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GREECE

FINANCIAL SECTOR ASSESSMENT PROGRAM

June 2026

TECHNICAL NOTE ON SYSTEMIC RISK ANALYSIS

This Technical Note on Systemic Risk Analysis for the Greece FSAP was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on May 21, 2026.

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SYSTEMIC RISK ANALYSIS

Prepared By
Monetary and Capital Markets Department

This Technical Note was prepared by IMF staff in the context of the Financial Sector Assessment Program in Country. It contains technical analysis and detailed information underpinning the FSAP's findings and recommendations. Further information on the FSAP can be found at http://www.imf.org/external/np/fsap/fssa.aspx

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AC	Amortized Cost
BoG	Bank of Greece
CAR	Capital Adequacy Ratio
CBC	Counterbalancing Capacity
CCoB	Capital Conservation Buffer
CCyB	Countercyclical Capital Buffer
CET1	Common Equity Tier 1
CM	Commodity
COREP	Common Reporting
CR	Credit Spread
CRM	Credit Risk Mitigation
CQS	Credit Quality Step
DSTI	Debt Service to Income
DTA	Deferred Tax Assets
DTC	Deferred Tax Credit
EA	Euro Area
EaD	Exposure at Default
EBA	European Banking Authority
ECB	European Central Bank
ECL	Expected Credit Losses
EIOPA	European Insurance and Occupational Pensions Authority
EQ	Equity
EU	European Union
EURIBOR	Euro Interbank Offered Rate
FI	Financial Institutions
FINREP	Financial Reporting
FDI	Foreign Direct Investment
FRTB	Fundamental Review of the Trading Book
FSAP	Financial Sector Assessment Program
FX	Foreign Exchange
FVOCI	Fair Value Through Other Comprehensive Income
FVPL	Fair Valur Through Profit and Loss
GDP	Gross Domestic Product
GFC	Global Financial Crisis
GFM	Global Macro Financial Model
GOV	Government
HAPS	Hellenic Asset Protection Scheme
HCAP	Hellenic Corporation of Assets and Participations
HFCS	Household Financial and Consumption Survey
HQLA	High Quality Liquid Assets
IMF	International Monetary Fund

IRRBB	Interest Rate Risk in the Banking Book
ICR	Interest Coverage Ratio
IFRS	International Financial Reporting Standards
IR	Interest Rate Risk
LCR	Liquidity Coverage Ratio
LGD	Loss Given Default
LSI	Less Significant Institution
NBFI	Non-Bank Financial Institution
NFC	Non-Financial Corporates
NFCI	Net Fees and Commissions Income
NII	Net Interest Income
NIM	Net Interest Margin
NPL	Non-Performing Loans
NPE	Non-Performing Exposures
NSFR	Net Stable Funding Ratio
O-SII	Other Systemically Important Institutions
OECD	Organization for Economic Co-operation and Development
PD	Probability of Default
P&L	Profit and Loss
P2R	Pillar 2 Requirement
RWA	Risk Weighted Assets
RAM	Risk Assessment Matrix
ROA	Return on Assets
ROE	Return on Equity
SI	Significant institution
SREP	Supervisory Review and Evaluation Process
SSM	Single Supervisory Mechanism
SME	Small and Medium-sized Enterprise
STE	Short-Term Exercise
T1	Tier 1
TLTRO	Targeted Longer-Term Refinancing Operations
VaR	Value at Risk
WEO	World Economic Outlook

EXECUTIVE SUMMARY[1]

The Greek economy has experienced a strong post-COVID recovery and much improved sovereign sustainability. Growth rebounded, outperforming most Euro Area peers, and the unemployment rate steadily declined to single digits. Substantial fiscal consolidation on the back of strong growth has reduced public debt-to-GDP and the medium-term risk of sovereign stress is assessed as moderate. The country regained an investment grade rating from all major rating agencies by early 2025 with the sovereign spread currently in line with euro area peers.

Since the last FSAP, the Greek financial sector has undergone a profound restructuring, characterized by consolidation, strengthened capital positions, and a substantial decline in nonperforming loans (NPLs) on bank balance sheets. Following the severe stress experienced during the global financial crisis and Greek sovereign debt crisis—when elevated sovereign yields, liquidity pressures, and a deep recession drove NPLs to a peak of 49 percent in 2017—financial stability has been gradually restored, supported by bank recapitalizations and the implementation of the Hellenic Asset Protection Scheme (2019–20), which reduced banking sector NPLs to 3.4 percent and improved bank balance sheets and market confidence. Credit contracted sharply during the Greek sovereign crisis and prolonged deleveraging led to a persistently low credit-to-GDP ratio relative to pre-crisis levels and the euro area average. Lending has recently shown a moderate recovery, reaching 11 percent annual growth in September 2025, albeit from a low base. This recovery has been driven primarily by corporate credit, which remains highly concentrated in large firms, while household credit—particularly mortgages—has lagged due to low affordability and legacy NPL issues. The slow pace of NPL resolution by credit servicers may pose limits to credit growth and thus increase pressure on banks' medium-term profitability.

The Greek financial system remains small by European standards and is highly bank-centric, with increased concentration following post-crisis consolidation. Four Significant Institutions (SIs) dominate the sector, which operate largely under a traditional commercial banking model focused on deposit-funded lending to large non-financial corporates. Retail and wholesale deposits account for about 90 percent of liabilities and household deposits comprising nearly two-thirds of total deposits. A strong and sticky retail deposit base, together with limited competition, has allowed banks to keep deposit rates relatively low despite rising interest rates. Banks have also expanded international operations in 2025—mainly through acquisitions in Cyprus and Malta—supporting income diversification and regional presence.

Bank profitability has strengthened markedly since 2022, reflecting high net interest margins, declining loan-loss provisions, lower operating costs, and a sharp reduction in nonperforming loans, bringing capital ratios broadly in line with European averages. However, capital quality

[1] This note was prepared by Paola Morales-Acevedo (team lead for systemic risk analysis), jointly with Radu Cristea (liquidity stress test), Ivan Guerra (LSI analysis) and Wei Shi (corporate and household analysis) (all at the IMF's Monetary and Capital Markets Department). Technical support on the generation of macroeconomic scenarios was provided by Zoltan Jakab, Ruy Lama and Mátyás Farkas (all IMF). The team thanks the authorities for the constructive dialogue and support with the provision of aggregated data.

remains weaker than peers due to the Deferred Tax Credits (DTCs) which account for about 45 percent of CET1 capital. The sovereign bank nexus is moderate in terms of direct exposures but is heightened by contingent government liabilities on bank balance sheets in the form of the DTCs and senior exposure to the state-guaranteed NPL securitizations. Although the magnitudes of these risks are limited, under a severe shock they could amplify negative market reactions.

Benefitting from recent robust economic activity, the corporate sector has improved its profitability and shows resilience in stress tests. There are signs that some non-financial corporates are starting to increase their use of leverage, but many continue to lack access to credit due to unresolved legacy non-performing loans, especially among micro and small firms. Corporates are found in stress tests to face higher probability of default as adverse macroeconomic shocks worsen their debt servicing capacity, reduce the share of longer-term financing they could obtain, and lower their liquidity buffers. Nonetheless, the probability of default of the aggregate corporate sector following a shock remains at moderate levels due to the improved balance sheets of active corporate borrowers; the weak tail of corporates remains largely absent from credit markets.

Households are vulnerable to the high cost-of-living on top of high debt-servicing costs. Greek households spend a relatively high share of income on essential goods and services such as food and utilities compared to other EU countries. The interest costs of their outstanding debt are also elevated, and most loans are variable rate, exposing households to interest rate shocks. Household-level simulations reveal that Greek households are highly vulnerable to shocks to real income, following which many would be forced to spend a very large share of income (70 percent) on the basic expenses of food, utilities, and servicing outstanding debt, potentially putting their debt at high risk of default. Shocks to interest rates appear to have a smaller impact on households and their credit risks thanks to the ongoing deleveraging which has reduced their overall debt burden.

Bank solvency stress tests indicate that Greek banks would experience only limited capital depletion under adverse scenarios. However, concentration risk arising from common large exposures warrants continued monitoring. Under the two adverse macro scenarios considered—a inflationary geopolitical shock and a severe recession, consistent with those used in the EA FSAP—banks remain above their regulatory capital buffers. This is supported by strong net interest income (NII), which, despite declining in the recessionary scenario, continues to offset the impact of higher credit impairments and weaker net fees and commissions income (NFCI). Sensitivity analyses done to reflect the potential impact of an extended war in the Middle East do not change these conclusions. On the other hand, sensitivity analyses of large exposures point to a high degree of concentration across banks toward the same counterparties, with the ten largest common exposures accounting for 81 percent of aggregate Tier 1 capital (after credit risk mitigation measures). These findings underscore the importance of enhancing the monitoring of large corporate exposures.

It is recommended that the Greek authorities leverage the current benign environment to encourage banks to strengthen the quality of their capital and to foster a more diversified financial sector. Solvency stress test results provide insights into the potential delay in DTC amortization under downside scenarios, as voluntary amortization could be substantially reduced. This highlights the importance of continuing to reinforce the quality of banks' capital through an

accelerated legal phase-out of DTCs. In addition, measures aimed at diversifying bank balance sheets and mitigating concentration risk vis-a-vis large corporates should be considered. Taken together, these steps would help enhance the resilience of the banking sector and support financial stability over the medium term.

Greek banks perform well under plausible liquidity stress scenarios following a sustained build-up of buffers over recent years. Both the liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR) remain comfortably above regulatory requirements, placing Greek banks well-ahead of their European peers. Banks can also withstand more severe market shocks—including those targeting their sizable sovereign debt holdings—without breaching liquidity thresholds. Only under more aggressive and less probable scenarios—which simultaneously combine severe market and funding stress—do any SIs fall below the 30-day LCR hurdle rate. Nevertheless, owing to abundant liquidity buffers beyond the high-quality liquid assets (HQLA), stress tests based on a granular cashflow analysis show resilience for the Greek banking sector.

Table 1. Greece: Recommendations on Systemic Risk Analysis			
	Recommendations	**Agency**	**Timing[1]**
1.	Further enhance the monitoring of large corporate exposures by strengthening analytical capacity and allocating additional resources, to support early identification and timely mitigation of potential vulnerabilities to the financial system.	BoG	I
2.	Accelerate the legal amortization of DTCs to a timing aligned with the voluntary scheme for the prudential amortization of DTCs that was agreed between the SSM and the four systemic banks.	MoF	ST

[1] I —Immediate (within 1 year), ST—Short term (within 1-2 years), MT—Medium term (within 3-5 years).

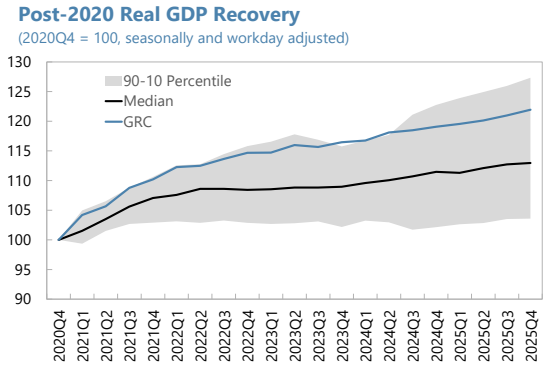
INTRODUCTION

A. Macroeconomic Landscape and Trends

1. The 2026 FSAP for Greece takes place against a macroeconomic backdrop that was improving prior to the war in the Middle East (Figure 1). The post-COVID recovery shows a strong rebound in growth and an unemployment rate steadily declining to single digits, though end-2025 inflation remained above the ECB's target. Housing prices have risen rapidly from the trough in 2017 despite still-weak mortgage lending. Substantial fiscal consolidation on the back of strong growth has reduced the public debt-to-GDP from 210 percent in 2020 to 146 percent in 2025 and further reduction is expected. The medium-term risk of sovereign stress is assessed as moderate (Annex II of 2025 AIV staff report), thanks to prudent fiscal policymaking and the favorable public debt structure. The country had regained an investment grade rating from all major rating agencies by early 2025, with a sovereign spread currently in line with euro area peers. Going forward, however, structural challenges—low investment and labor participation, the declining role of Next-Generation EU (NGEU) funds in financing domestic investment, adverse demographic trends, and sluggish productivity growth—will weigh on medium-term growth prospects.

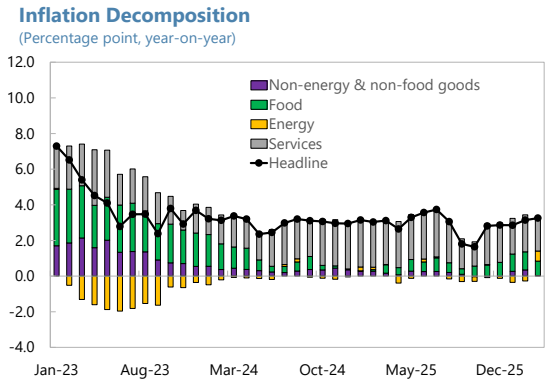
Figure 1. Greece: Recent Economic Developments

The economy rebounded strongly in the post-COVID recovery...



Sources: Eurostat; Haver Analytics; and IMF staff calculation.
Note: The percentiles are calculated relative to European Union members.

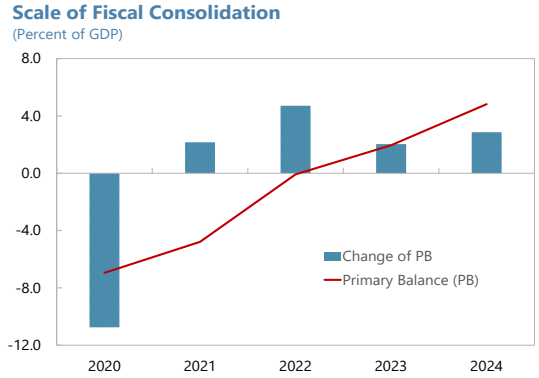
...the disinflation is slowed by sticky services inflation.



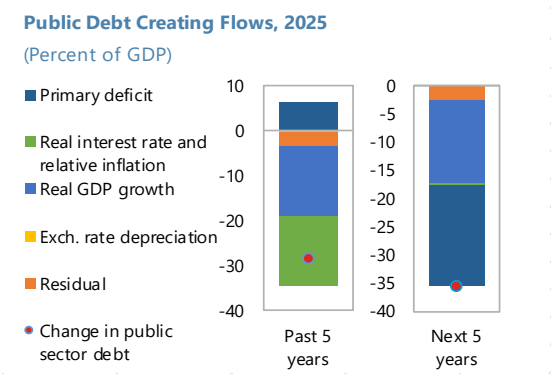
Sources: Eurostat; Haver Analytics; and IMF staff calculation.

Figure 1. Greece: Recent Economic Developments (concluded)

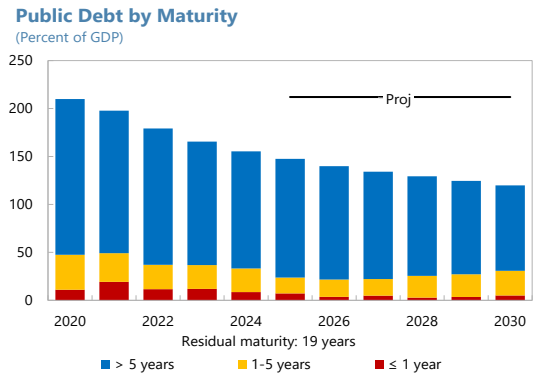
Fiscal consolidation started immediately after the unprecedented pandemic support in 2020.



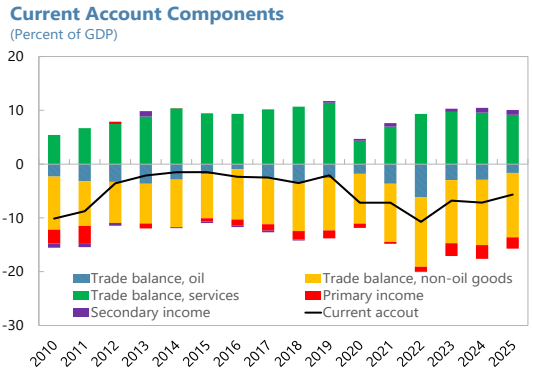
Prudent fiscal stance and robust growth are expected to support debt reduction going forward.



Public debt is mostly fixed rate with long maturity.

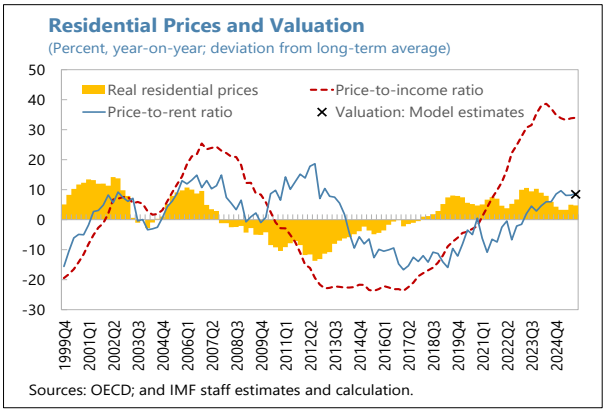


Current account deficit remains elevated driven primarily by trade deficit.



Sources: Greek authorities and IMF staff calculation.

2. Residential real estate prices have risen significantly from the trough in 2017, with the price-to-income ratio surpassing the pre-2008 peak level in nominal terms. Price dynamics in the residential real estate sector largely reflect existing structural housing shortages and are partially fueled by domestic cash buyers and foreign demand. The net flow into housing loans is barely positive as indebted households continue to service their legacy debt originating from the credit boom in mid-2000s. Residential real estate prices are assessed as moderately overvalued in 2024 by various metrics (text chart).[2]



Sources: OECD; and IMF staff estimates and calculation.

[2] The deviations of the price level or the price-to-rent ratio from the respective long-term trends, and the gap estimated from a structural model (see TN for macroprudential policy framework and tools) all point to moderate overvaluation.

3. Since the last FSAP, the Greek financial sector has undergone a significant transformation marked by consolidation, enhanced capitalization and a substantial reduction in non-performing loans (NPLs) on bank balance sheets. During the Greek sovereign crisis, the system experienced severe stress as confidence eroded sharply and the economy slipped into a deep recession. Banks faced acute liquidity constraints alongside a surge in NPLs, which peaked at 49 percent in September 2017. Since 2018, the banking system has gradually regained stability supported by recapitalization efforts and the implementation of the Hellenic Asset Protection Scheme (HAPS) in 2019-2025, which played a crucial role in accelerating the reduction of banks' NPLs (now at 3.4 percent), strengthening banks' balance sheets, and restoring market confidence.

4. Credit contracted sharply during the crisis but has recently seen a modest recovery (see Figures 2 and 3). Prolonged deleveraging over more than a decade led to a sustained decline in the credit-to-GDP ratio, which remains well below pre-crisis levels and the euro-area average. The credit-to-GDP gap remains deeply negative, which could constrain long-term growth. Deleveraging was observed in both the corporate and household sectors, and as of 2024, debt-to-GDP ratios for both are below the EU average. Bank loans dominate financing for both non-financial corporates (NFCs) and households. By September 2025 credit growth reached 11 percent year over year; however, the nominal volume of outstanding loans in the banking sector remains well below its pre-crisis peak. The modest recovery has been driven mostly by loans to large corporations. As of June 2025, the largest 10 corporate exposures represent 122 percent (10 percent) of banks' T1 capital (total assets). In contrast, household credit growth has been more subdued, with mortgage lending remaining sluggish due to lack of demand and legacy NPLs.

5. The slow pace of NPL resolution by credit servicers[3] poses challenges for credit growth and long-term banking profitability. NPLs managed by credit servicers totaled €72.6bn (original par value) as of September 2025 (equivalent to a 30.5 percent non-performing private sector debt ratio). Half (€37.6bn) are related to HAPS while the other half (€35bn) originated from direct sales by banks.[4] The strict credit underwriting criteria that have been adopted by the Greek banking institutions render a portion of households and corporates (largely SMEs, whose owners provided personal guarantees and housing collateral for their loans) with outstanding NPLs managed by credit servicers as higher risk, which limits the universe of domestic banking clients. About 20 percent of existing corporate loans and over half of household loans (by volume) remain non-performing.

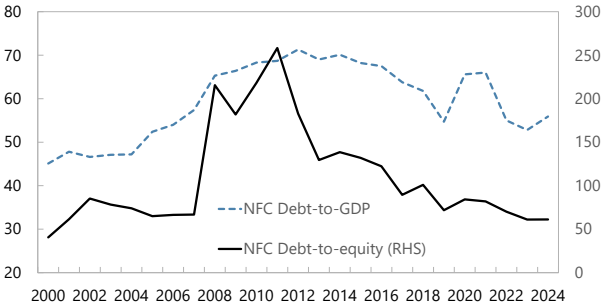
[3] Credit servicers are specialized nonbank financial institutions that deal exclusively with the management and resolution of NPLs and other distressed assets. Their primary activities are payment collection, debt restructuring, and collateral liquidation. They do not hold these loans on their own balance sheets but are funded by fees based on their assets under management. The credit servicers were primarily set up to manage the large quantity of loans offloaded from Greek bank balance sheets, and the assets that they manage are largely controlled by foreign investment firms that do not have other significant connections to the Greek economy.

[4] There are 23 transactions in total under HAPS that have been done in three phases: HAPS I (2019-20) and HAPS II (2022-23) for the four SIs, and HAPS III (2024-25) for LSIs.

Figure 2. Greece: Corporate and Household Balance Sheets

Corporates have reduced their leverage since the GFC…

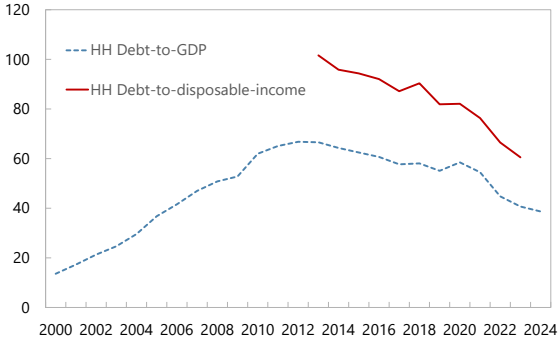
Gross Debt of Non-Financial Corporates (NFCs)
(Percent)



Sources: Eurostat; and IMF staff calculation.
Note: Corporate debt refers to financial liabilities such as debt securities, loans, and financial derivatives and employee stock options.

…so do households.

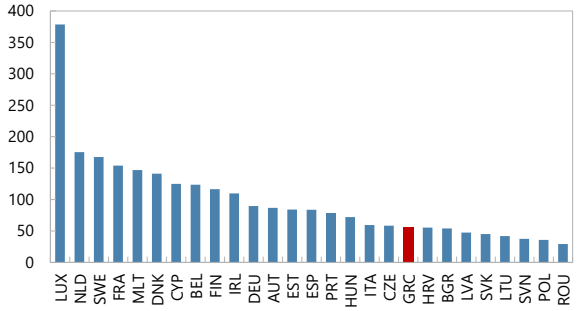
Household (HH) Debt
(Percent)



Sources: Eurostat; and IMF staff calculation.

