key proposals pertaining to capital buffers, which focus on the introduction of new macroprudential policy measures and on areas for improvement. More generally, the ESRB and the ECB suggest moving towards 'positive neutral' rates, i.e. rates set to a positive amount in a standard (non-elevated) risk environment, which may be drawn down to absorb losses in times of stress/crisis. Macroprudential space[152] may be created by pursuing one (or a mix of) three policy options in order to strengthen the resilience of the financial system. One policy option is a positive neutral countercyclical capital buffer (CCyB)[153] in normal times, prior to the emergence of systemic risks associated with excessive credit growth. Another policy option is a core (positive neutral) systemic risk buffer (SyRB) to counteract unexpected shocks and extreme circumstances. The rationale behind these two policy options is that the designated authority can manage and set capital buffers at its own discretion and justify their use even based on the prospect of increasing systemic risks. A third capital-neutral policy option, put forward by the ECB only, consists in the partial or full release of the capital conservation buffer (CCoB),[154] which, however, contravenes Basel III standards, under which it has been designed as a static, non-releasable capital buffer triggering automatic restrictions on variable distributions,[155] including dividend payments, once released.

The recent pandemic also highlighted the need for a more flexible and efficient CCyB framework. An early and forward-looking use of the CCyB is proposed by means of additional indicators capturing cyclical systemic risks, alongside the credit-to-GDP gap (Basel gap), which has been used as the leading indicator[156] for CCyB calibration by many national authorities. An early CCyB activation may be necessary when there are just early signs of cyclical system risks and credit growth is not (yet) excessive. National authorities may also be allowed to implement decisions to

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[152] Macroprudential space is defined as the sum of CET1 capital needed to meet the combined buffer requirement, i.e. the capital conservation buffer (CCoB), the countercyclical capital buffer (CCyB), the G-SII buffer, the O-SII buffer and the systemic risk buffer (SyRB).

[153] The CCyB was introduced in the "Basel III Capital Accord" and incorporated in the EU with the provisions of Articles 130, 136-139 CRD in order to be drawn down in times of crisis, immediately reducing CET1 capital requirements to enable banks to absorb losses and support credit supply to the real economy. For more details on the application of the CCyB in Greece, see Chapter IV "Macroprudential Policy".

[154] The capital conservation buffer was introduced in the 'Basel III Capital Accord' and incorporated in the EU with the provisions of Articles 129 CRD as a fixed and non-flexible capital requirement equal to 2.5% of a bank's total risk weighted assets comprising CET1 capital only. It may be used by banks to absorb losses under stress, but in this case it triggers automatic restrictions on variable distributions.

[155] In accordance with the provisions of Article 131 (3)-(4) CRD.

[156] The use of the credit-to-GDP gap as a leading indicator to guide national designated authorities on setting the CCyB rate in their jurisdiction is provided in Recommendation ESRB/2014/1.

increase their CCyB rates in less than twelve months from their announcement,[157] without having to demonstrate exceptional circumstances.

In addition, cooperation and information sharing between national macro- and microprudential supervisors, as well as resolution authorities, should be strengthened, given overlapping capital-based measures. In particular, the ESRB proposes a closer coordination of macro- and microprudential authorities in terms of decision-making and buffer replenishment timelines available to banks.[158]

B. Missing or obsolete instruments

The ESRB and the ECB consider the existing macroprudential policy toolkit insufficient[159] and propose complementing it with new tools, in particular borrower-based measures (BBMs). They put forward the introduction of a data collection requirement for a minimum set of common lending standard indicators for (new) loans secured by residential real estate (RRE),[160] such as loan-to-value ratio at origination, loan-to-income ratio at origination, loan-service-to-income ratio at origination, and debt-service-to-income ratio at origination, pursuant to the common definitions of Recommendation ESRB/2016/4.[161]

This will allow risks stemming from RRE-secured loans to be comparable among Member States. It is stressed that national authorities should maintain their competence over the activation, design and calibration of BBMs in order to be able to address the specificities of domestic (fiscal and banking) systems in their jurisdictions and effectively tackle risks identified in their respective RRE markets. Given the latter's significance for the stability of the financial system, a minimum harmonised set of BBMs at EU level will enhance data comparability in order to prevent risks stemming from real estate markets with a potential systemic impact on the European economy as a whole.

The three responses converge in terms of their proposals to amend (or repeal) existing macroprudential tools. It is deemed useful to consolidate into a single article all macroprudential risk weight measures pertaining to exposures secured by real estate under the CRR (Articles 124,[162] 164[163] και

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157 See Article 136(5) CRD.

158 Macroprudential authorities set the capital buffer rates, the timing for their release and the period during which buffer increases should not be expected, while microprudential authorities approve capital conservation plans for banks that have dipped into their capital buffers.

159 The EBA is of the opinion that there are no tools that are missing in the current macroprudential framework, nor are there tools that have become or are about to become obsolete, see. *EBA Advice on the Review of the Macroprudential Framework*, p. 4.