The debt-to-GDP of non-financial corporates in 2024 is relatively low in EU.

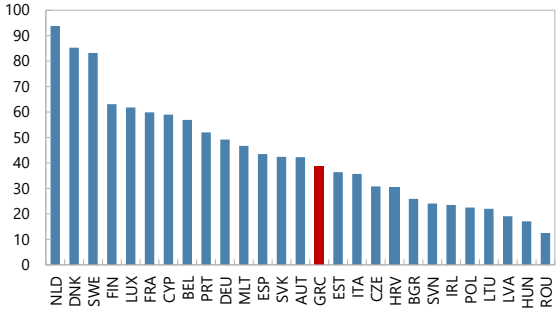
Gross Debt of Non-Financial Corporations, 2024
(Percent of GDP)



Source: Eurostat.
Note: Gross debt refers to financial liabilities such as debt securities, loans, and financial derivatives and employee stock options.

Household debt-to-GDP is also slightly below the EU average in 2024.

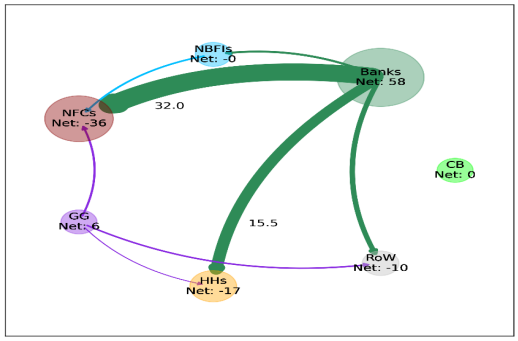
Gross Debt of Households, 2024
(Percent of GDP)



Source: Eurostat.
Note: Gross debt refers to loans to households.

Most of corporate and household outstanding exposure is to domestic banks.

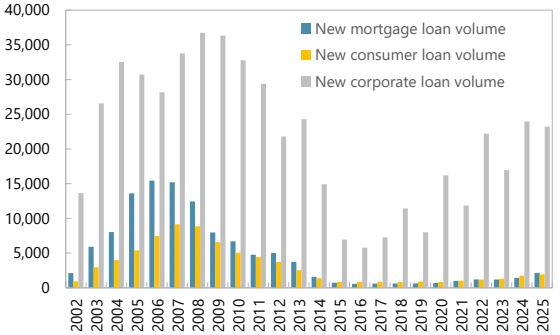
Financial Exposures: Loans, 2025Q3
(Percent of GDP)



Sources: Eurostat; and IMF staff calculation.
Note: The edges are colored according to the respective creditor sectors.

Recent bank credit expansion is mostly to corporates while lending to households remains weak.

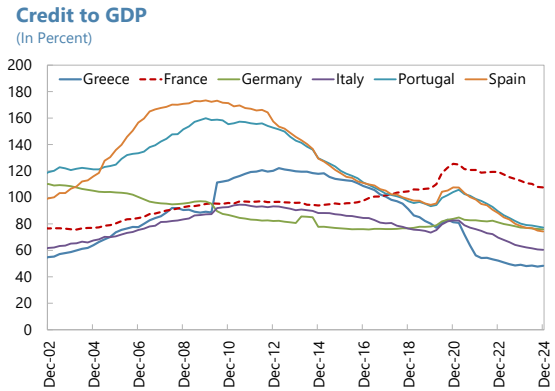
New Loans to Private Sector
(Million euros)



Sources: Bank of Greece; Haver Analytics.

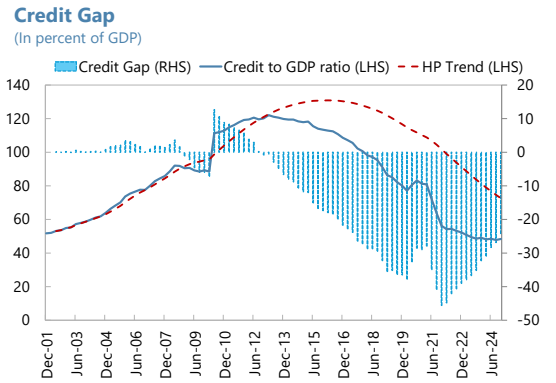
Figure 3. Greece: Credit Trends

Credit to GDP ratio remains below pre-crisis levels and the Euro Area average….



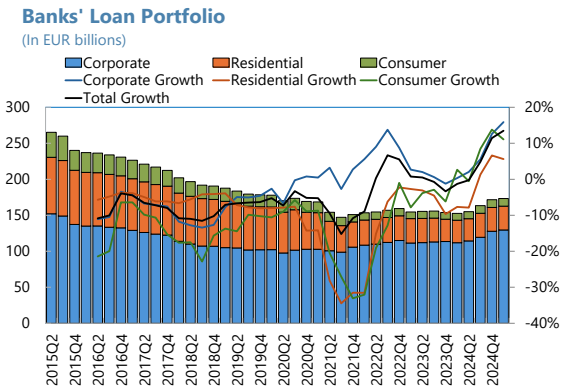
Sources: Haver, IFS, and IMF calculations.

… while the credit gap remains negative, reflecting subdue financial deepening.



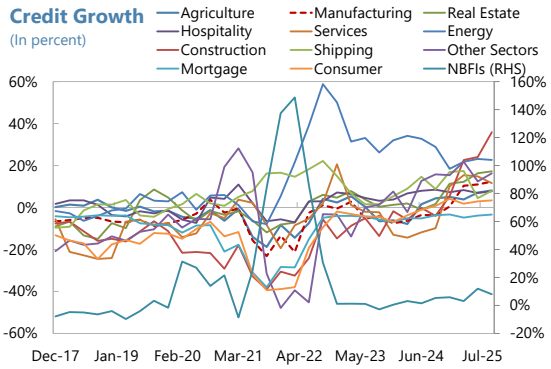
Sources: Haver, IFS, and IMF calculations.

Credit growth has recently shown a moderate recovery driven mostly by corporate loans….



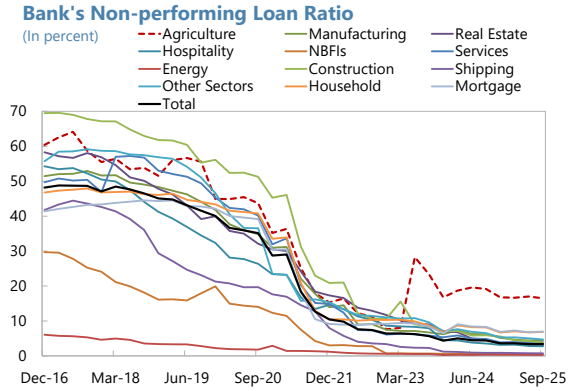
Sources: Bank of Greece, and IMF staff calculations.

…particularly in the following sectors: energy, services, manufacturing and construction.



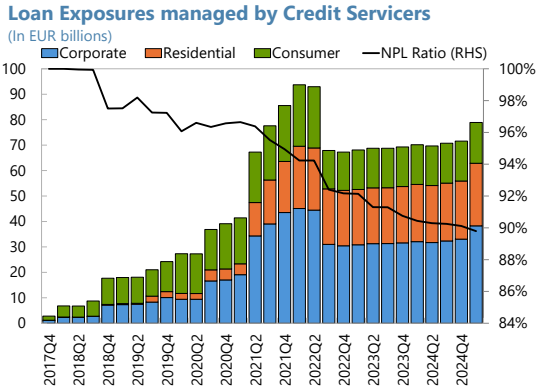
Sources: Bank of Greece, and IMF staff calculations.
Note: Strong growth in NBFIs in the early 2020s was driven by HAPS securitization.

The non-performing loan ratio has declined, largely reflecting the implementation of the HAPS scheme and banks' balance-sheet clean-up efforts.



Sources: Bank of Greece and IMF calculations.

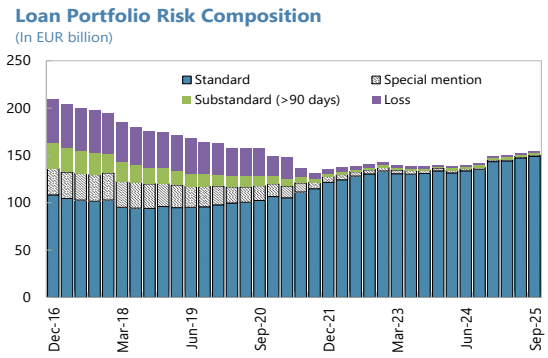
However, loans under the management of credit servicers have shown only a modest recovery, posing challenges for credit growth.



Sources: Bank of Greece, and IMF staff calculations.

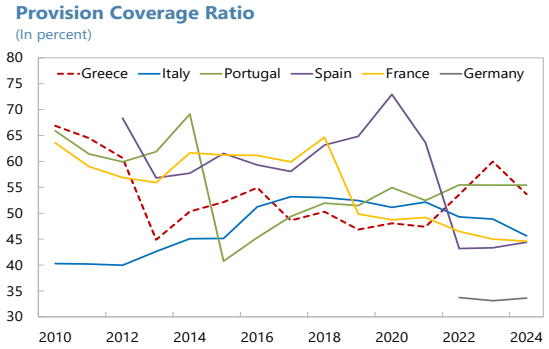
Figure 3. Greece: Credit Trends (concluded)

About 96.6 percent of loans are categorized as standard….



Sources: Bank of Greece, and IMF staff calculations.

The provision coverage ratio has risen since 2019 and is now higher than in Spain, Italy, France, and Germany…



Sources: Haver and IMF calculations.

6. Downside risks to the economy could materialize and have spillover effects on the financial system. The slowdown in the major euro area countries—potentially exacerbated by higher trade barriers, including U.S. tariffs on EU imports, and persistent policy uncertainty—could weigh on trade, tourism, and foreign direct investment, with adverse effects on business earnings, employment, and banks' credit quality. Geopolitical tensions continue to pose risks through commodity price volatility, cybersecurity threats, and renewed inflationary pressures. The war in the Middle East and the associated surge in energy and related commodity prices (such as fertilizers), has deteriorated the near-term outlook for the Euro Area. The impact on the economy and financial system will largely depend on the duration of the conflict and the persistence of elevated commodity prices. A resurgence of inflation could trigger tighter financial conditions, undermining investor confidence, restraining investment, and pressuring banks' access to liquidity and capital markets. A sharp repricing of global financial assets or a deterioration in international financial conditions could adversely affect the balance sheets of households and firms, with spillovers to the banking sector, while a sudden house price correction would weaken banks' asset quality and constrain credit supply. Although the domestic banking system is now considerably more resilient than in the past, these external shocks could dampen credit growth, raise funding costs, and erode the quality of loan and investment portfolios.

B. Financial Sector Structure and Vulnerabilities

7. The domestic financial system is small by European standards and is dominated by banks. The domestic assets held in the financial system amount to €376.8bn as of September 2025 (152 percent of Greece 2025 GDP), considerably below its past peak. Banks account for 84 percent of these assets, while non-bank financial institutions (NBFIs) hold the remainder 16 percent and have limited direct linkages with the banking sector. The most significant are insurance companies (34 entities amounting for 5.8 percent) followed by collective investment undertakings (13 entities representing 4.3 percent). The remainder is distributed among investment firms, pension funds, and other NBFIs. In addition, credit servicers manage a significant portion of NPLs under recovery that are outside the banking system (Table 2, Figure 4).

Table 2. Greece: Structure of Financial System

Structure of the domestic financial system as of December 2024

	No of Entities	Total Assets (€ million)	Relative size compared to the total size of the financial sector (in percent)	Relative size compared to GDP (in percent)
1) Banks	34	303,524	84.8%	127.8%
a. SIs	*4*	*283,445*	*79.2%*	*119.3%*
b. LSIs	*9*	*16,046*	*4.5%*	*6.8%*
c. Foreign branches	*21*	*4,033*	*1.1%*	*1.7%*
2) Insurance companies	*34*	21,222	5.9%	8.9%
3) Pension funds	*32*	2,508	0.7%	1.1%
a. Mandatory Pension funds	*4*	2,002	0.6%	0.8%
b. Pension funds (under IORP II)	*28*	506	0.1%	0.2%
4) Collective investment undertakings*	13	16,117	4.5%	6.8%
5) Investment firms and real estate investment companies	10	5,403	1.5%	2.3%
6) Other non-bank financial institutions	79	8,085	2.3%	3.4%
7) Credit servicing firms	18	1,151	0.3%	0.5%
Total	**220**	**358,010**	**100.0%**	**150.7%**
Nominal GDP 2024 (€ million)	237,573			

Source: BoG

8. Banking sector concentration has increased markedly following post-crisis consolidation. The share of the five largest banks in total assets rose from 69 percent in 2009 to 96 percent in 2024, reflecting consolidation after the sovereign debt crisis and the resolution of weaker institutions. The four Significant Institutions (SIs) now dominate the system, holding on a solo basis €293 bn in assets (92.7 percent of the total), while a small number of Less Significant Institutions (LSIs) account for a further 5.3 percent.

9. Overall, banks operate under a traditional commercial banking business model, relying primarily on deposit funding and lending to large non-financial corporates. As of December 2025, loans to non_MFI account for approximately 43 percent of total assets, with credit to non-financial corporations representing 68 percent of private sector debt, followed by housing and consumer loans at 21 percent and 7 percent, respectively. Securities holdings make up 29 percent of total assets and are predominantly government securities (60 percent). More than half of these holdings are Greek government bonds, largely classified as held to maturity (79 percent) and measured at amortized cost rather than fair value, thereby limiting sensitivity to short-term market price fluctuations. Exposure to foreign sovereign bonds is mainly to issuers from the European Union and G10 countries (Figure 4).

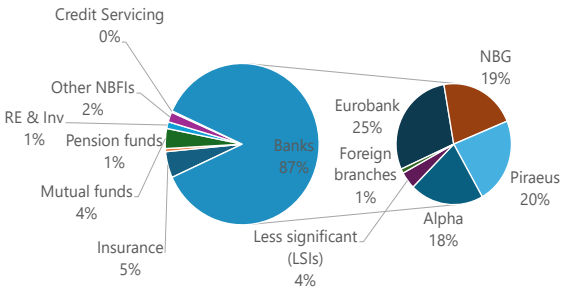
10. Greek banks' funding increasingly relies on retail and wholesale deposits, representing around 90 percent of total liabilities. The deposit franchise is particularly strong, with household deposits alone accounting for 64 percent of total deposits. Retail deposits remain "sticky" due to households limited appetite for money-market funds or other higher-yield alternatives. Additionally, the high concentration in the banking sector restricts competition for deposits, giving banks greater pricing power and enabling them to keep deposit rates relatively low, even during periods of rising interest rates.

11. Greek banks further expanded their international operations in 2025, supporting income diversification. Expansion was driven by targeted acquisitions and consolidation, primarily in Cyprus, reinforcing banks' presence in South-East Europe. As of June 2025, assets of foreign subsidiaries and branches reached EUR 57.3 billion (13.4 percent of consolidated assets), concentrated mainly in Cyprus and Bulgaria; loans accounted for 48 percent of these assets. International activities recorded higher profitability in the first half of 2025, contributing 16.5 percent to group profits (Figure 4).

Figure 4. Greece: Financial Sector Structure

The financial system is dominated by banks....

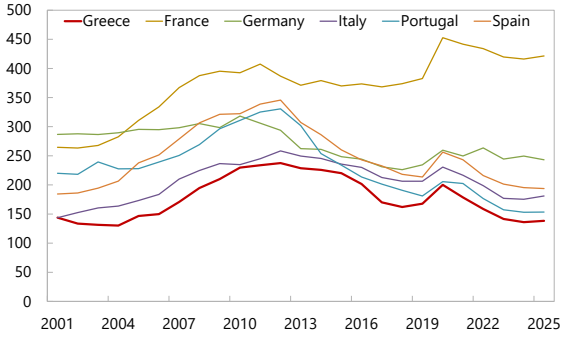
Structure of the Financial System
Percent of Assets, Dec 2025



Source: BoG

...and continues to be small by European standards.

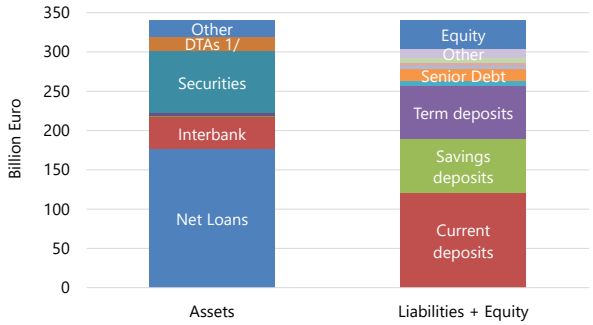
Size of Financial System
(In percent of GDP)



Sources: Haver/EUFIN.

Banks operate under as traditional business model....

Greece Banking System: Balance Sheet,
Billion Euro as of June 2025

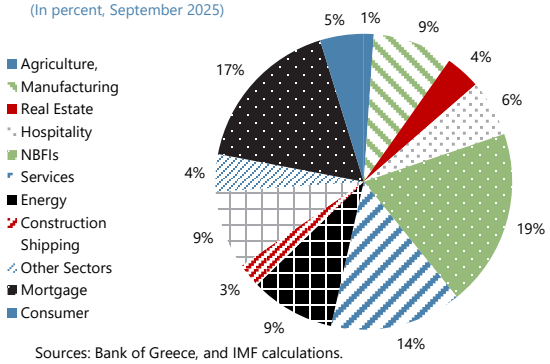


1/ Deferred Tax Assets

Source: Fitch

...with loan portfolios largely concentrated in corporate loans, especially in services, energy, shipping, manufacturing and hospitality.

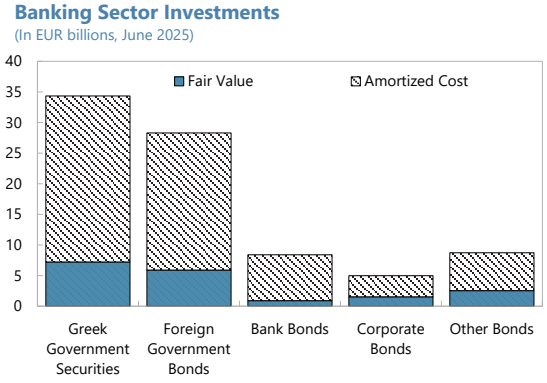
Loan Portfolio Composition
(In percent, September 2025)



Sources: Bank of Greece, and IMF calculations.
NOTE: NBFIs reflect mostly HAPS securitizations.

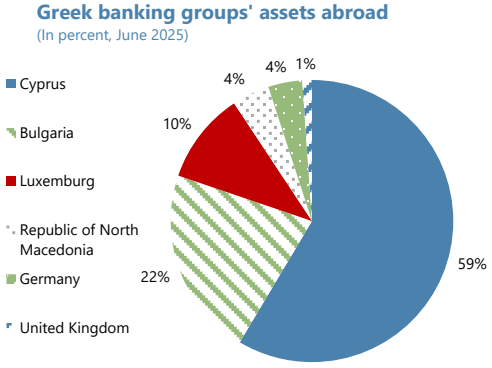
Figure 4. Greece: Financial Sector Structure (concluded)

...and hold the majority of their debt securities at amortized cost.



Sources: Bank of Greece, and IMF estimates.

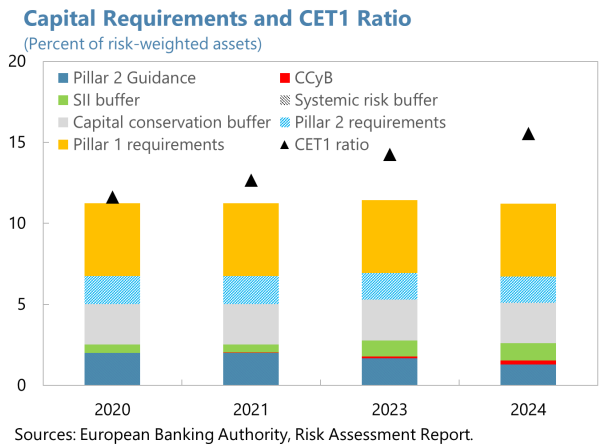
Foreign subsidiaries and branches account for 13 percent of consolidated assets, mainly in Cyprus and Bulgaria...



Sources: Bank of Greece.

12. Banking sector profitability has improved markedly since 2022, supported by favorable net interest margins, declining loan-loss provisions, and reduced non-interest expenses. Greek banks are well positioned relative to peer countries in terms of earnings and efficiency. As of December 2025, Return on Assets (ROA) stood at 1.3 percent and Return on Equity (ROE) at 12 percent, compared with EU averages of 1.0 percent and 11.7 percent, respectively. Strong operational efficiency is further reflected in significantly lower cost-to-income ratios—37 percent compared to an EU average of 49.7 percent—reflecting a combination of structurally lower operating costs (following post-crisis restructuring) and currently elevated revenue levels. Going forward, profitability is expected to moderate as net interest margins ease from recent highs. Maintaining earnings performance will therefore depend increasingly on further cost discipline, growth in fee-based income, continued improvements in asset quality, and prudent credit expansion (Figure 5).

13. Higher profitability and a marked reduction in NPLs have strengthened Greek banks' capital positions, bringing them broadly in line with European averages. As of December 2025, the Common Equity Tier 1 (CET1) ratio reached 15.5 percent, marginally below the EU average of 17.7 percent, while the total capital ratio converged to around the EU level (about 21.5 percent). However, capital quality remains weaker than that of European peers, reflecting the still-high reliance on Deferred Tax Credits, which account for 43.4 percent of CET1 capital (on a consolidated basis as of December 2025). Asset quality has improved substantially, with the NPL ratio declining from 43.5 percent in June 2019 to

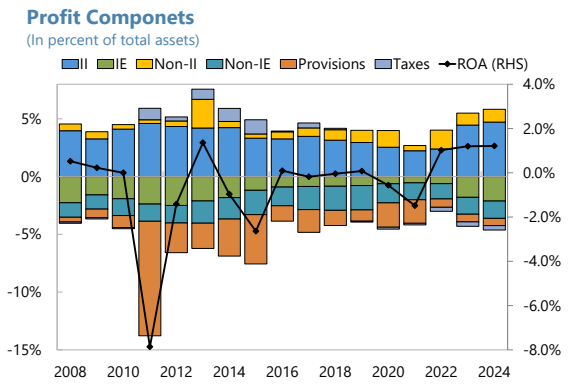


Sources: European Banking Authority, Risk Assessment Report.