160 For a more detailed analysis and presentation of the proposal's technical aspects, see ESRB Concept Note, Section 4.1, (pp. 32-40) and Box A2 (pp. 64-69).

161 Recommendation of the European Systemic Risk Board of 31 October 2016 on closing real estate data gaps, OJ C 31, 31.1.2017, pp. 1-42.

162 Under Article 124 CRR, national competent authorities may set a higher risk weight or stricter criteria than those set out in Article 125(2) and Article 126(2), on the basis of financial stability considerations.

163 Under Article 164 CRR competent authorities may, where appropriate on the basis of financial stability considerations, set higher minimum values of exposure weighted average loss-given default (LGD) for exposures secured by property in their territory.

458[164] CRR). Another proposal is aimed at streamlining the procedures governing national flexibility measures set out in Article 458 CRR, to cater for cases when systemic risks remain elevated and not only when an increase in the intensity of the systemic risk has been identified with the potential to have serious negative consequences to the financial system and the real economy in a specific Member State, and simplifying the procedure to extend an Article 458 measure (simplified non-objection approach).

C. Internal market considerations

The ESRB, the EBA and the ECB agree that simplified procedures for existing macroprudential policy measures and further harmonisation of certain tools may contribute to the smooth functioning of the internal market. More specifically, a common methodology for the identification of Other Systemically Important Institutions (O-SIIs) and the calibration of the O-SII buffer[165] is proposed and the ECB suggests mandating the EBA to develop a common EU methodology,[166] in cooperation with the ESRB, that would lead to a more consistent treatment of O-SIIs across the EU.

As regards the systemic risk buffer (SyRB), it is suggested converting the sectoral SyRB[167] and general SyRB rates to a common denominator and mandating the ESRB to report on identifying systemic risks for the purposes of setting the SyRB rate and thus encourage its use.

D. Global risks

Over the next decade, climate-related and environmental risks, cyber risks and risks relating to non-banks can become systemic and may need to be addressed with macroprudential policy measures. This has prompted the ESRB, the EBA and the ECB to highlight the need to assess the usefulness of new or existing macroprudential policy tools and look into ways in which such tools could help strengthen the resilience of the financial system.

The three respondents have not put forward concrete policy proposals in this respect, but consider that new policy tools should be discussed at a later stage. Particularly with regard to environmental risks, the need for a broader debate on the potential use of specific macroprudential policy measures (e.g. SyRB) is highlighted. As regards cyber risk, it is deemed too early to develop dedicated macroprudential tools given that the EU legislative framework on cyber security has not been finalised.[168] The ESRB supports extending the scope of the macroprudential framework beyond financial resilience so that it also includes cyber resilience and introducing activity-based tools to be used alongside entity-specific tools in order to address financial risks stemming from non-banks (e.g. big techs) that conduct risky activities. Any future discussion will need to be based on an evaluation of macroprudential policy implementation in the medium-term and feed

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[164] Article 458(2)(d)(iv) CRR provides for stricter national risk weight measures intended to mitigate the changes in the intensity of systemic risk, particularly concerning risk weights for targeting asset bubbles in the residential and commercial property sector.

[165] For more details on the application of the O-SII buffer in Greece, see Chapter IV "Macroprudential Policy".

[166] The ECB proposes that the common EU methodology should take the form of EBA guidelines.

[167] The Systemic Risk Buffer may also be applied to subsets of exposures under the provisions of CRD, as amended by Directive (EU) 2019/878 (OJ L 150, 7.6.2019, pp. 253-295). For more details on the new proposals to amend the CRR/CRD provisions currently under discussion at the European Parliament and the Council, see Box III.2.

[168] See COM(2020) 595 final, Proposal for a Regulation of the European Parliament and of the Council on digital operational resilience for the financial sector (Digital Operation Resilience Act - DORA), and COM/2020/823 final, Proposal for a Directive of the European Parliament and of the Council on measures for a high common level of cybersecurity across the Union (Network and Information Security Directive 2 – NIS2).

into the subsequent macroprudential policy framework review[169] in the form of proposals for macroprudential toolkit improvements or adjustments.

Next stages of the review process

The EC is now called upon to take into account the responses of the three abovementioned bodies, alongside comments submitted in the context of a targeted consultation[170] addressed to stakeholders (citizens or organisations) wishing to contribute with their views, comments or proposals on the EU macroprudential policy framework review by 18 March 2022. The review is scheduled to be completed by end-June and, if the EC deems it appropriate, a legislative proposal could be put forward to the European Parliament and to the Council by end-2022.

[169] In accordance with Article 513 CRR as amended by the provisions of Regulation 2019/876 (OJ L 150, 7.6.2019, pp. 1-225), the process for the review of the EU macroprudential policy framework will take place every five years.

[170] See https://ec.europa.eu/info/consultations/finance-2021-banking-macroprudential-framework_en.

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