3.3 percent in September 2025, largely supported by the Hellenic Asset Protection Scheme (HAPS). Notwithstanding this progress, NPLs remain above the EU average (1.6 percent as of December 2025), and a sizable share of loans removed from bank balance sheets has yet to be fully resolved. The leverage ratio (fully phased-in definition), at 7.7 percent in December 2025, is above the EU average of 7.1 percent.

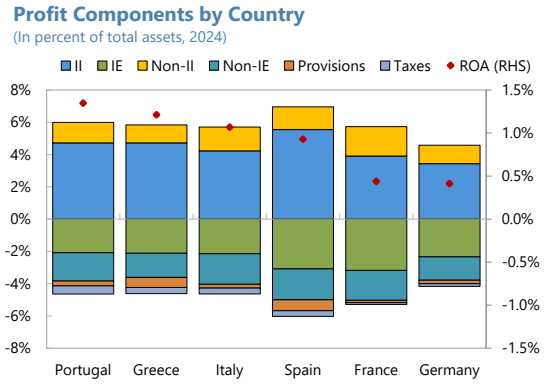
Figure 5. Greece: Profitability and Capital

Profitability in the banking system remains strong …



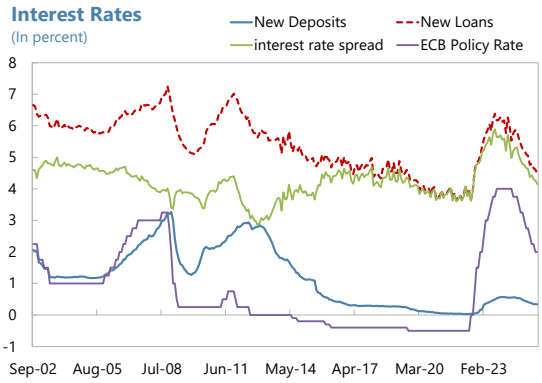
Sources: Haver, and IMF staff calculations.

….with higher ROAs compared to peers…



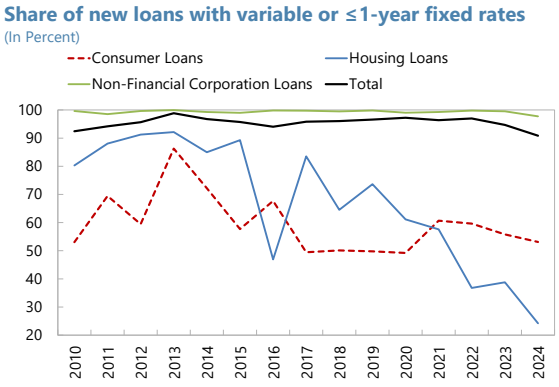
Sources: Haver, and IMF staff calculations.

Limited competition in the banking sector allows banks to keep deposit rate pass-through low…



Sources: BoG, Haver and IMF staff calculations.

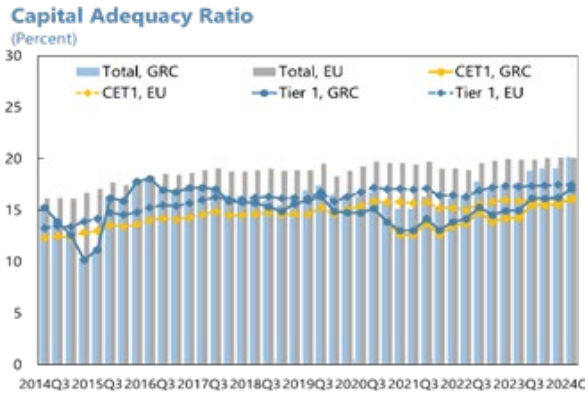
… and since most loans are issued at variable rates or fixed for less than one year, banks benefit disproportionately from higher interest rates.



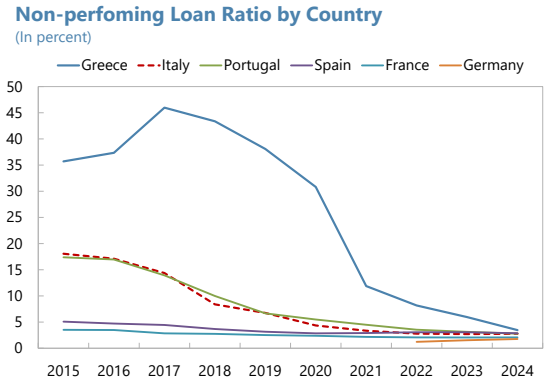
Sources: Bank of Greece and IMF staff calculations.

Figure 5. Greece: Profitability and Capital (concluded)

Higher profitability, together with the offload of legacy NPLs, have supported capital adequacy…



… however, NPL ratios remain above those of the EU.

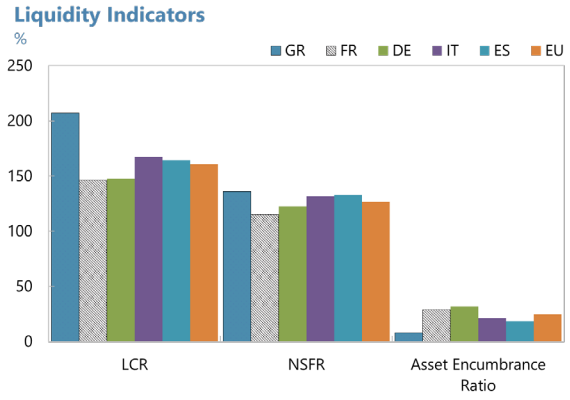


Sources: Haver, and IMF staff calculations.

14. While the liquidity position of the banking sector has steadily improved over recent years, Greek banks' liquidity buffers remain heavily concentrated in holdings of domestic sovereign debt. Greek banks have improved their liquidity markedly above European peers, despite operating in an environment where the ECB tightened monetary policy and previous Targeted Long Term Refinancing Operations (TLTROs) liquidity operations were gradually repaid. Amid a steady build-up of high-quality liquid asset (HQLA) buffers, as of December 2025, Greek system-wide liquidity indicators—liquidity coverage (198.8 percent), net stable funding (136.4 percent), and asset encumbrance (8.6 percent) ratios—place Greece well-ahead of its European peers (Figure 6, panel 1), with regulatory requirements comfortably met by Greek banks. Nevertheless, with the sovereign-bank nexus in Greece remaining a vulnerability, 63 percent of Greek banks' HQLA is concentrated in central government securities—a largely domestic exposure and a significantly elevated one relative to European peers (Figure 6, panel 2).

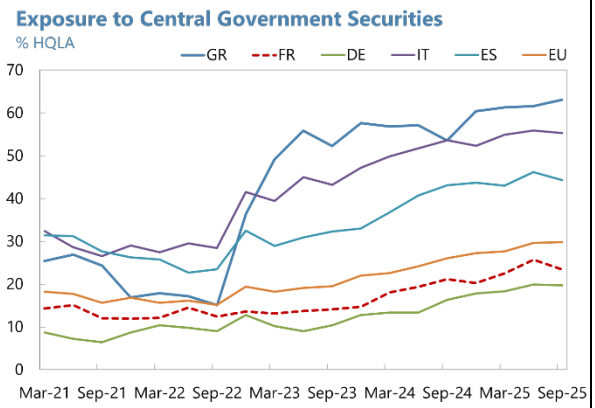
Figure 6. Greece: Liquidity Indicators and Sovereign Exposures

Greek banks exhibit elevated levels of liquidity buffers…



Sources: European Banking Authority

… yet heavily concentrated in domestic sovereign debt



Sources: European Banking Authority

15. The sovereign-bank nexus is sizable due to notable contingent government liabilities on bank balance sheets. Greek banks hold Greek sovereign securities amounting to 9.2 percent of total assets as of December 2025, in line with other euro area countries. However, when state-guaranteed assets are also included, exposure rises to over 19.3 percent (see Figure 7). The additional contingent liabilities of the Greek state consist of DTCs and the state-guaranteed senior bonds from the HAPS securitization schemes of their own NPLs, as explained in more detail in the next paragraphs. The additional contingent liabilities of the Greek state consist of DTCs (3.1 percent), the state-guaranteed senior bonds from HAPS securitization schemes of their own NPLs (4.5 percent) and other guarantees provided to banks (0.6 percent). Such indirect exposures are more likely to be called during a severe economic downturn and together they represent 36.4 bn (or 14.6 percent of Greece 2025 GDP), which could increase the fiscal burden during a time when sovereign spreads would likely already be under pressure. Furthermore, the Greek government still holds equity stakes in two banks (one SI and one LSI) through the Hellenic Corporation of Assets and Participations (HCAP).[5]

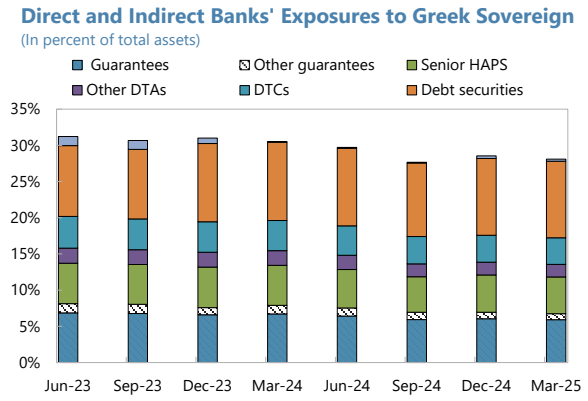
16. DTCs compromise the quality of capital of Greek banks. The Greek government passed a law in 2014 allowing for the conversion of Deferred Tax Assets (DTAs) into DTCs.[6] DTCs are not deducted from regulatory capital as banks can exchange them for a government equity infusion if they record losses. While non-deductibility is aligned with EU prudential standards, their high relative size—€11.45 bn, equivalent to 43.4 percent of CET1 capital as of December 2025—overstates the underlying solvency of Greek banks. DTCs heighten the sovereign-bank nexus due to the potential sovereign capital injection which would dilute private investors. To tackle this issue, the four SIs recently adopted a voluntary accelerated prudential amortization scheme of DTCs in proportion to their payout of dividends every year. According to current projections, DTCs would be fully amortized by 2031-33, as opposed to 2041 with the current legal amortization calendar. While this is an interim solution, the codification in Greek law of an accelerated amortization of DTCs to a timing aligned with the voluntary prudential amortization scheme currently in place would be a preferred solution to deal with this issue across all banks.

[5] HCAP absorbed in 2024 the Hellenic Financial Stability Fund (HFSF) that was created during the Greek crisis to recapitalize Greek banks

[6] These losses were recognized due to (i) banks' involvement in the Greek sovereign debt restructuring (amortized over 30 years); and (ii) provisions and write-offs of NPLs (amortized over 20 years). Such losses created a temporary difference between accounting standards and taxation rules that resulted in DTAs. The Greek Law allowed banks to convert DTAs until November 2016 so there are not any new DTCs since then. In June 2025, DTCs still represent 66 percent of DTAs. Although similar laws were passed in other European countries (Italy, Portugal and Spain), DTCs' size relative to banks' capital is smaller.

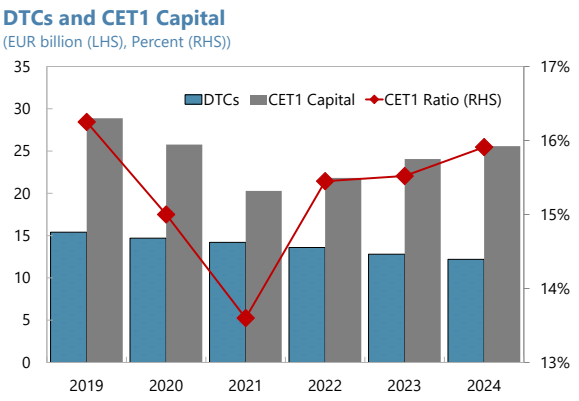
Figure 7. Greece: Sovereign-Bank Nexus

The sovereign-bank nexus is sizable….



Sources: Bank of Greece, and IMF calculations.

DTCs compromise the banks' quality of capital….



Sources: BoG, and IMF calculations.

17. While the HAPS securitization scheme has effectively reduced bank NPLs, it has resulted in credit servicers handling a large volume of NPLs outside the banking sector. Under the HAPS scheme, banks wrote down and securitized NPLs that originated prior to 2019. Unlike a typical bank asset cleanup, these loans were repackaged into structured products which were partially retained by the banks. The securitization left banks with sizeable senior tranches of the NPL portfolios and five percent of junior and mezzanine tranches[7]. Outside non-bank investors (mostly international private credit firms often affiliated with the NPL portfolio servicers) bought the majority of mezzanine and junior tranches. [8] The bank-owned senior securitization notes benefit from a state guarantee that also provides for zero-risk weight for capital purposes. The fee for this guarantee is paid by the SPV as part of the payment waterfall. Given the guarantee and zero risk weight for the senior tranches, and the international and equity-funded nature of the other investors, the residual risk to the banking sector and broader domestic financial system from these loans is low, assuming that the sovereign guarantee remains in place.

18. HAPS senior notes are non-tradeable, lack of contractually fixed Senior principal repayment schedule, and are held to maturity on banks' balance sheets. If NPL recoveries underperform initial projections, these notes could face a shortfall at maturity, which would result in a call of the sovereign guarantee. In addition, if the HAPS securities were to be reclassified to stage 3 (credit impaired) under IFRS 9 accounting rules, they would be incorporated as liabilities into the government debt stock. Such risks appear to be low in the near term, given the long maturity (often 30 years or greater) of the senior tranches and the lack of contractually fixed Senior principal repayment schedule.

[7] The retention of five percent of the mezzanine and junior tranches on banks' balance sheets is required to comply with the minimum risk-retention requirements under the Capital Requirements Regulation (CRR) for securitizations, thereby ensuring full adherence to the applicable regulatory framework.

[8] In addition to the senior bonds, banks also kept 5 percent of each of the junior and mezzanine tranches.

C. Interconnectedness

19. The Greek financial sector has a relatively simple structure centering around banks. Banks operate according to traditional business models focusing on deposit taking and loan provision, with limited linkages with the non-bank financial sector (Table 3, Appendix I). Banks' funding is mainly from domestic customer deposits, especially from households (61.9 percent of GDP as of 2025Q3) and NFCs (21.5 percent of GDP), while government deposits remain modest at 3.6 percent of GDP. On the asset side, banks provide loans to NFCs (32 percent of GDP) and households (15.5 percent of GDP) and maintain a sizable securities portfolio of which domestic government bonds account for 13.7 percent of GDP, and securities issued by both the official and private sectors from the rest of the world add another 24.4 percent of GDP. In addition to deposits at banks, households also hold small amounts of listed shares issued by domestic corporates (3.7 percent of GDP) and investment fund shares (6.2 percent of GDP from domestic issuers and 4.9 percent of GDP from abroad). Financing for NFCs mainly comes from bank loans but also from listed shares (20.3 percent of GDP) which are largely held by foreign investors (13.7 percent of GDP); the corporate bond market is small with outstanding debt securities issued by NFCs at 2.8 percent of GDP, although issuance has been picking up again (text chart).

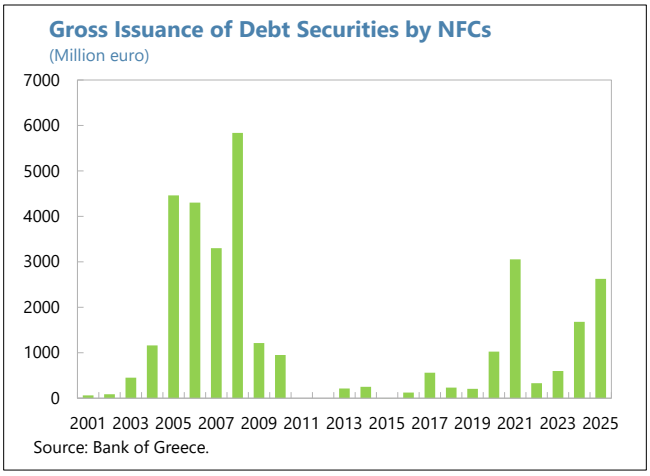


Table 3. Greece: Cross-Sector Financial Exposures
(Percent of GDP, as of 2025Q3)

Creditor/Debtor	Central bank	Banks	NBFIs	Non-financial corporations	General government	Household sector	Rest of the world
Central bank		0.9	0.0	0.0	15.0	0.0	48.0
Banks	0.0		4.3	32.6	13.9	15.5	31.3
NBFIs	0.5	4.2		4.1	1.5	0.1	10.8
Non-financial corporatior	0.0	21.8	0.3		1.3	0.0	2.1
General government	14.3	4.5	0.6	4.9		1.5	4.3
Household sector	0.1	63.2	7.0	4.9	3.8		8.2
Rest of the world	43.2	29.9	11.1	14.4	9.3	0.0	

Sources: Eurostat, National Account, Sectoral Financial Account; and IMF staff calculation.
Note: The household sector includes non-profit institutions serving households. Exposures between the central bank and the rest of the world reflect transactions within the European System of Central Banks, i.e., TARGET and correspondent account balances.

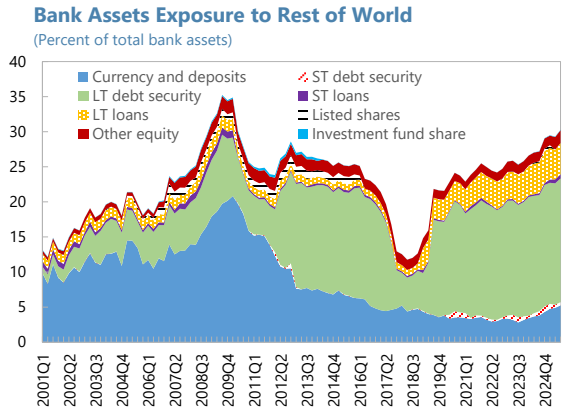
20. Banks have gone through the cycle of deleveraging and releveraging with respect to their cross-border exposure after the Global Financial Crisis (GFC). During the sovereign debt crisis, banks reduced their claims on banks from other Euro Area (EA) countries as well as holdings of non-EA debt securities, resulting in foreign assets falling from the peak of 35 percent of total assets in 2009Q3 to the trough of 12 percent in mid-2018 (Figure 8). Since then, banks again

expanded their foreign exposure, but this time via increased holdings of sovereign and corporate debt securities issued by other EA countries. On the liabilities side, foreign currency and deposits temporarily surged around 2019 before stabilizing at more modest levels. The recent increase in foreign liabilities points to banks' issuance of securities and listed shares to foreign investors. Overall, Greek banks' foreign exposure concentrates in other EA member states and to a lesser extent, to offshore financial centers. As part of banks' diversification strategy, banks have also expanded their international footprint, including into *bancassurance* (banking and insurance) businesses.

21. The footprint of Non-bank financial institutions (NBFIs) remains moderate. At less than one-fifth of the financial sector by assets, the NBFI sector mainly consists of investment funds and insurance corporations in addition to other financial intermediaries and financial auxiliaries, with only a small presence of pension funds and money market funds (Figure 9). Investment funds and companies have grown significantly since the pandemic, driven largely by rapid expansion of bond funds, which, among other things, particularly increased their holdings of debt securities issued by monetary and financial institutions (MFIs) both domestically and from other EA countries, potentially deepening the interconnectedness between banks and NBFIs. The balance sheet of the insurance sector has expanded slowly and is around 5 percent of the financial sector, with non-life and composite undertakings dominating the sector. The insurance sector is small in Greece compared to other countries, with gross written premiums (GWP) representing only 2.3 percent of GDP versus the European average of 7.4 percent of GDP. The investment of the insurance sector is largely placed in bonds with small direct exposure to real estate and equity. Both the government bond and corporate bond portfolios of the insurance sector are heavily tilted towards EU issuers, while the exposure to Greek sovereign and corporate bond seems in line with peers. There are some *bancassurance*-style interconnections between banks and insurance firms as banks start to undertake acquisitions or mergers with insurance companies to diversify their business models and income sources. Going forward, the trend would likely continue, intensifying the bank-nonbank nexus.

Figure 8. Greece: Banking Sector Cross-Border Exposures

Banks have expanded their cross-border exposure on the asset side following the sharp decline following the GFC.



On liabilities side, banks recently issued securities and listed shares to foreign investors.

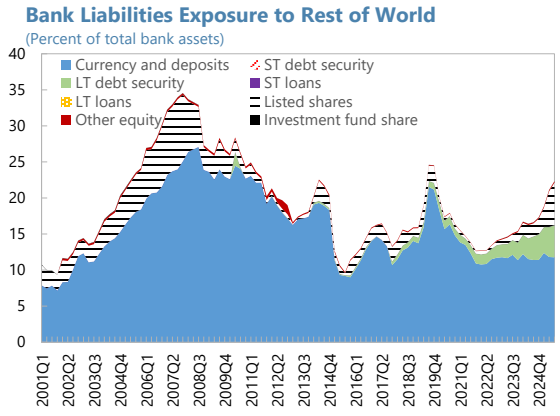
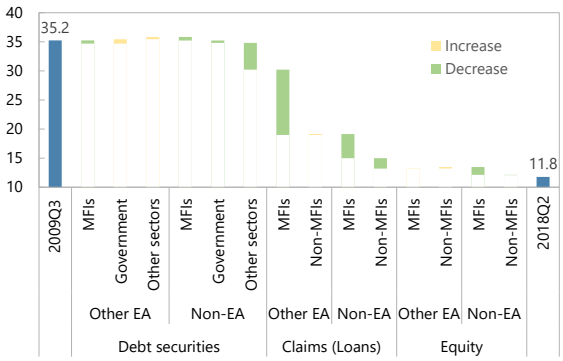


Figure 8. Greece: Banking Sector Cross-Border Exposures (concluded)

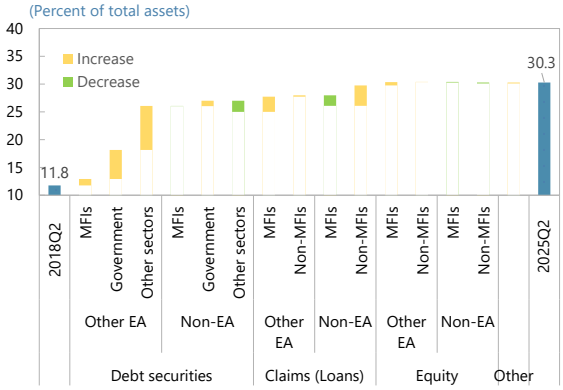
The post-GFC reduction of cross-border asset exposure is mainly through lower claims on foreign bank…

Assets: Change of Foreign Exposure, 2009Q3-2018Q2
(Percent of total assets)



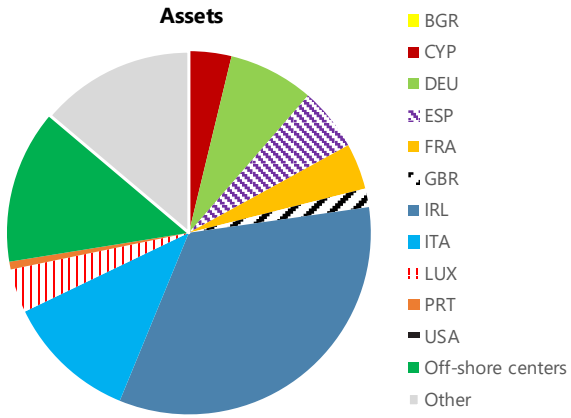
…while the subsequent expansion reflects largely banks' increased holdings of government and corporate bonds issued by Euro Area countries.

Assets: Change of Foreign Exposure, 2018Q2-2025Q3
(Percent of total assets)



Banks' cross-border exposures are mainly to Europe as well as off-shore financial centers.

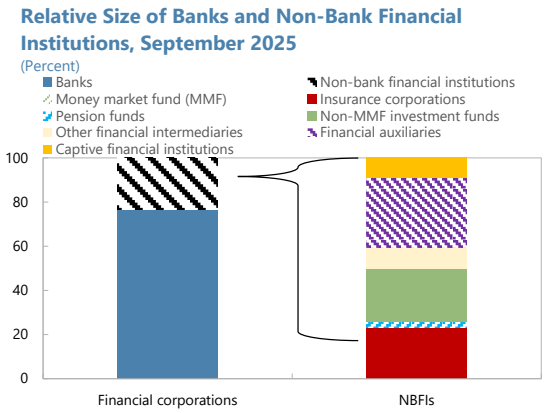
Geographic Allocation of Bank Assets and Liabilities, 2025Q3
(Percent of total foreign assets/liabilities)



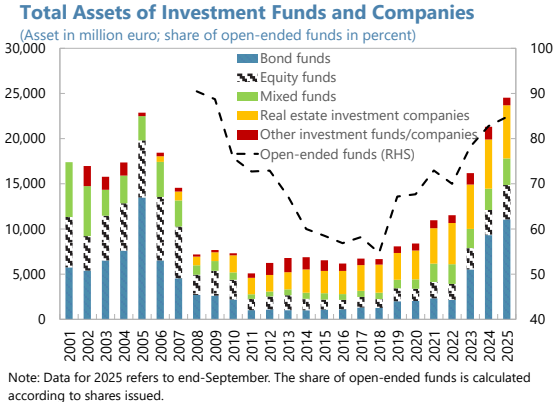
Sources: Bank of Greece; Haver Analytics; and IMF staff calculation.
Note: For geographic allocation, assets considered include loans, debt securities, and equity, while liabilities include only deposits and repos. The inclusion of specific instruments is determined by data availability. Exposures to both foreign MFIs and non-MFIs are included.

Figure 9. Greece: Non-Bank Financial Institutions

Investment funds and insurance corporations are major NBFIs.



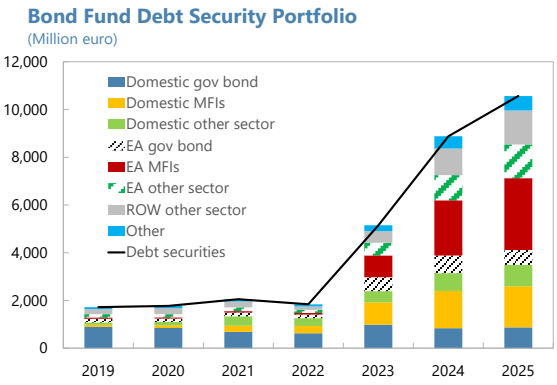
Investment funds have doubled their total assets since 2022.



Note: Data for 2025 refers to end-September. The share of open-ended funds is calculated according to shares issued.

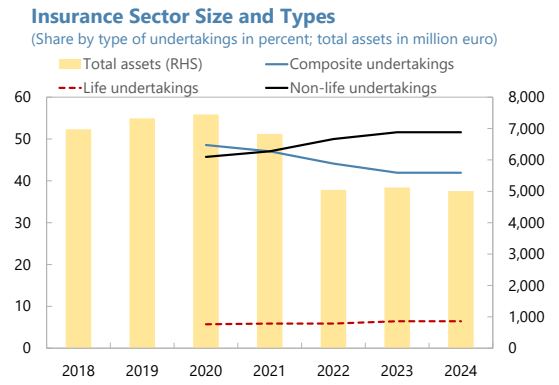
Note: EU/EEA refers to EU institutions, EU member states and Iceland, Norway, and Liechtenstein. Other AEs refer to Canada, Japan, Switzerland, the UK, and the US. The other category refers to supernational issuers (excluding EU institutions) and those issuers not reported.

Bond funds saw a rapid expansion of their portfolio, notably into bonds issued by MFIs.



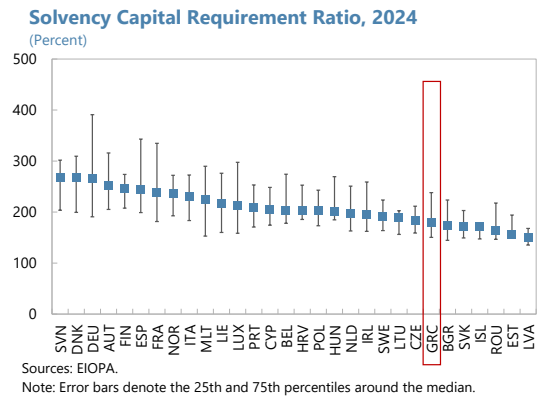
Note: Data for 2025 refers to end-September.

The insurance sector is dominated by non-life and composite undertakings.



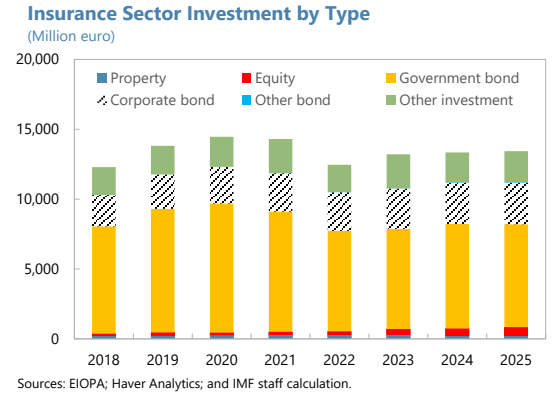
Sources: EIOPA; and IMF staff calculation.

The solvency ratios are largely above the regulatory threshold but are relatively low compared to other EU states.



Sources: EIOPA.
Note: Error bars denote the 25th and 75th percentiles around the median.

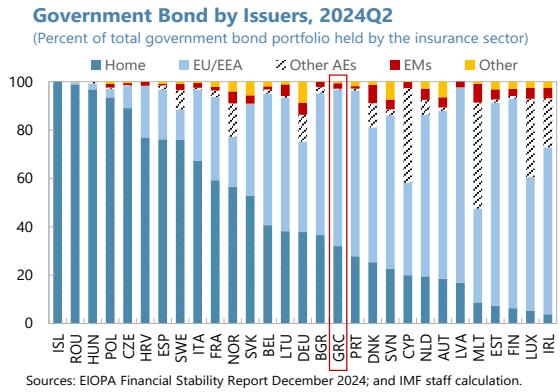
Investment of the insurance sector is mostly in government and corporate bond.



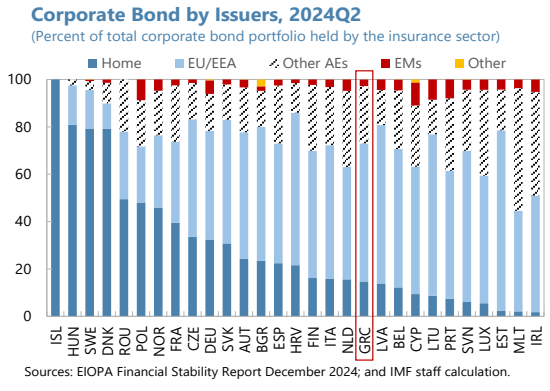
Sources: EIOPA; Haver Analytics; and IMF staff calculation.

Figure 9. Greece: Non-Bank Financial Institutions (concluded)

Both government and corporate bond portfolios of the insurance sector show moderate home bias, but are highly exposed to EU bond market.



Sources: EIOPA Financial Stability Report December 2024; and IMF staff calculation.



Sources: EIOPA Financial Stability Report December 2024; and IMF staff calculation.

MACROECONOMIC SCENARIOS

22. The resilience of the corporate, household and banking sectors was assessed under a set of three macro-financial scenarios. These include a baseline scenario aligned with the October 2025 World Economic Outlook (WEO) projections, along with two adverse scenarios detailed below. The adverse scenarios capture the main risks identified in the Risk Assessment Matrix (RAM) (Appendix II) and are consistent with those used in the euro area FSAP. The scenarios are simulated using IMF's Global Macro financial Model (GFM).

- The *Recessionary Scenario* features a synchronized global slowdown amplified by sovereign debt distress in the euro area, a widening of credit spreads, term premium decompression, and confidence losses softening aggregate demand. Accommodative monetary policy mitigates the adverse impact on aggregate demand.

- The *Geopolitical Scenario* features a materialization of a further escalation of geopolitical conflicts, heightening commodity price volatility and disrupting global production chains, with large adverse trade, price, and tariff shocks ("trade wars") slowing growth. Fiscal policies in countries with fiscal space are used to counteract partly the fall in demand and support consumption. However, the inflationary impact of production chain disruptions leads to monetary policy tightening.

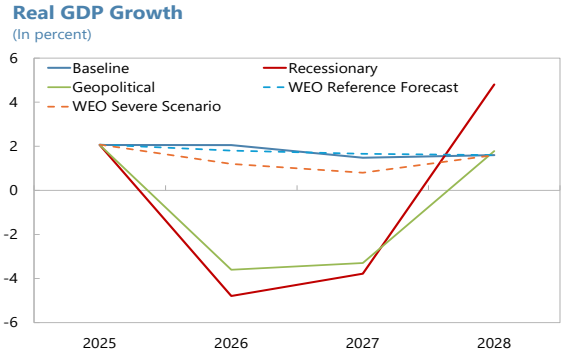
23. In both scenarios, a slowdown in global economic activity dampens external demand for Greek exports and tourism services. Under the recessionary scenario, Greece experiences a slowdown of economic growth with a cumulative decline of -8.4 percent in real GDP over the first two years of the scenario, accompanied by an increase in unemployment to 15.5 percent and a decline in inflation to -0.15 percent. In the geopolitical scenario, cumulative GDP growth over the first two years is projected at -6.8 percent, with unemployment rising to 13 percent and inflation accelerating to 4.9 percent. While in the geopolitical scenario, short-term interest rates rise by 1.4 percentage points, in the recession scenario they fall by 2.2 percentage points, reflecting the

differing inflation dynamics across the two scenarios. Long-term interest rates surge to 5.8 percent in the geopolitical scenario and to 6.6 percent in the recession scenario. As a result, term spreads widen significantly—by up to 4.5 percentage points in the recessionary scenario—indicating heightened sovereign stress (Figure 10). Although these scenarios are considered adverse given the prevailing macroeconomic conditions, their severity remains materially lower than that experienced during the Global Financial Crisis and the Greek sovereign debt crisis, when real GDP contracted by approximately 26 percent from peak to trough and the unemployment rate reached 27.8 percent.

24. While the adverse scenarios were defined prior to the outbreak of the March 2026 Middle East conflict, they remain relevant, as they are significantly more severe than the WEO April 2026 reference forecast and markedly more extreme than the WEO severe scenario in terms of GDP and corporate and credit spreads. Compared with the October 2025 WEO projections, the April 2026 reference forecast reflects slightly weaker growth and higher inflation. The adverse scenarios considered here remain much more severe than any current projections, as they both incorporate a two-year contraction in GDP. Under the WEO severe adverse scenario, real GDP growth slows but does not contract, in contrast to the two-year GDP contraction assumed under the adverse scenarios. Inflation is also modestly higher than in the geopolitical scenario, reflecting the larger and more prolonged shock to oil prices.

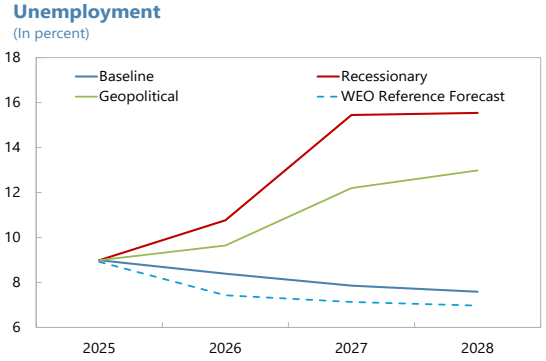
Figure 10. Greece: Macroeconomic Scenarios

Real GDP Growth drops to -4.8 (-3.6) percent in 2026, with a 2-year cumulative growth of -8.4 (-6.8) percent…



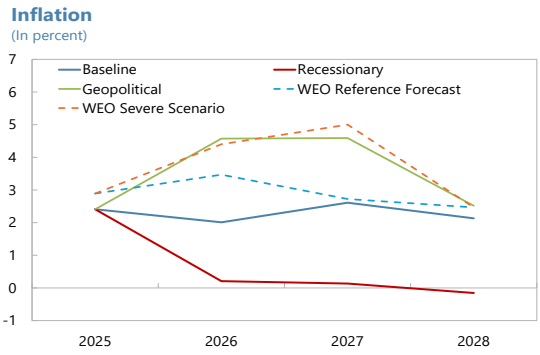
Sources: WEO, and IMF staff calculations.

… and unemployment increase, reaching 15.5 (13) percent at the peak…



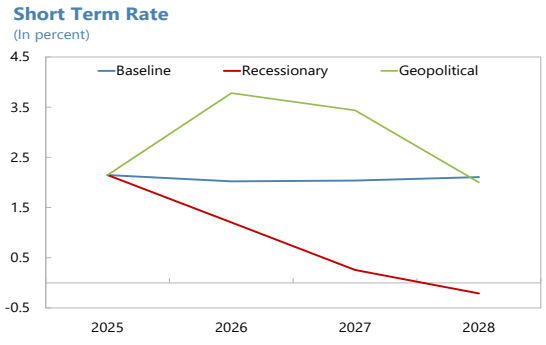
Sources: WEO, and IMF calculations.

Inflation drops/increases to -0.15 (4.9) percent….



Sources: WEO, and IMF calculations.

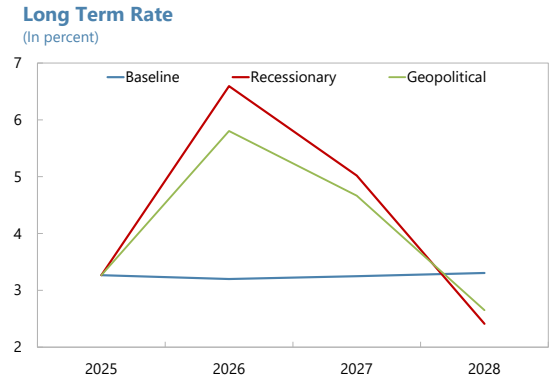
… and short term rate drops/increases to -0.2 (3.8) percent.



Sources: WEO, and IMF calculations.

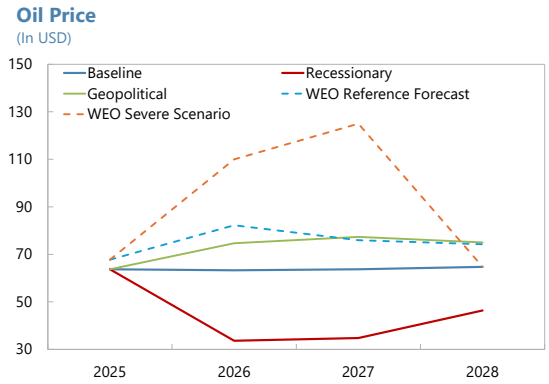
Figure 10. Greece: Macroeconomic Scenarios (continued)

Long term rate increases to 6.6 (5.8) percent....



Sources: WEO, and IMF calculations.

...and the oil price decreases/increases by 47/21 percent.



Sources: WEO, and IMF calculations.

25. Consistent with the EA FSAP, the market risk analysis was conducted against two short-term market stress scenarios. These were calibrated to capture high-frequency market price and volatility movements using an Expected Shortfall approach. The scenarios are displayed in Table 2: The scenario in the left-column is aligned with the recessionary macro scenario, featuring a drop in commodity and equity prices, a larger increase in the credit spread of mid- and high-risk EA sovereigns, while the short-end of the EUR yield curve remains muted. The scenario in the right column is aligned with the geopolitical macro scenario, featuring an increase in interest rates (particularly at the short end of the EUR yield curve), commodity prices and credit spreads, together with a sharp contraction in equity prices.

CORPORATE AND HOUSEHOLD ANALYSES

A. Corporate Analysis

26. The NFC sector has recovered from the sovereign debt crisis, but some firms continue to be burdened by legacy debt. The post-pandemic period in particular is associated with strong rebound of corporate profitability amid robust domestic and external demand, and the median return to assets among all size groups of NFCs rose to historical high (Figure 11). This has strengthened the solvency and liquidity conditions of NFCs, especially among micro and small firms. Meanwhile, firms appeared to have started taking on more debt: the median leverage of medium-sized and large firms is approaching the pre-GFC period, though it is still below the historical peak. Micro and small firms have increased their leverage more slowly, likely due to non-resolved legacy non-performing debt that hampers their access to new credit. In aggregate, debt held by firms with interest coverage ratios (ICRs) below one remains elevated at 20 percent and is concentrated in construction, professional activities, and to a lesser extent, accommodation and food, and the transport sector. The ongoing war in the Middle East could exacerbate existing vulnerabilities and affect NFC profitability through weaker external or domestic demand, higher borrowing costs, and higher input costs.

Table 4. Greece: Market Risk Scenarios

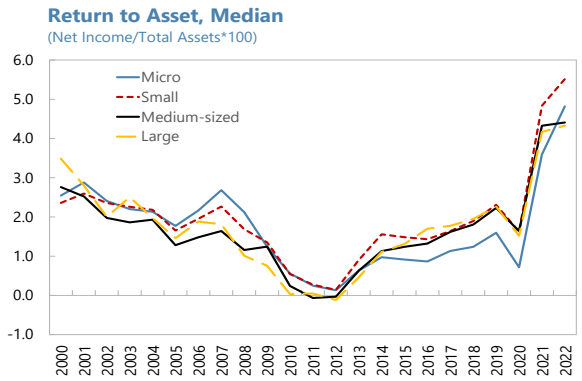
			Recessionary - market		Geopolitical - market	
Risk	Factor	Unit	delta shock	vol shock	delta shock	vol shock
CM	energy	relative change, percent	-58.8		56.3	
	industrial metals		-28.1		24.8	
	precious metals		-18.3		17.4	
CR	CR-low-5Y	absolute change, bps	72.1		85.5	
	CR-low-10Y		68.3		83.2	
	CR-mid-5Y		168.8		117.8	
	CR-mid-10Y		159.6		108.9	
	CR-high-5Y		319.3		206.8	
	CR-high-10Y		319.3		206.8	
	CR-europe		82.9		82.9	
	CR-US		98.3		98.3	
EQ	EQ-Asia	relative change, percent. PP change for vol	-42.6	40.0	-42.6	40.0
	EQ-JP		-40.8	40.8	-40.8	40.8
	EQ-Latam		-46.8	40.0	-46.8	40.0
	EQ-US		-38.2	56.0	-38.2	56.0
	EQ-europe		-32.0	57.1	-32.0	57.1
IR	EUR-1M	absolute change, bps. PP change for vol	0.0	14.8	148.7	14.8
	EUR-6M		49.6	10.8	160.4	10.8
	EUR-1Y		120.8	13.5	178.7	13.5
	EUR-5Y		142.2	5.3	175.4	5.3
	EUR-10Y		156.6	4.8	156.6	4.8
	EUR-20Y		164.4	6.8	131.0	6.8
	EUR-30Y		172.7	6.8	131.0	6.8
	USD-1M		155.8	19.1	155.8	19.1
	USD-6M		158.8	21.0	158.8	21.0
	USD-1Y		171.4	23.6	171.4	23.6
	USD-5Y		164.2	7.6	164.2	7.6
	USD-10Y		151.0	71.8	151.0	71.8
	USD-20Y		127.2	8.2	127.2	8.2
	USD-30Y		112.4	8.3	112.4	8.3

CM: commodities; CR: credit spreads; EQ: equity; IR: interest rates.
Note: The third column provides the unit of the shock for each factor, and the fourth and sixth columns the size of the shock relative to the starting point.

Source: IMF staff.

Figure 11. Greece: Historical Trend of Non-Financial Corporates

The post-pandemic period saw a strong recovery of NFC profitability.



Interest coverage ratios have been improving…

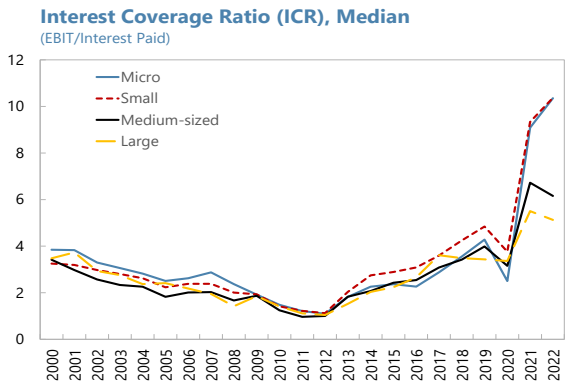
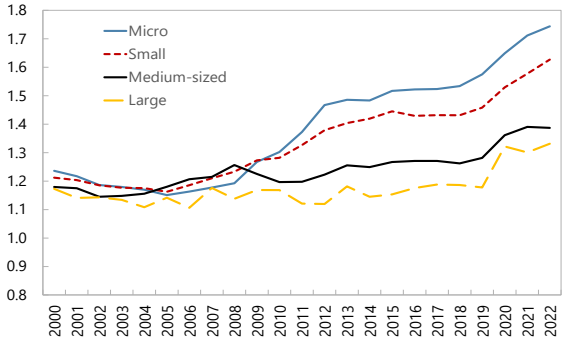


Figure 11. Greece: Historical Trend of Non-Financial Corporates (concluded)

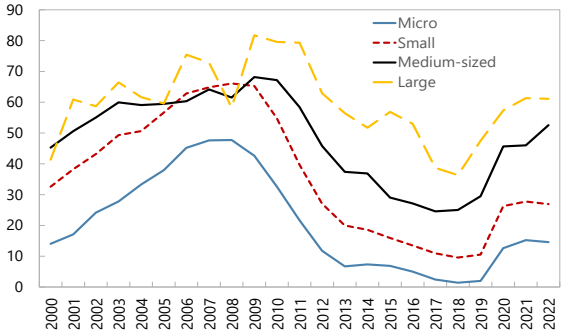
…as well as liquidity conditions, especially among small firms.

The Current Ratio, Median
(Current Assets/Current Liabilities)



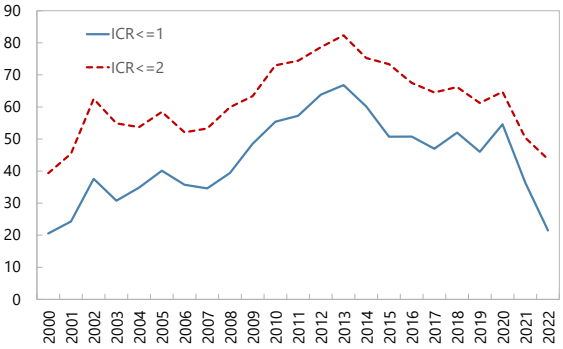
Medium-sized and large firms started to re-leverage.

Leverage, Median
(Debt in percent of Equity)



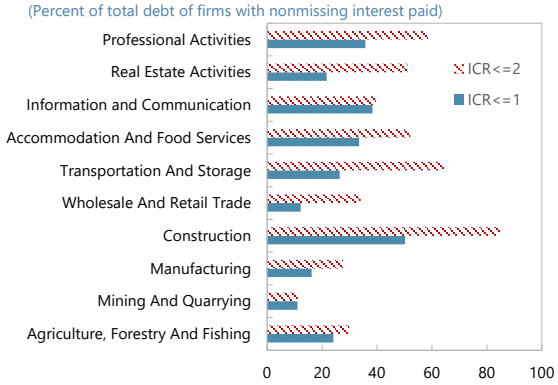
A significant share of debt remained with firms with low debt-servicing capacity…

Debt Held by At-Risk Firms
(Percent of total debt of firms with nonmissing interest paid)



…in particular in the construction sector and among professional, scientific, and technical activities.

Debt Held by At-Risk Firms by Sector, 2022
(Percent of total debt of firms with nonmissing interest paid)



Sources: Moody's Orbis; and IMF staff calculation.
Note: Firm size is defined by the number of employees, with micro firms having 1 to 9 employees, small firms having 10 to 49 employees, the medium-sized firms having 50 to 249 employees, and large firms having at least 250 employees. Debt refers to financial obligations to financial institutions, i.e., excluding debt to suppliers and contractors (item "Creditors" in Orbis).

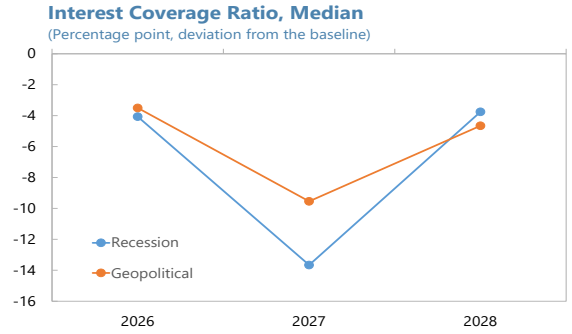
27. The corporate sector analysis is based on the macroeconomic scenarios presented in the previous section.[9] Firm-level characteristics, most notably the interest coverage ratio as well as the share of long-term debt and the share of current assets, are found to be closely associated with the probability of default (PD) of individual corporates. Macroeconomic variables such as real GDP growth, unemployment rate, the corporate sector borrowing cost (especially long-term interest rate and the corporate borrowing-deposit spread) are also found to be correlated with historical PD moves, including indirectly through affecting aforementioned firm-level characteristics. It should be noted that the firm-level panel regression analysis does not have a regime-switching feature, hence the estimated time-invariant coefficients may not be able to fully capture the significant structural changes over the past two and half decades in Greece.

[9] Please refer to appendix III for data and estimation details.

28. The projected aggregate debt-weighted PD increases sharply before moderating in 2028 under both adverse scenarios with the recessionary scenario featuring a larger rise in PD (Figure 12).[10] The changes in projected PDs under the recessionary scenario mirror mainly the drop in the median ICR but also reflect deteriorating debt structure as the share of long-term debt drops and stays low. The increase in PD is less pronounced under the geopolitical scenario since the smaller negative shock to income has a milder impact on ICR. However, the elevated short-term interest rates seem to be associated with (temporary) liquidity pressures, as can be seen from the sizable drop of the median value of the share of current assets. Overall, the recessionary scenario turns out to be the more severe scenario under which the debt-weighted average NFC PD is projected to more than triple at the peak of stress relative to its 2025 level. The increment of the shocked PD is smaller than during the sovereign debt crisis, largely thanks to the improved corporate balance sheets, but also reflecting the fact that the weak tail of NFCs remain insolvent and are not able to access new credits.

Figure 12. Greece: Non-Financial Corporate Sector Vulnerability Analysis

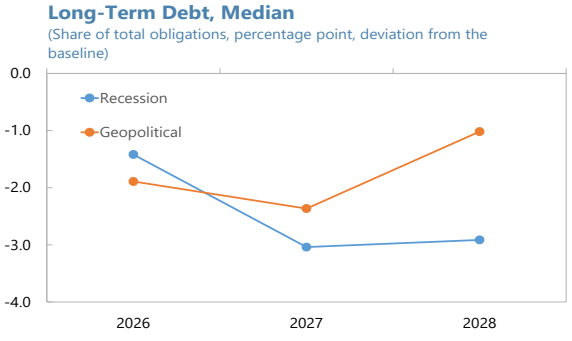
The drop in the interest coverage is more pronounced under the recessionary scenario.



Note: The interest coverage ratio is the ratio of earnings before interests and taxes (EBIT) to interests paid.

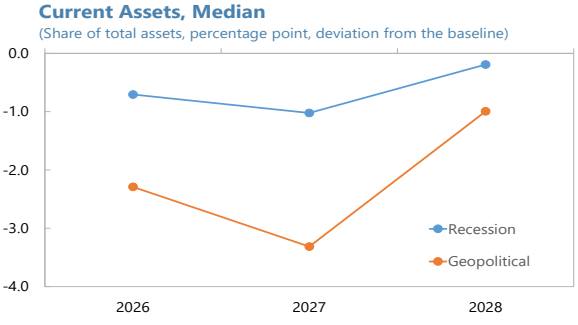
At-risk firms and their debt both shot up in 2027 before normalizing in 2028.

The elevated term premium is associated with some worsening of debt structure under the recessionary scenario…



Note: Long-term debt refers to financial debt with maturity over one year. Total obligations are the sum of total financial debt and payables to suppliers and contractors.

…while liquidity pressures seem more elevated under the geopolitical scenario with lower share of current assets.



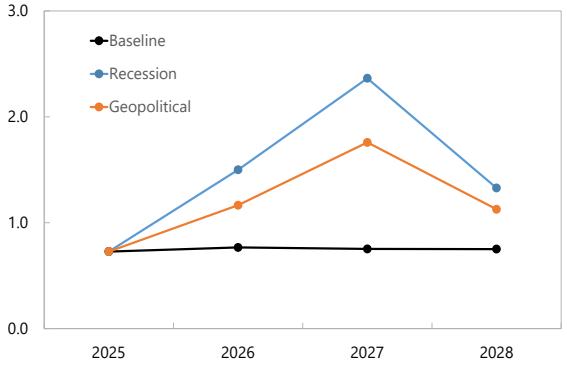
Note: Current assets include inventories, trade and other receivables, and short-term investment of money and Cash at bank and in hand.

[10] As the firm balance-sheet information is only available up to 2021-22 due to delayed reporting, the PDs for 2023-25 are calculated based on predicted firm-level characteristics and subject to errors arising from the differences between estimated and actual firm balance sheets. To mitigate such errors, we calibrate the regression constant so that the resulted debt-weighted average PD for 2025 is aligned with the actual PD for 2025Q2 provided by the BoG.

Figure 12. Greece: Non-Financial Corporate Sector Vulnerability Analysis (concluded)

The projected PD more than doubled on average under the recessionary scenario.

Projected Non-Financial Corporate Probability of Default
(Percent, debt-weighted)



Sectors with pre-existing vulnerability are associated with higher PD after shocks.

Heatmap of Estimated Proability of Default by Sector
(Color shaded according to quartiles, dark suggests low default risk)

NACE	Sector	Baseline				Recession				Geopolitical			
		2025	2026	2027	2028	2026	2027	2028		2026	2027	2028	
A	Agriculture, Forestry And Fishing												
B	Mining And Quarrying												
C	Manufacturing												
F	Construction												
G	Wholesale And Retail Trade												
H	Transportation And Storage												
I	Accommodation And Food Service Activities												
K	Information and Communication												
M	Real Estate Activities												
N	Professional, Scientific And Technical Activities												

Note: From dark to light green, and to yellow and red, the shaded color denotes respectively that the estimated average debt-weighted proabability of default (PD) falls from the lowest quartile (the bottom 25th percentile) to the highest quartile (top 25th percentile). Quartiles are calculated from all estimated sector-average PDs in 2025-28 under all three scenarios.

Sources: Moody's Orbis; Moody's CreditEdge; the World Economic Outlook; and IMF staff calculation.
Note: As the macroeconomic scenarios do not contain shocks to specific sectors or segments of firms (e.g., to SMEs), and the estimation procedure is approximately linear, the shocked distributions for firm-level variables by sector or by size would move almost uniformly according to the pattern displayed by the median.

B. Household Analysis

29. The household sector as a whole has deleveraged, but some vulnerabilities remain at the individual household level. The micro-level information on household labor status, income, expense, and balance sheet used for the analysis comes from the ECB's Household Finance and Consumption Survey (HFCS), last performed in 2021.[11] According to the HFCS, median household debt-to-income is broadly in line with other EU members, and the debt-to-asset ratio is near the lower end, but there remains a significant share of highly indebted households—debt held by households at the 75th percentile stands above 200 percent of income (Figure 13). Moreover, compared to peers, Greek households spend a higher share of income on food and utilities, and for those not occupying own properties, also on rent; higher energy prices resulted from the ongoing war in the Middle East would further worsen households' cost-of-living pressures. The interest costs of Greek households' outstanding debt are also elevated relative to peers. Following past-FSAP practice (e.g., Spain 2024, Slovak Republic 2025), we consider two vulnerability indicators to identify at-risk households: a debt-service-to-income (DSTI) ratio greater than 0.4, or a ratio of debt service and expenses on food and utilities ("essential expenses") to household income (the augmented DSTI) greater than 0.7. Based on these two measures, debt held by at-risk households is still high at almost 20 percent for DSTI above 0.4, or 33 percent for augmented DSTI above 0.7.

[11] See Appendix III for details about the data and the methodology. It should be noted that the 2021 HFCS could still be under the influence of the pandemic while miss the strong post-pandemic rebound and hence may overstate vulnerabilities of household income prospects. In contrast, the 2021 HFCS is not affected by the high-inflation period starting 2022, during which the elevated food and energy costs may exacerbate household vulnerabilities, especially for those at the lower end of the income distribution. Results of stress tests and sensitivity analyses are presented as deviations from the baseline to mitigate the bias arising from the non-current household distribution.

30. The household vulnerability analysis simulates households' ability to service their existing debt under the same macroeconomic scenarios as in the bank solvency stress tests. The key macro variables of interest are the unemployment rate, changes in the real earnings (proxied by changes in real GDP), and the interest rate (three-month EURIBOR). Moreover, to isolate the effect of negative shocks to unemployment or earnings, or positive shocks to interest rates, we consider three additional sensitivity analyses constructed by replacing, respectively, the unemployment rate path (or the real GDP path) under the baseline by the one in the recessionary scenario, or the interest rate path by the one in the geopolitical scenario. It should be noted that the household balance sheets underlying the simulation are dated to 2021–22 and could introduce biases to the simulated results relative to actual household balance sheets in 2025.

31. Simulations suggest that households are vulnerable to negative income shocks, and to a lesser extent, higher interest rates. The distribution of DSTI is especially sensitive to shocks to the real earnings growth (Figure 14), which could result from a recession but may also correspond to high-inflation episodes as in 2022-23 when inflation outpaced wage growth, leading to declining real income. Shocks to interest rates and the unemployment rate on their own have more modest impacts on DSTI.[12] Overall, the lower half of the DSTI distribution shows resilience under both the recessionary and geopolitical scenarios with the median DSTI around 3 percentage-point higher in 2028. However, the upper half of the DSTI distribution would incur a more pronounced upward shift under the recessionary scenario than under the geopolitical scenario. This suggests that the high-DSTI households are more vulnerable to a combination of severe income shocks and accommodative interest rates, as imbedded in the recessionary scenario, than to temporarily higher rates amid less negative income prospects as in the geopolitical scenario.

32. Exposure to at-risk households becomes more significant if the cost-of-living pressures facing households are considered on top of debt servicing pressures. We calculate the average DSTI and the average augmented DSTI (including expense on food and utilities) over the three-year forecast horizon and identify at-risk households by the high debt servicing pressure (DSTI>0.4) and high cost-of-living pressures (augmented DSTI>0.7). The share of debt held by high DSTI households will be 5 percent above the baseline in the geopolitical scenario, mainly due to higher costs of servicing variable-rate loans, and 3 percent in the recessionary scenario (Figure 14). However, if the need to cover essential spending on food and utilities is also considered, the share of debt held by high augmented DSTI households would rise to 16 percent above the baseline under the recessionary scenario, mostly due to reduced real earnings.

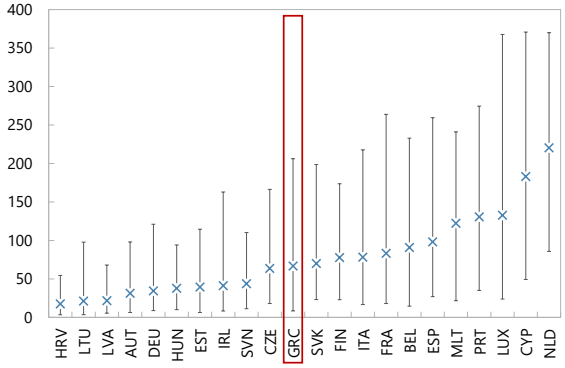
[12] The simulated impact of shocks to the unemployment rate likely understates the actual impact in the real world because to separate shocks to employment and earnings, we assume that unemployed individuals are able to get back to the same wage path once they return to employment. In reality, the earnings prospects would also be influenced by the unemployment shock, and long-term unemployed could suffer permanent losses in their expected wages.

Figure 13. Greece: Distribution of Household Expense and Debt Service

The household sector has deleveraged and the latest debt to income ratio is in line with peers…

Household Debt to Income, Median

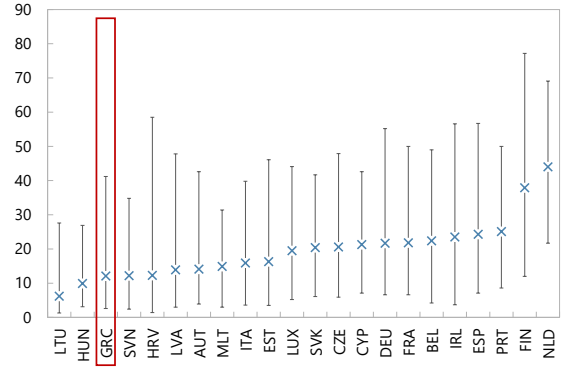
(Percent, error bars denote 25th and 75th percentiles)



…while the debt to asset ratio is relatively low.

Household Debt to Asset, Median

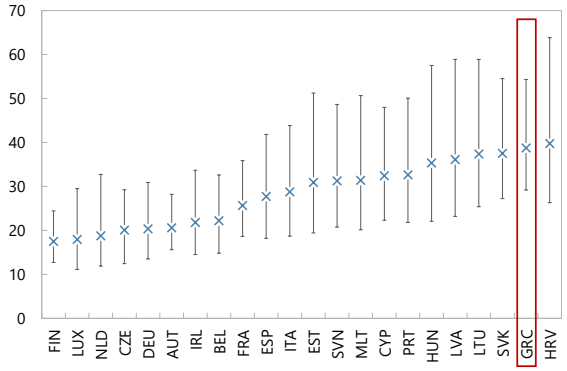
(Percent, error bars denote 25th and 75th percentiles)



Households spend a larger share of income on essential goods (food and utilities).

Spending on Food and Utilities, Median

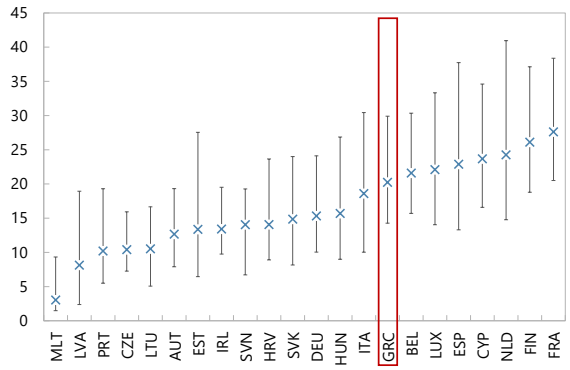
(Percent of household income, error bars denote 25th and 75th percentiles)



The rental costs are also elevated relative to household income.

Spending on Rent, Median

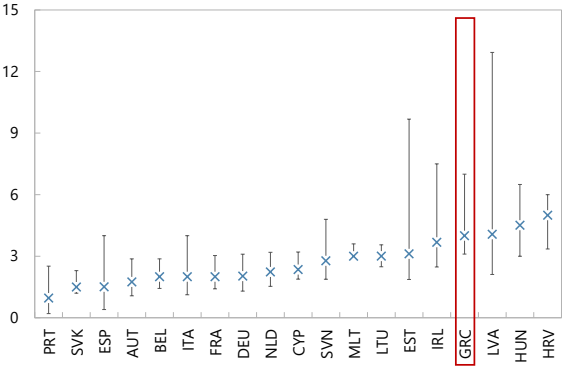
(Percent of household income, error bars denote 25th and 75th percentiles)



The effective interest rate of the household debt portfolio is also on the high side.

Household Effective Interest Rate, Median

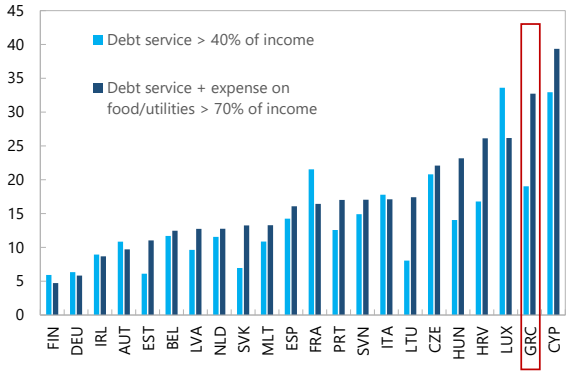
(Percent, error bars denote 25th and 75th percentiles)



Still a significant share of debt is held by at-risk households.

Debt Held by At-Risk Households

(Percent of total household sector liabilities)

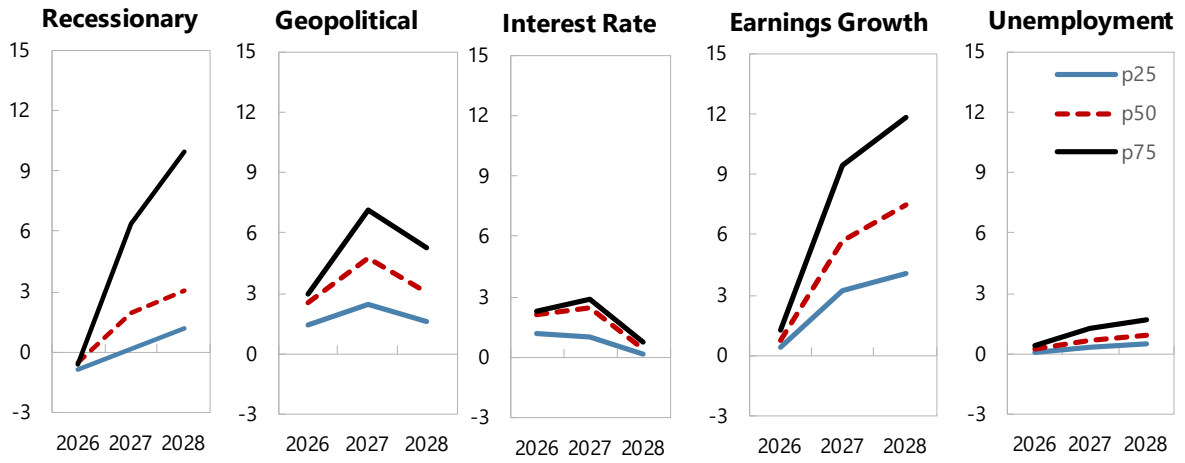


Sources: The European Central Bank, Household Finance and Consumption Survey (HFCS); and IMF staff calculation.
Note: The cross-country comparative statistics are calculated using the latest wave (2021) of HFCS data.

Figure 14. Greece: Household Vulnerability Analysis

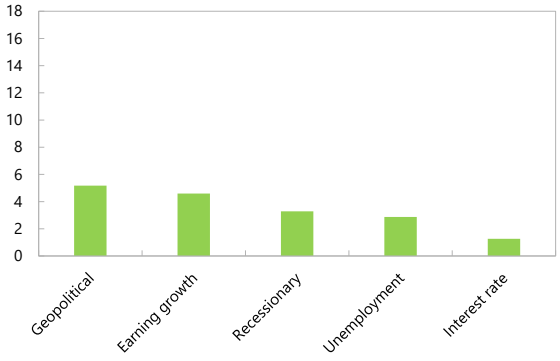
Simulated Debt Service to Income

(Percentage point, difference relative to baseline)



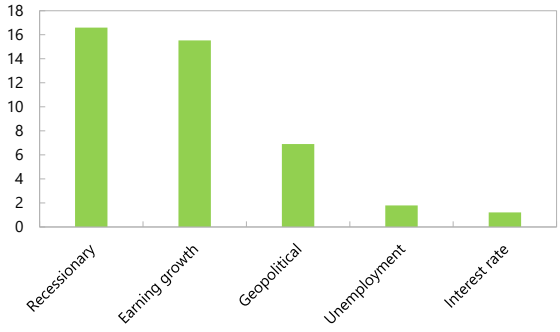
Outstanding Debt Held by Households with DSTI > 0.4

(Percent of total household debt, deviation from the baseline)



Outstanding Debt Held by Households with Augmented DSTI > 0.7

(Percent of total household debt, deviation from the baseline)



Sources: The European Central Bank, Household Finance and Consumption Survey (HFCS); Greek authorities; Haver Analytics; OECD; and IMF staff calculation.

Note: Additional sensitivity analyses are constructed by replacing, respectively, the unemployment rate path (or the real GDP path) under the baseline by the one in the recessionary scenario, or the interest rate path by the one in the geopolitical scenario.

BANK SOLVENCY STRESS TEST

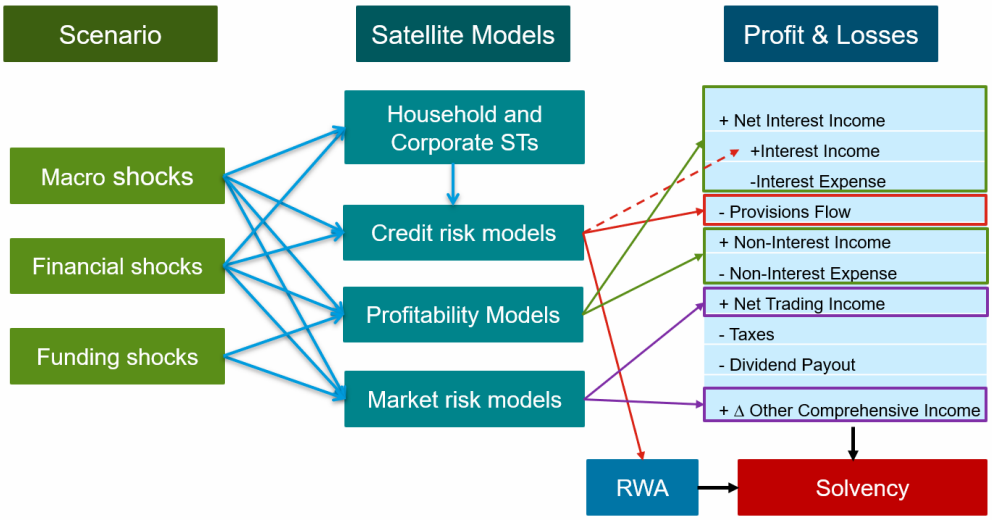
33. The FSAP assessed the resilience of the banking system under the macroeconomic scenarios through a top-down solvency stress test. The exercise covered the four significant institutions (SIs), which together account for over 95 percent of total banking system assets. The cutoff date for the exercise was June 2025, and it was conducted over a three-year horizon. The stress test relied on bank-level supervisory data, including FINREP and COREP templates, as well as the ECB Short-Term Exercise (STE) templates.

34. The solvency stress test follows the standard FSAP stress test approach (Appendix IV STeM). It assesses whether banks have adequate capital buffers to withstand a set of

macroeconomic shocks projected under the three macroeconomic scenarios. The diagram below displays selected components of the solvency stress testing framework (Figure 15). The link between the macroeconomic scenario and the financial statements of an institution is made through various satellite models for credit risk, market risk and profit and loss (P&L) components. The exercise is conducted under the assumption of a static balance sheet, whereby both assets and liabilities are maintained at their cut-off date levels throughout the stress-testing horizon. Under this assumption, no write-offs occur, and new originations are equal to maturing loans.

35. Banks' resilience is assessed against two hurdle rates. In line with the regulatory framework, banks' performance is assessed using the Common Equity Tier 1 (CET1) capital ratio. The first hurdle rate comprises the Pillar 1 minimum requirement (4.5 percent CET1) plus the Pillar 2 Requirement (P2R). The second hurdle rate adds the Capital Conservation Buffer (CCoB), the Countercyclical Capital Buffer (CCyB), and the Other Systemically Important Institutions (O-SII) buffer.

Figure 15. Greece. Solvency Stress Test: A Block Diagram



Source: IMF staff.

A. Credit Risk Modeling and RWAs

36. Provisions are calculated as expected credit losses (ECL) for all asset classes with exposure at default. The key risk parameters used include probability of default (PD), Loss Given Default (LGD), Exposure at Default (EaD) and RWA broken down by exposure class for a total of 4 portfolios: households mortgages and consumer loans, NFC, financial institutions (FI) and government (gov). Banks apply the Standardized Approach to all exposures, and the stress test framework treats all portfolios consistently under the same approach, with initial risk parameters sourced from COREP C09.01.

37. Projections of credit risk parameters for corporate and mortgage exposures were obtained by leveraging microdata models. Corporate PDs projected as part of the corporate

analysis presented in the previous section were used as inputs into the credit risk estimation. The model for mortgage' PDs is based on the France FSAP semi-structural approach (Box 1). The approach relies on the 2021 ECB Household Finance and Consumption Survey. Projected PDs suggest an increase from 3½ percent to almost 6 percent under the recessionary scenario, or to 4.8 percent under the geopolitical scenario.

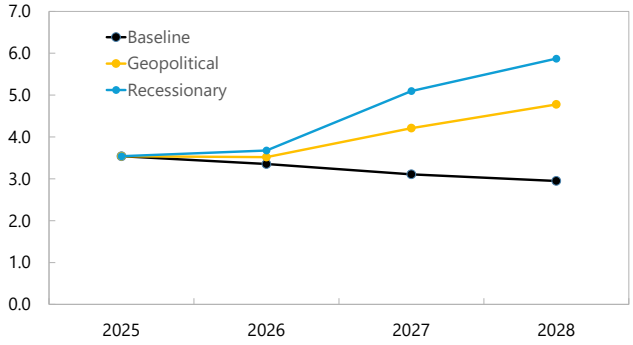
Box 1. Greece: Household Probability of Default

The household PD is determined by micro-macro simulations similar to recent FSAPs (e.g., France 2025). The simulations are conducted using household-level income, expenditure, and finance data in the 2021 wave of the ECB's Household Finance and Consumption Survey (HFCS). As in Gross and others (2022),[1] the micro founded structural model simulates the instance of household default conditional on household members' losing jobs and assumes that a household would default after depleting all financial assets to service outstanding debt and cover basic expenditure. The simulated conditional probability of default following unemployment is then combined with the aggregate unemployment rate paths under different scenarios to extrapolate an aggregate PD for the mortgage portfolio. The aggregate PDs are anchored to the historical PDs on mortgage loans up to 2025Q2 provided by the Bank of Greece.

Consistent with the household vulnerability analysis that finds households more vulnerable to income shocks, the simulated PD would increase more under the recessionary scenario given the more severe shock to household income and stay high given the elevated unemployment rate.

Simulated Household Probability of Default

(Percent)



Sources: European Central Bank, Household Financial and Consumption Survey; World Economic Outlook; and IMF staff calculation.

[1] Gross, M., Tressel, T., Ding, X. & Tereanu, E. (2022). What drives mortgage default risk in Europe and the US? IMF Working Paper No. WP/22/65, April 2022.

38. For consumer loans, satellite models were estimated using historical time series provided by the Bank of Greece. The logistic transformation of PD is specified as the dependent variable, while a broad set of macroeconomic explanatory variables and alternative lag structures were considered. The final model specification was selected based on overall goodness of fit, as well as the statistical and economic significance of the individual explanatory variables. The estimation period covers 2014:Q1 to 2025:Q1, and a COVID-19 dummy variable is included to control for the impact of policy measures introduced during the pandemic. Unemployment emerges as the primary driver of PD dynamics. The model specification and estimation results are presented in Figure 16. Projected PDs suggest an increase in consumer PDs to 9.6 percent under the recessionary scenario and to 7.3 percent under the geopolitical scenario. Regression results—and therefore PD projections—should be interpreted with caution, as the estimations rely on relatively short time

series. Longer historical samples were not available to the team and, given the presence of multiple structural breaks reflecting major regime shifts, their use could have undermined parameter stability and the reliability of the estimated relationships.

Figure 16. Greece: Model and Projected Paths for Consumer Loans

The main driver of consumer PDs is unemployment….

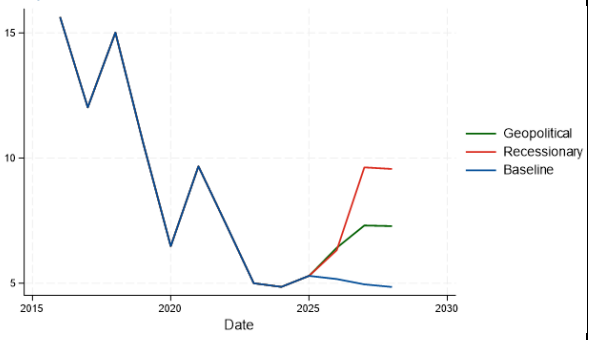
Model for Consumer PDs

VARIABLES	Logit PD. Consumer loans
Unemployment	0.0887***
	(0.00721)
Equity Price Growth	-0.00213*
	(0.00116)
Oil Price Growth	0.00208**
	(0.000839)
Covid dummy	-0.323***
	(0.0840)
Constant	-3.657***
	(0.118)
Observations	35
R-squared	0.876

Source: IMF staff calculations.
Note: *** (**) (*) denotes 1 (5) (10) percent significance level.

…Consumer PDs peak at 9.6 (7.3) percent under the recessionary (geopolitical) scenario…

Consumer PD
(In percent)



Source: Bank of Greece and IMF staff calculations.

39. Aggregate PD paths are mapped to bank-specific PDs based on their levels at the cutoff point. The mapping is done at the bank-asset class level. The mapping is performed at the bank–asset class level using standard scores (z-scores) from the standard normal distribution for both aggregate PDs and banks' segment-level starting PDs.[13] This methodology ensures that projected PDs for individual banks remain bound within the [0, 1] interval. Segment-level starting PDs are derived from initial transition matrices constructed using FINREP data, specifically F 04.04.1 for balance sheet stocks and F 12.02 for flows between stages.

40. LGD paths for mortgage loans were linked to house price paths. LGDs are derived by a simple model that links the starting point LGD (LGD_0) to the country-level house price path of a given scenario ($House\ Price_t$). The model is given by the following expression:

$$LGD_t = [1 - (1 - LGD_0) * House\ Price_t / House\ Price_0].$$

LGD for unsecured lending is calibrated using the Frye and Jacobs (2012) method[14].

[13] For instance, the mortgage PD paths for each bank are given by the formula $PD_{i,t} = \Phi\left(\Phi^{-1}(PD_{i,0}) + \left(\Phi^{-1}(PD_{Mortgage,t}) - \Phi^{-1}(PD_{Mortgage,0})\right)\right)$, where Φ(.) is the cumulated distribution function (CDF) of a the Normal Distribution and Φ^(-1) (.) is the inverse CDF.

[14] See "Credit Loss and Systematic Loss Given Default," by J. Frye and M. Jacobs (The Journal of Credit Risk, Spring 2012).

41. The FSAP stress testing framework accounts for IFRS9 loan loss provisions principles. The expected credit loss is calculated based on a 12-month horizon for stage 1 assets and on a lifetime horizon for stage 2 and stage 3 assets. Loan loss provisions are projected using banks stressed stage transition probability matrices for each asset segment. The evolution of transition matrices over the scenario horizon is linked to the projected PiT PD for each scenario based on the beta-linking approach[15]. Perfect scenario foresight is assumed to simplify provisioning projections.

42. Credit risk charges in RWAs are estimated using the density of credit RWA at the cut-off date. For each portfolio,

$$RWA(STA)_t = \rho_0 * (EAD_t - PROV_t)$$

where $\rho_0 = RWA(STA)_0/(EAD_0 - PROV_0)$.

RWA densities are calculated separately for performing and non-performing exposures. The calculation is carried out on a bank-by-bank basis to reflect differences in individual RWA profiles and exposure compositions.

B. Interest Rate Risk

43. The NII was projected using a structural model. The model simulates the repricing/origination of exposures at the prevailing interest rate of newly issued exposures and liabilities (i.e., new business), and the time they stay in the portfolio until their next repricing/maturity. It is assumed that the distribution of assets/liabilities across repricing buckets remains constant throughout the stress test horizon. Nonperforming exposures (NPEs) were assumed to generate no interest income. Although banks may be able to collect some interest income from NPEs, their income was set to zero in the stress test, both to be more conservative and due to data challenges for calibrating collection rates for NPEs. The equations underlying the model are summarized in Appendix V. The inputs for banks' specific projections include: (i) initial exposures generating interest income and expenses; (ii) The repricing ladder for each segment, sourced from Template J 05.00 in the supervisory IRRBB module; (iii) the initial effective interest rates; and (iv) the projection of interest rates on new business.

44. Interest rates on new business were projected using simple pass-through regressions. Satellite models for wholesale and retail loans and deposits were estimated using aggregate banking system time-series data on new lending and deposit rates provided by the BoG. The estimated lending and deposit betas are reported in Table 3. For securities and other interest-earning assets, a 100 percent pass-through rate was assumed. The estimated interest rate pass-through is about 0.65 for wholesale loans and 0.29 for retail loans. On the liability side, the pass-through is about 0.39 for wholesale deposits and 0.30 for retail deposits. Given the composition of Greek banks' balance sheets—characterized by a concentration in corporate lending and a greater

[15] See Gross, M., Laliotis, D., Leika, M., and P. Lukyantsau, 2020, "Expected Credit Loss Modeling from a Top-Down Stress Testing Perspective", IMF Working Paper No. 2020/111.

reliance on retail deposits—these estimates suggest that banks' net interest income is likely to benefit from higher interest rates. The projected interest rate paths are shown in Figure 17. A floor equal to the minimum historically observed level was imposed on deposit rates.

Table 5. Greece: Satellite Models Interest Rates on Newly Issued Assets/Liabilities

	Delta Interest Rates			
	Loans		Deposits	
VARIABLES	Wholesale New Loans	Retail New Loans	Wholesale New Deposits	Retail New Deposits
Delta Euribor	0.518***	0.0617	0.127***	0.0301
	(0.0929)	(0.0590)	(0.0440)	(0.0404)
L. Delta Euribor	0.130	0.231***	0.263***	0.313***
	(0.0934)	(0.0593)	(0.0444)	(0.0407)
Delta Long Term Bond Yields			0.0362**	0.0529***
			(0.0158)	(0.0145)
Concentration - HH Total Assets			-0.422	-0.572**
			(0.307)	(0.282)
Constant	-0.0144	-0.0138	0.0628	0.0866*
	(0.0334)	(0.0212)	(0.0562)	(0.0516)
Observations	91	91	91	91
R-squared	0.388	0.240	0.518	0.567

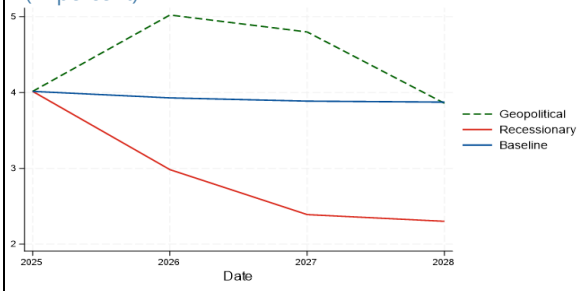
Source: IMF staff calculations.
Note: *** (**) (*) denotes 1 (5) (10) percent significance level.

Figure 17. Greece: Projected Paths of Interest Rates on New Business

Wholesale loan rates fall to 2.3 percent in the recessionary scenario and increase to 5.0 percent in the geopolitical scenario….

Interest Rates. Wholesale – New Loans

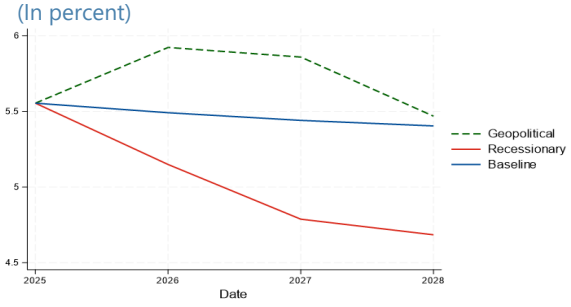
(In percent)



…while for retail loans fall to 4.7 in the recessionary scenario and increase to 5.9 percent in the geopolitical scenario….

Interest Rates. Retail – New Loans

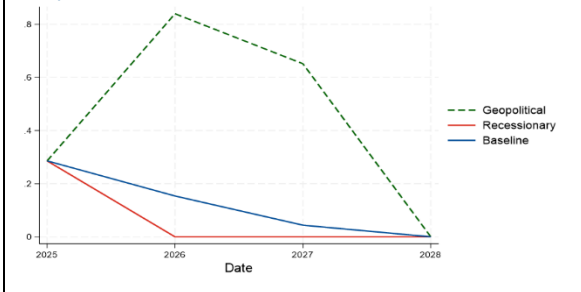
(In percent)



Wholesale deposit rates increase to more than 0.8 percent under the geopolitical scenario…

Interest Rates. Wholesale – New Deposits

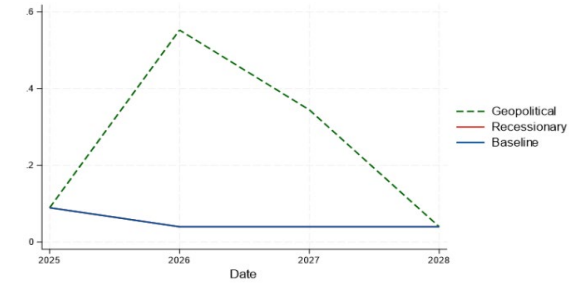
(In percent)



….while retail deposits increase to 5.6 percent under the geopolitical scenario.

Interest Rates. Retail – New Deposits

(In percent)



Source: Bank of Greece and IMF staff calculations.

C. Modeling Net Fees and Commissions Income

45. A satellite models for fees and commission income was also estimated (Table 4). Key explanatory variables include real GDP growth, the unemployment rate, and long-term government bond yields. Under the baseline scenario, fees and commission income remain broadly unchanged, while they decline by 31 percent and 18 percent under the recessionary and geopolitical scenarios, respectively (Figure 18). The aggregated paths are mapped at the bank level based on their fees and commission income ratios at the cut-off point.

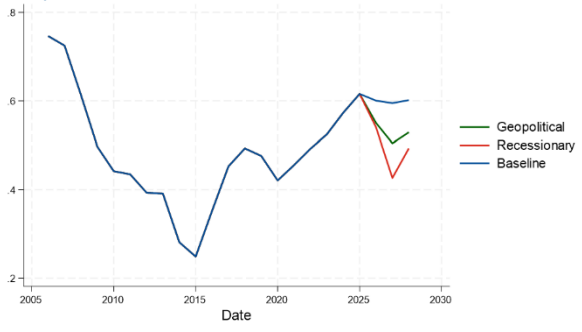
Table 6. Greece: Satellite Model Fees and Commissions Income

VARIABLES	Fee and Commission Income Ratio
L.Real GDP Growth	0.00806***
	(0.00157)
L.Unemployment	-0.0157***
	(0.00108)
FX Growth	-0.00393***
	(0.000671)
L.Long Term Bond Yields	0.00755***
	(0.00147)
Concentration - HH Total Assets	0.297***
	(0.0502)
Constant	0.623***
	(0.0167)
Observations	75
R-squared	0.842

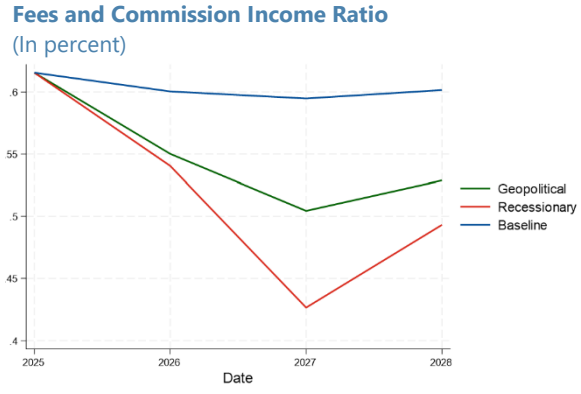
Source: IMF staff calculations.
Note: *** (**) (*) denotes 1 (5) (10) percent significance level.

Figure 18. Greece: Projected Paths Fees and Commissions Income Ratio

Fees and commissions income ratio drop from 0.62 to 0.48 under the under the recessionary scenario….



… and to 51 under the geopolitical scenario.



Source: Bank of Greece and IMF staff calculations.

D. Market Risk Approach

46. Consistent with the EA FSAP, market risk was assessed using a partial revaluation approach under two market stress scenarios. Instruments measured at fair value (i.e., classified as

FVOCI and FVPL) were revalued using bank-specific sensitivities to risk factors, as reported by banks in the ECB's Short-Term Exercise (STE) conducted in the context of the SREP on September 2023[16]. The sensitivities reported in the STE template cover both the trading and banking books and include first-order sensitivity to the risk factor (delta), sensitivity to curvature risk (gamma), and sensitivity to changes in the volatility of the risk factor (vega). The analysis covers the following risk factors: commodity (CM), credit spread (CR), equity (EQ), interest rate (IR), and foreign exchange (FX) risk. The corresponding shocks for each risk factor are presented in Table 2. No market shocks were applied under the baseline scenario.

47. The impact of market risk on bank capital was incorporated into the broader solvency stress test as a one-off overlay in the first year. The estimated model valuation losses are not reversed in subsequent years. This approach is designed to capture the impact of short-term market distress episodes that can occur at any time during the stress testing horizon.

48. The formula used to calculate the revaluation of fair value instruments is given by:[17]

$$\Delta V = \sum_{j\epsilon\{CM,CR,EQ,IR,FX\}} \left(Delta_j^{BB} + Delta_j^{TB}\right) \cdot \Delta\varepsilon_j + 0.5 \cdot Gamma_j * \left(\Delta\varepsilon_j\right)^2 + Vega_j \cdot \Delta\sigma_j$$

where j denotes de risk factors, $Delta_j^{BB}$, $Delta_j^{TB}$ are the delta sensitivities for the banking book and the trading book respectively, and $\Delta\varepsilon_j$ and $\Delta\sigma_j$ are the market stress scenario shocks to the risk factor j and its volatility respectively. The advantage of this methodology is that it provides a more accurate representation of market risk by capturing non-linear effects and the impact of hedging positions. As the STE template used for the analysis dates from September 2023, the estimated revaluation was rescaled to June 2025 using market risk RWAs, under the assumption that sensitivities—and therefore hedge effectiveness—remained unchanged.

49. A floor was applied to the market risk losses. Depending on the direction of banks' exposures to the various risk factors, they may experience both gains or losses in the market shock scenarios. In order to take a conservative approach, particularly for banks that gain under the stress scenarios, a minimum was applied to total market risk losses. This floor was given by the maximum between:

- The bank's own fund requirements based on the Fundamental Review of the Trading Book (FRTB) as reported in COREP (C 91.00).

[16] The STE template used for the analysis was discontinued by ECB after 2023Q3.

[17] This approach aggregates the three risk measures—delta, vega, and curvature—without recognizing diversification benefits between risk factors, by contrast to the FRTB approach which applies risk-weighted sensitivities using specified correlation parameters under three different scenarios.

- 8 percent of the bank's RWAs for market risk which are typically computed using a value at risk (VaR) approach to measure tail losses (in line with the approach used by the FSAP to generate the market risk scenario).

50. For banks where the ECB STE template appears to include instruments classified as amortized cost (AC) in the banking book deltas, an adjustment was applied to the deltas as follows:

$$\widetilde{Delta}_j^{BB} = (1 - AC\ Debt\ Securities/(AC\ Debt\ Securities + FVOCI\ Debt\ Securites)) * Delta_j^{BB}$$

E. DTC Amortization

51. Deferred tax credits (DTCs) heighten the sovereign–bank nexus by introducing a state-backed component into bank capital. Under the Greek legal framework, in case of accounting losses, a direct claim from the State in respect to the DTC is recognized, potentially settled via equity issuance. This mechanism implies a contingent sovereign capital injection, which can dilute private shareholders and increase public sector involvement in the banking system. As of June 2025, the conversion of all outstanding deferred tax credits across the four systemic banks—should it occur—would result in a government ownership share of roughly 31 percent of the sector.[18].

52. The solvency stress test explicitly models the evolution of DTCs, accounting for both legal and voluntary amortization. The legal linear amortization of DTCs reflects the mandatory, time-bound reduction of DTCs as prescribed by Greek law. Each year, a fixed portion of the outstanding DTC stock must be either utilized against taxable profits or written down in accordance with the statutory schedule. Voluntary amortization reflects banks' discretionary use of taxable profits to accelerate the reduction of deferred tax credits (DTCs) beyond the statutory schedule. Under current plans, banks intend to supplement the linear legal amortization with a non-linear amortization equivalent to 29 percent of dividend distributions. Based on current projections and assuming a profit level of approximately €1 billion per bank, this approach would allow banks to advance the prudential derecognition of DTCs by roughly eight years, bringing the effective completion date forward from 2041 to 2033. Within the stress test framework, voluntary amortization is modeled based on scenario-specific projected profits and associated dividend distributions.

F. Results

53. The results from solvency stress tests suggest the four SIs experience only limited capital depletion under the adverse scenarios (see Figures 19 and 20). Under the Baseline scenario, aggregate Common Equity Tier 1 (CET1) capital ratio is projected to increase to 16.7 percent by 2028, up from 16.1 percent in 2025. In the recessionary scenario, the CET1 ratio declines by 1.4 percentage points at the trough. The decline is driven by a rise in loan losses and a reduction

[18] Share issuance is calculated based on the average market price during the 30 trading days up to the end of June 2025.

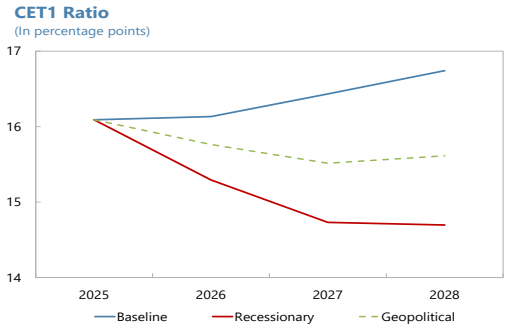
in non-interest income, notably fees and commissions, as well as market losses. Under the geopolitical scenario, CET1 ratio declines by 0.7 percentage points, primarily driven by higher loan losses, alongside reduced non-interest income and market losses. In this scenario, NII benefits from rising interest rates and a robust deposit base, which mitigate the pass-through to deposit rates. Individually, all SIs would remain well above regulatory capital buffer requirements under all scenarios. The HAPS securities are assumed to remain unimpaired in both scenarios.

54. Sensitivity analyses were undertaken to consider the potential impact of the ongoing war in the Middle East. Under a scenario of a prolonged and severe elevation of oil prices and geopolitical uncertainty, the main impact on the Greek financial system is likely to be via higher bank losses in loans to the tourism and manufacturing sectors, due to elevated travel and energy costs. These sectors represent 6.3 and 8.9 percent of Greek bank loans, respectively. While banks also have significant exposure to shipping (8.2 percent of loans), the globally diversified nature of the shipping business, in combination with the idiosyncratic nature of individual shipping loans, makes this an unlikely area for large losses stemming from the war. Even if the tourism and manufacturing industries were both to suffer losses 3 times as large as those modeled in the (more severe) recessionary scenario, this would result in an additional loss of less than 1 percentage point of bank capital, with banks remaining well above their capital requirements. Even if losses were to spread beyond these sectors due to spillovers, and the shipping industry was affected by a loss in aggregate global demand, banks retain a large margin of safety. An energy shock would also stress vulnerable households; however, this could be partially offset by well-targeted fiscal support, and household loans comprise a relatively small portion of bank balance sheets in comparison to other eurozone countries. Finally, higher inflation stemming from a prolonged war would have an uncertain impact on bank profits, as higher loan-to-deposit spreads might be offset by rising credit losses and more costly wholesale financing.

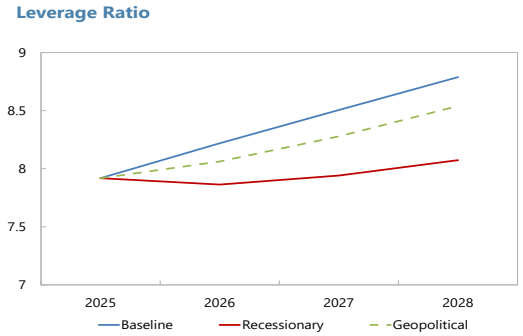
55. Only a small fraction of DTCs would be converted under the recessionary scenario. While aggregate net profits decline substantially—from €4.7 billion to €0.7 billion under the recessionary scenario and to €2.2 billion under the geopolitical scenario in the first year of the scenario horizon—only one bank records negative profits under the recessionary scenario. Consequently, the conversion of DTCs would be limited, resulting in only a marginal increase in government equity ownership of SIs from 2.5 percent to 3.1 percent.

Figure 19. Greece: Scenario-Based Solvency Stress Test I

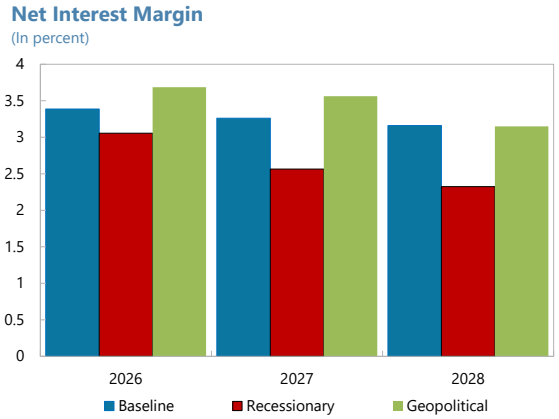
Aggregate capital ratios remain above the minimum capital requirements in adverse scenarios….



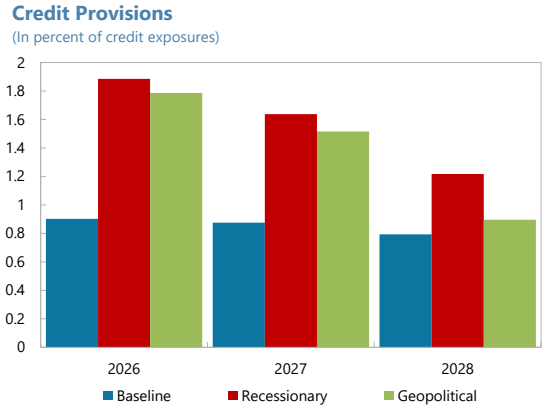
And leverage ratios strengthen in all scenarios, particularly under the baseline and the geopolitical…



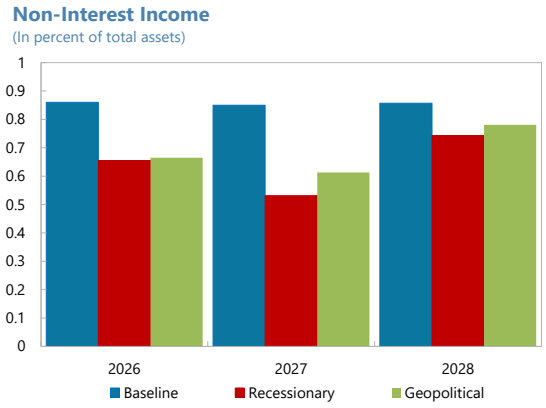
Net interest margin declines in the recessionary scenario due to lower interest rates, while it rises in the geopolitical scenario as interest rates increase…



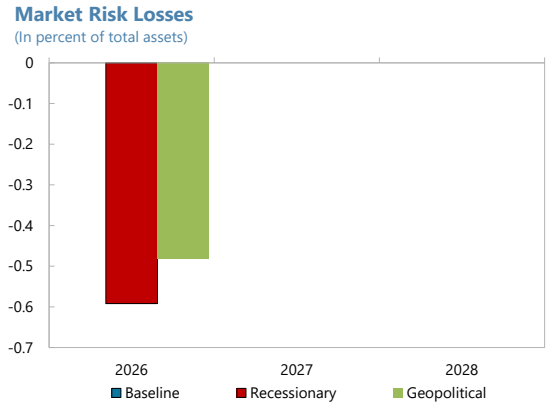
Provisions more than double in the first year of the recessionary scenario…



Non-interest income declines in both adverse scenarios, with a more pronounced reduction in the recessionary one…



Market losses are more pronounced in the recessionary scenario than in the geopolitical one due to a higher sovereign stress shock…



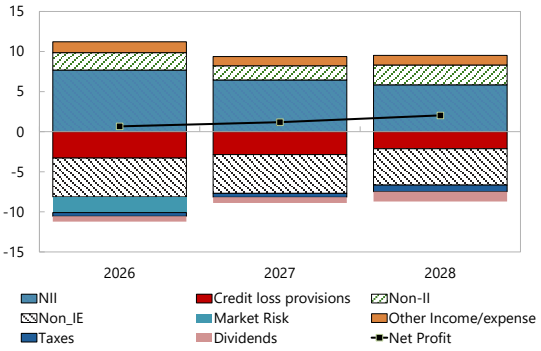
Source: ECB and IMF staff calculations.

Figure 20. Greece: Scenario-Based Solvency Stress Test II

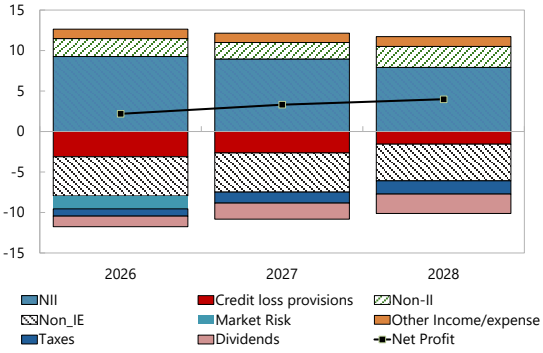
Net profits decline from €4.7 billion at the starting point to €0.7 billion in the first year of the scenario horizon, primarily due to an increase in loan and market losses…

… while under the geopolitical scenario, profit decreases to €2.2 billion in the first scenario year, as higher interest income, lower credit and lower market losses soften the overall impact.

Recessionary. Net Profit Components
(EUR billions)

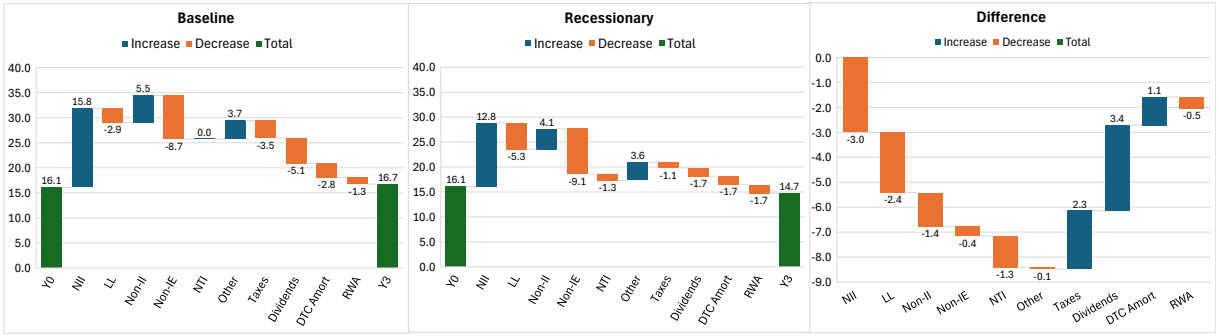


Geopolitical. Net Profit Components
(EUR billions)



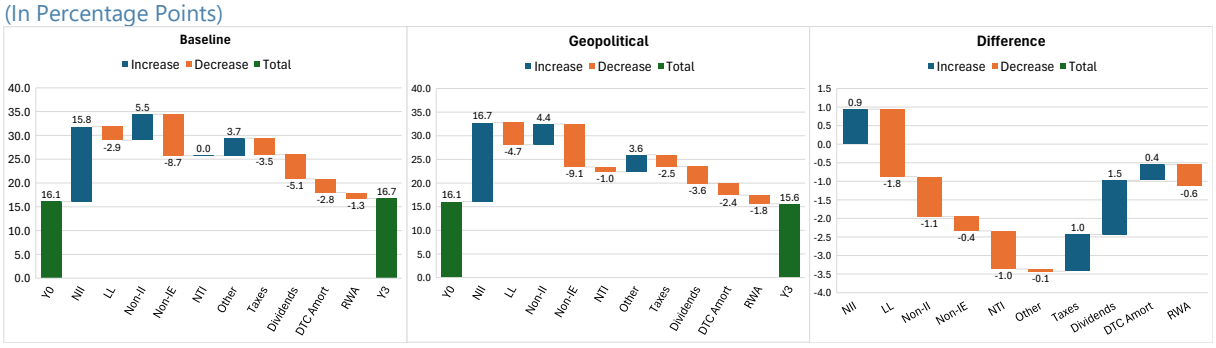
Over the three-year horizon, the four SIs experience lower net interest income, higher loan losses, reduced non-interest income, and greater market-risk losses under the recessionary scenario compared with the baseline. They also pay less in taxes and dividends and record a lower DTC amortization…

Change in CET1 Ratio: Recessionary versus Baseline
(In Percentage Points)



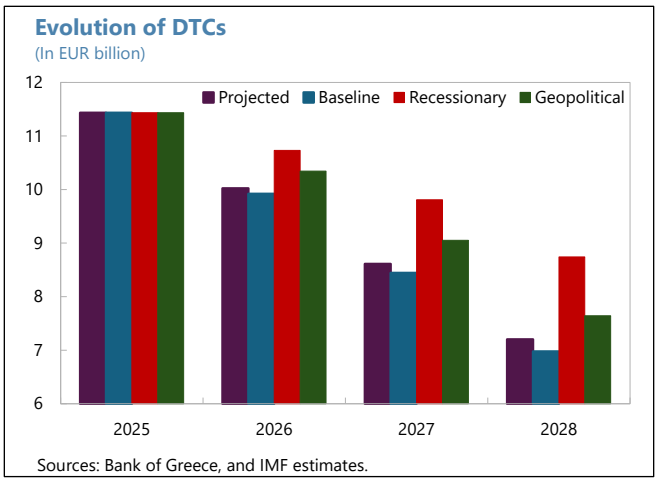
These differences are somewhat less pronounced when comparing the geopolitical scenario with the baseline, under which banks do not experience a decline in net interest income—supported by rising rates—and face lower credit and market losses.

Change in CET1 Ratio: Geopolitical versus Baseline
(In Percentage Points)



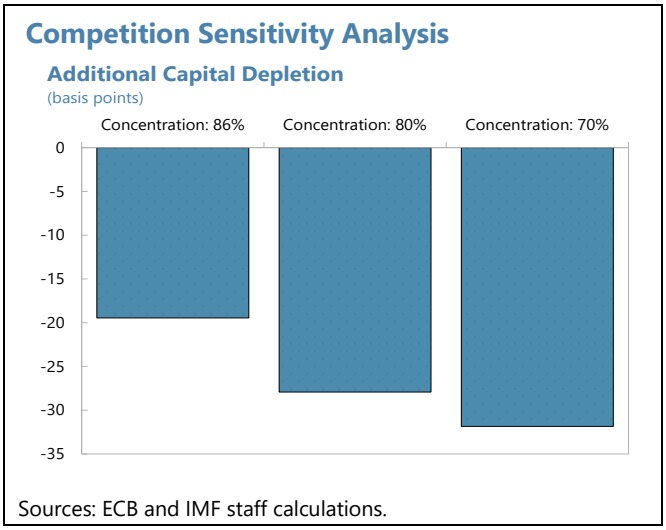
Source: ECB and IMF staff calculations.

56. The amortization of DTCs under the recessionary scenario is significantly lower than in current bank projections. When both legal and voluntary amortization are taken into account, projected DTC levels under the baseline scenario are slightly below current projections, as each bank generates profits exceeding €1 billion, which allows for a higher level of DTC amortization. Under the recessionary scenario, however, total DTCs for the four SIs would be €1.5 billion higher by 2028 than currently projected by banks, while under the geopolitical scenario they would be €0.4 billion higher. All calculations assume a dividend payout ratio of 60 percent. These results underscore the importance of accelerating DTC amortization during periods of stronger profitability. In this regard, consideration could be given to bringing forward the timing of legal amortization by at least the eight years currently foreseen, when voluntary amortization is taken into account.



Sources: Bank of Greece, and IMF estimates.

57. Given the high concentration of the Greek banking system, the FSAP team assessed the sensitivity of banks' capital positions to a potential increase in competition driven by digitalization. Increased digitalization of financial services—accelerated by the pandemic and supported by EU-wide initiatives such as open banking and instant payments—is likely to lower entry barriers and intensify competition from fintech firms, neobanks, and cross-border providers. In Greece, these developments could place downward pressure on fees and commission income and increase interest expenses through greater deposit rate sensitivity. The FSAP team conducted a sensitivity analysis to evaluate the resilience of banks' capital positions to a competition-driven erosion of income. Using the satellite models presented in Tables 5 and 6, the exercise quantified the impact of reduced fees and commissions income and higher funding costs on CET1 ratios, thereby complementing macroeconomic stress tests by capturing structural risks to bank business models that may materialize over the medium term. The results indicate a modest decline in CET1, ranging from 19 to 32 basis points, depending on the assumed reduction in market concentration, which is taking to fall from 96



Sources: ECB and IMF staff calculations.

percent to 86 percent, 80 percent, or 76 percent. Results should be interpreted with caution, reflecting model uncertainty and the lack of historical precedents for a rapid structural transformation of this nature.

Large Exposures

58. Sensitivity analyses show that the banking system faces significant concentration risks from its exposure to domestic corporates. Systemic banks' large exposures—defined as claims over 10 percent of Tier 1 capital per corporate entity or group, but not exceeding the 25 percent regulatory threshold—amount to double their capital, potentially posing major solvency concerns, despite provisioning and other credit risk mitigation measures (at 122.3 percent Tier 1 capital, once all CRM measures are accounted for; see figure 21 panel 1).[19] In terms of banks' total assets, these large exposures represent 10 percent and 7 percent, respectively, in gross and net terms—once CRM measures are applied. An analysis of the sectoral composition of banks' counterparties reveals that the bulk of these exposures are to the domestic utility, manufacturing, and financial sectors, with two-thirds of the risk from losses being concentrated in these sectors (80 percent Tier 1 capital after adjustments for provisions and other CRM). Solvency risks from large exposures to corporates are not concentrated in a single industry but rather spread across sectors of the Greek economy (see Figure 21).

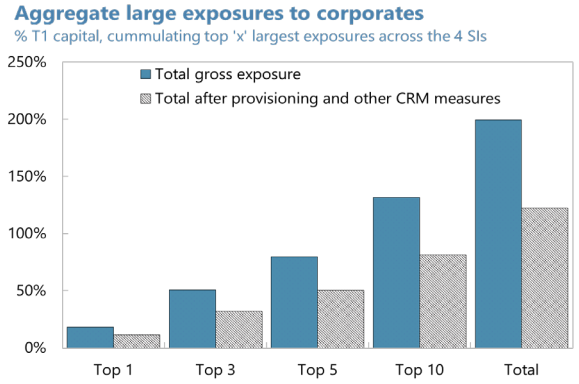
59. Very substantial *common* large exposures to non-financial corporations across the 4 SIs highlights the correlated nature of their risks and represent an additional source of concern. With large corporations dominating the Greek economy, Greek SIs hold almost the entirety of the common top 10 non-financial corporations' outstanding bank credit, including term loans, lines of credit, and other instruments. The top 10 large exposures *common across the 4 SIs* amount to 121.6 percent and 81 percent of T1 capital before and after CRM measures, respectively, and represent the bulk of total large corporate exposures mentioned earlier in this note.[20] In addition, the cross-section of banks' exposures to these NFCs displays virtually no heterogeneity across banks. Hence, in terms of exposures to corporates, Greek banks appear to be exposed to highly correlated solvency risks; one or more of these largest corporate borrowers falling into distress could have major implications for the Greek financial system.

[19] Credit risk mitigation (CRM) measures refer to strategies adopted by lenders to minimize potential losses from a borrower's default and can comprise, inter alia, techniques such as provisioning, collateralization, and resorting to guarantees or credit derivatives.

[20] Total large exposures represent a gross 200 percent T1 capital exposure, while top 10 common large exposures alone are 121.6 percent T1 capital in gross terms. Risks from defaulting counterparts are, however, widely distributed across several sectors of the Greek economy and do not exhibit concentration in a single name or industry.

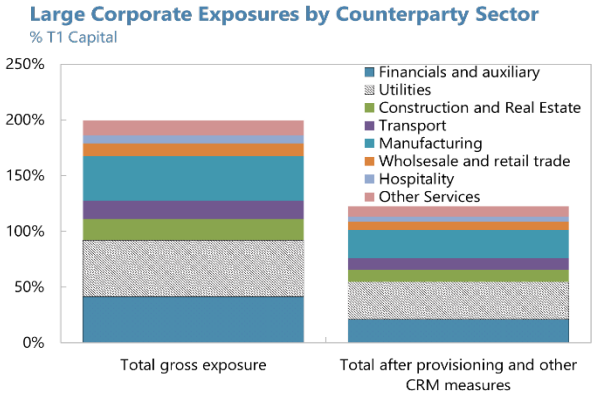
Figure 21. Greece: Large Exposures to the Corporate Sector

Total large exposures of banks to corporates is high and…



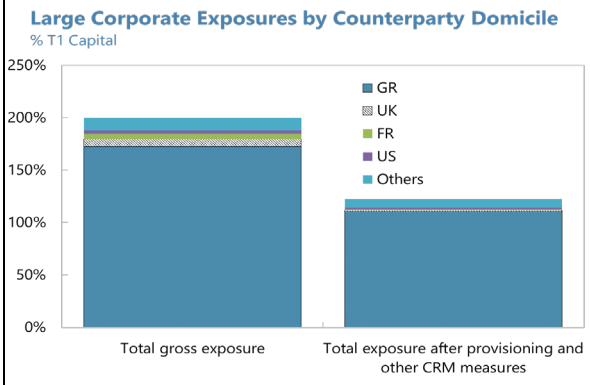
Sources: COREP

…mostly consists of claims on financials, utilities, transport, real estate, and manufacturing corporations…



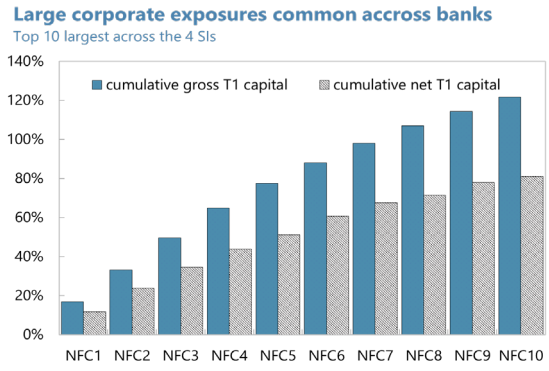
Sources: COREP

…but limited to Greek entities…



Sources: COREP

… while large exposures common across the 4 SIs remain a significant source of vulnerability in the banking sector



Sources: COREP, Bank of Greece

Notes: Based on data availability, panels 1-3 report exposures that include financial corporates, while panel 4 only focuses on non-financial corporations (NFCs)

BANK LIQUIDITY STRESS TEST

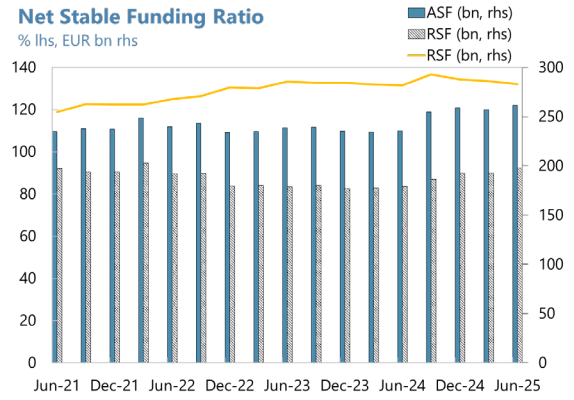
A. Overview and Methodology

60. Liquidity stress testing builds on the net stable funding ratio (NSFR) and the liquidity coverage ratio (LCR) tests and includes additional scenarios beyond Basel regulatory ones for the LCR. The LCR and NSFR tests evaluate banks' ability to withstand stress at the 30-day horizon and fund assets at one-year. The team first conducted these tests under standard regulatory Basel scenario calibrations, then expanding the LCR to account for more severe market and funding shocks which were tailored to the specificities of the banking sector in Greece. All tests focused on the largest 4 SIs using COREP balance sheet data. Reported results are aggregated across the 4 banks. Since only one bank reports data in significant currencies other than the Euro, for confidentiality reasons the analysis was confined to total currency data.

61. Greek banks have historically maintained strong liquidity positions based on these standard regulatory metrics. The NSFR has improved steadily over the past four years and stands at around 130 percent. All SIs are above the 100 percent regulatory minimum, indicating a strengthening capacity to support the long-term funding of illiquid assets (panel 1, figure 22). Over the same period, shorter horizon liquidity has been similarly improving across the four SIs, with the LCR ratio stabilizing around 200 percent, amid a sustained build-up of HQLA buffers—suggesting all banks could withstand funding and market shocks for two months, on average, under the baseline regulatory scenario (Figure 22, panel 2).

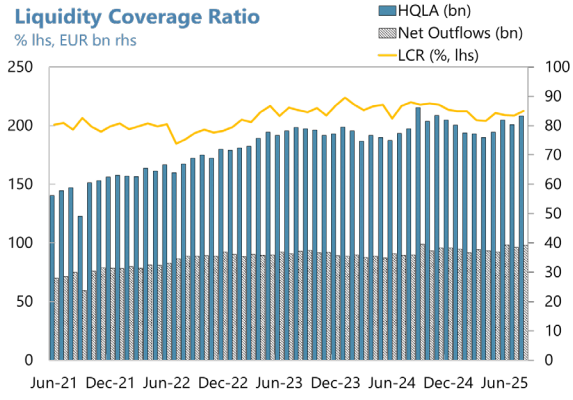
Figure 22. Greece: Historical Liquidity Indicators

NSFRs have steadily improved...



Sources: COREP, IMF calculations.

... with LCRs stabilizing at elevated levels



Sources: COREP, IMF calculations

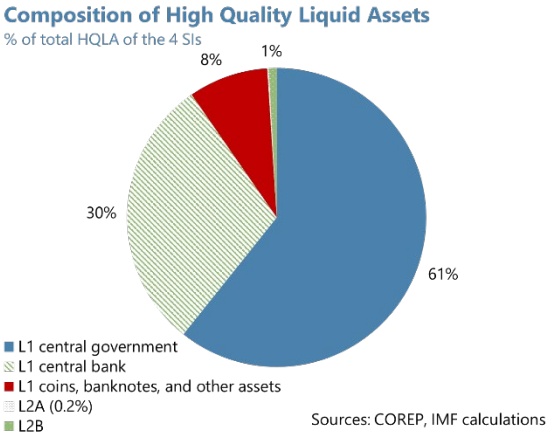
62. In addition, to further assess banks' liquidity positions across multiple horizons, the FSAP team conducted a cash flow analysis using maturity-ladder balance sheet data. The cash flow analysis applied the same scenarios as the LCR-based test to identify potential liquidity shortfalls occurring at horizons below the 30-day mark (LCR) and between 30-day and one-year (NSFR), using banks' COREP C66 maturity-ladder liquidity submissions. The analysis captures banks' ability to convert maturing assets into cash in each maturity bucket. Banks are allowed to counterbalance funding gaps—defined as outflows net of inflows—using their existing cash balances and the cash value of their securities holdings, after applying scenario-specific haircuts. The aim of having the cashflow analysis with similar scenarios as for the other tests is two-fold. On the one hand, it broadens the scope of the LCR- and NSFR-based stress testing by considering multiple horizons. On the other hand, it allows for wider liquidity cushions to be used by banks under various stress scenarios. The cashflow analysis thus offers a complementary and more granular view of banks' liquidity position.

63. Banks' counterbalancing capacities (CBC) is largely composed of high-quality liquid assets (HQLA) and other liquidity buffers and has a large concentration in Greek sovereign debt. As of August 2025, COREP supervisory banking data aggregated for the 4 SIs indicate that high quality liquid assets mainly consisted of level 1 securities—cash, central bank reserves, and central government securities. Level 2 assets had marginal share only (Figure 23, panel 1). In the

context of the broader liquidity buffers of the 4 SIs, HQLA assets represented 72 percent of the aggregate CBC, the remainder accounting for other tradable and non-tradable securities. Greek systemic banks hold large amounts of central government debt securities, relative to their liquidity buffers—44 percent of CBC (61 percent of HQLA) (Figure 23, panel 3). More than a half of this exposure is concentrated in debt securities issued by the Greek sovereign and the remainder mainly consisting of assets of governments of Italy, Spain, France, and Cyprus. On the funding side, outflows at the 30-day horizon are dominated by deposits (78 percent), mainly retail (60 percent), with other non-secured transactions at 20 percent of total (Figure 23, panel 4).

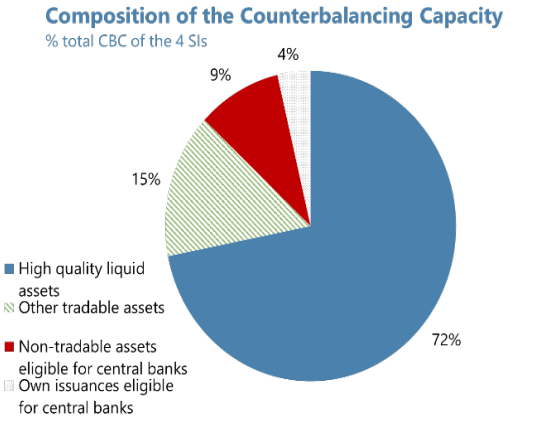
Figure 23. Greece: Composition of Liquidity Buffers and 30-day Outflows

The aggregate HQLA of the 4 Greek SIs remains heavily concentrated in level 1 assets…



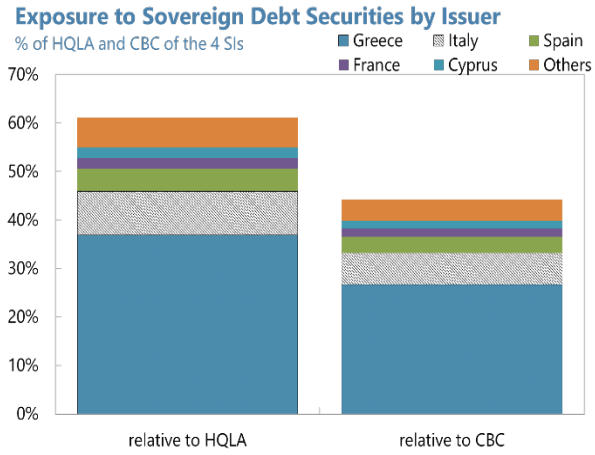
Sources: COREP, IMF calculations

… while a sizable proportion of broader liquidity buffers consists of non-HQLA tradable and non-tradable assets



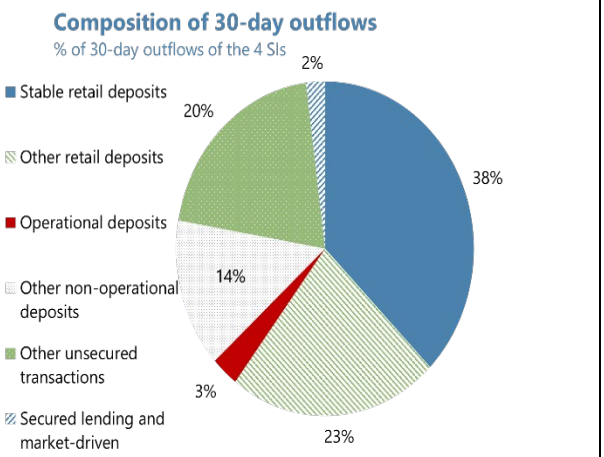
Sources: COREP, IMF calculations

The composition of liquidity buffers also highlights risks associated with the sovereign-bank nexus



Sources: COREP, IMF calculations

On the funding side, retail and corporate deposits represent a large share of potential outflows at the 30-day horizon



Sources: COREP, IMF calculations

Note: The analysis is based on aggregated data from banks' COREP submissions from August 2025.

64. Liquidity stress scenarios were customized by combining Basel regulatory parameters with market and funding shocks. The baseline scenario (SC1 in Figure 24) corresponds to the regulatory scenario. The same calibration was applied to the cash flow test, with the conservative assumption that overnight liabilities constitute outright outflows. To disentangle the effects of market-related from funding-related shocks, additional scenarios were considered. The baseline market-stress scenario is SC2, while SC3 incorporates sovereign debt stress. The two funding stress scenarios are SC4, which features higher outflow rates on deposits, and SC5, which further overlays lower inflows due to counterparty defaults. The aggressive scenarios in SC6-9 combine market and funding shocks simultaneously. Given the recently concluded euro area FSAP, cash-flow scenarios from the euro area stress tests were also considered (EASC1-3). Stylized scenario calibrations—harmonized across the LCR tests and cash-flow analysis—are presented in Figure 25, with full details relegated to Appendix VI (Figures 1 and 2).

Figure 24. Greece: Summary Scenario Calibrations I

	Regulatory	Market		Funding		Aggressive			
	SC1	SC2	SC3	SC4	SC5	SC6	SC7	SC8	SC9
Regulatory calibration	x	x	x	x	x	x	x	x	x
Market shock (higher HQLA/CBC haircuts)		x	x			x	x	x	x
+ sovereign debt stress (higher haircuts)			x				x		x
Funding shock (higher outflow rates)				x	x	x	x	x	x
+ lower inflows (due to defaults)					x			x	x

65. Stress test scenarios are calibrated based on relevant historical episodes in Greece and internationally and follow standard modeling assumptions consistent with previous FSAPs.[21] To model financial shocks, the team has considered the market stress scenario—SC2—customarily used in other euro area FSAPs. A scenario with more severe haircuts applied to central government securities was considered to explicitly account for risks associated with the significant exposure to sovereign debt securities in SC3.[22] Finally, the funding stress scenario, introduced in SC4, applied outflow rates sufficiently aggressive to match the severity observed around 2014-15 in Greece. Deposit outflow rates were calibrated to also follow principles outlined in previous IMF work and ECB stress-testing practices.[23]

[21] For example, more sophisticated depositors tend to withdraw funds more quickly than less informed depositors, and run-off rates for insured funding sources are lower than those for uninsured sources.

[22] Given the differing credit quality steps (CQS) of sovereign issuers and their corresponding shares in the total holdings previously documented in this report, the weighted average haircut applied in the sovereign stress scenario on debt securities is 20 percent. For context, the private sector involvement measures around 2014-15 crisis in Greece resulted in bondholders' losses of c. 50 percent.

[23] Cf. Catalan (2015) and ECB (2019) for a detailed exposition.

Figure 25. Greece: Summary Scenario Calibrations II

Summary of LCR scenarios haircuts and...

Assets	Factors under various scenarios: Regulatory SC1	Market SC2, 3	Funding SC4, 5	Aggressive SC6-9
Level 1				
Level 2A				
Level 2B				

... outflow rates

	Run-off rates: Regulatory SC1	Market SC2, 3	Funding SC4, 5	Aggressive SC6-9
Retail outflows				
Stable deposits				
Less-stable deposits				
Wholesale deposits				

Cashflow scenarios are harmonized with LCR scenarios and the EA FSAP cashflow scenarios for haircuts on the CBC...

Counterbalancing Cap.	Factors under various scenarios: Regulatory SC1	Market SC2, 3	Funding SC4	Aggressive SC6, 7	EASC1	EASC2	EASC3
Level 1							
Level 2A							
Level 2B							
Other assets							

... and outflow rates

	Run-off rates: Regulatory SC1	Market SC2, 3	Funding SC4	Aggressive SC6, 7	EASC1	EASC2	EASC3
Retail outflows							
Stable deposits							
Less-stable deposits							
Wholesale deposits							
Operational deposits							
Non-operational							
Other outflows							

Source: IMF staff calculations.
Notes: the market scenario considers separately the possibility of sovereign stress, while the aggressive scenario combines market and funding stress. EASC1-3 are scenarios taken from the euro area FSAP. Color coding is based on average outflow rates and haircuts across balance sheet items in each category.

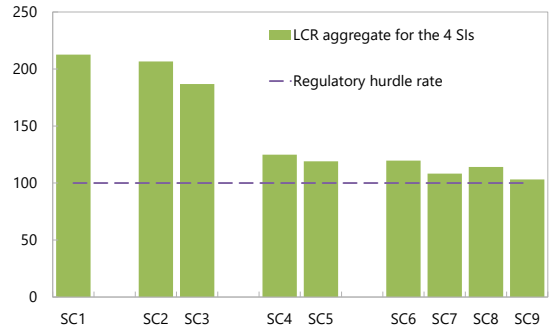
B. Results

66. LCR-based tests suggest that Greek banks remain resilient at the 30-day horizon in the face of more severe market stress, but are somewhat vulnerable to aggressive outflow scenarios. Based on COREP data as of August 2025, under the regulatory scenario (SC1, Figure 26, panel 1), all banks maintain solid liquidity buffers. Liquidity positions also remain strong under more severe market stress (SC2). Moreover, despite sizable exposures to European sovereign debt, LCR ratios would remain elevated even under higher mark-to-market losses on sovereign holdings (SC3). Severe outflows (SC4)—overlaying lower inflows from defaulting counterparts (SC5)—push banks closer to the hurdle rate, without any outright liquidity shortages. Under aggressive scenarios combining market and funding shocks (SC6) with sovereign stress (SC7), one and, respectively, two banks fall slightly under the hurdle rate at the 30-day horizon. Should SIs experience additional stress from lower inflows due to defaults on maturing loans (SC8, 9), results are similar.

Figure 26. Greece: Liquidity Stress Tests Results (LCR-based)

LCR scenarios highlight vulnerabilities to funding shocks…

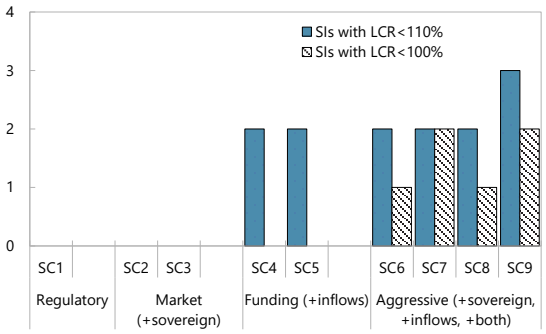
Liquidity Coverage Ratio under Various Scenarios
(In percent)



Sources: COREP, IMF calculations.

… consistent with results from the cashflow analysis

Liquidity Coverage Ratio under Various Scenarios
Number of SIs below LCR thresholds



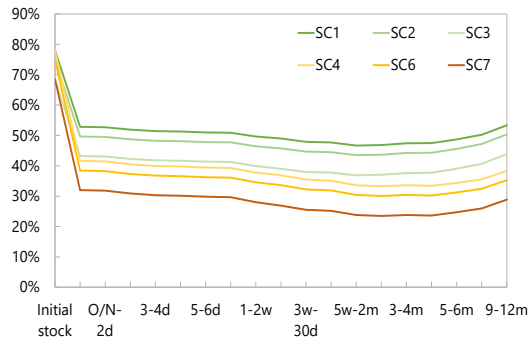
Sources: COREP, IMF calculations.

67. The cashflow analysis does not identify maturity mismatches under the scenarios considered, due to strong counterbalancing capacities of banks. The cashflow analysis accounts for the CBC of banks as a wider liquidity buffer than HQLA and evaluates the liquidity position of the four SIs across the maturity ladder, from overnight to one year, under the considered scenarios. First, under scenarios consistent with LCR-based tests (SC1-7), no bank experiences a liquidity shortfall prior to the 30-day horizon or beyond it—suggesting no breach of Basel pillar 2 requirement and highlighting the importance of wider liquidity buffers. Under the most severe scenario (SC7), the liquidity surplus briefly falls below 20 percent of the initial CBC stock for one bank across the 2–6 month maturity buckets, and without any outright liquidity shortage. Second, with reference to euro area FSAP scenarios (EASC1-3), only one bank exhibits a net liquidity shortfall around the 30-day horizon and onwards, in the scenario combining market stress and aggressive funding shocks (EASC2) (see Figure 27).

Figure 27. Greece: Liquidity Stress Tests Results (Cashflow-based)

Cash-flow stress scenarios highlight that risks…

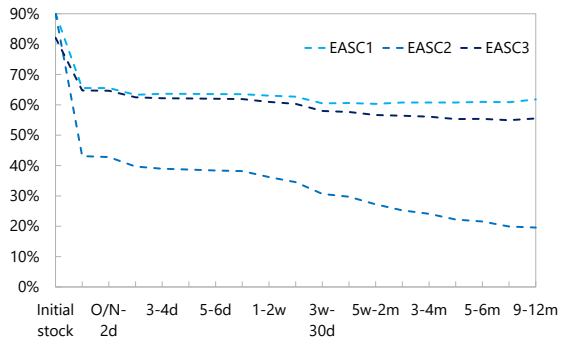
Liquidity Position for the 4 SIs
(In Percent of Initial Counterbalancing Capacity)



Sources: COREP, IMF calculations.

… are mitigated by broader counterbalancing capacities of banks

Liquidity Position for the 4 SIs
(In Percent of Initial Counterbalancing Capacity)



Sources: COREP, IMF calculations.

Note: SC5, 8, 9 overlay lower inflow rates due to defaults on outflow shocks and the combined market-funding shocks. Due to the limited impact in the LCR stress tests, these are omitted in the cash-flow tests.

C. Liquidity to Solvency Interaction: Assessing Stressed "Hidden" Valuation Losses Under Combined Market and Liquidity Stress

68. The FSAP team conducted a sensitivity analysis to assess the potential additional impact on SI's capital arising from liquidity–solvency interactions. The exercise evaluated the effects on banks' capital under the assumption that banks liquidate Greek government bonds held at amortized cost when other (non-amortized cost) components of the counterbalancing capacity are insufficient to cover the funding gap in each of the cash-flow stress scenarios. Although this assumption is not highly plausible—given that banks would more likely use these securities as collateral to obtain liquidity from the ECB without realizing losses—it remains a useful and informative exercise to assess banks' resilience to potential losses stemming from forced asset liquidation.[24]

69. The sensitivity analysis is based on a three-month horizon and assumes Greek government bond yields increase in line with the market shocks applied in the two adverse solvency stress-test scenarios (Table 2). Market losses are estimated using a modified duration approach, with residual duration proxied by residual maturity information from COREP template C33.00a.[25] For conservatism, and in the absence of information, existing hedges are assumed to be ineffective. Under the recessionary (geopolitical) scenario, 5-year Greek sovereign bond yields rise by 461.5 (382.2) basis points, while 10-year yields increase by 475.9 (363.4) basis points.

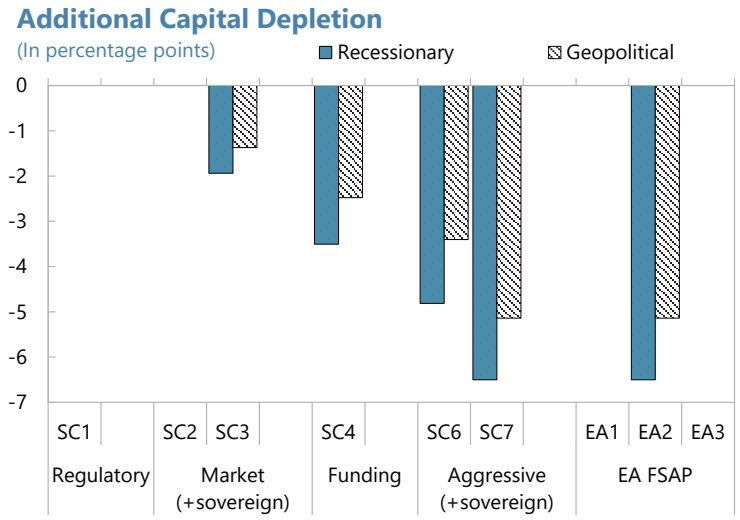
70. The results indicate that liquidity–solvency interactions could lead to a significant additional depletion in banks' capital ratios under both moderate and severe cash-flow stress scenarios (Figure 28). Under the milder scenarios, banks would not need to liquidate Greek government bonds held at amortized cost, thereby limiting the materialization of market losses. The resulting capital depletion ranges from 1.9 (1.4) percentage points in scenario S3 to 6.5 (5.1) percentage points in scenario S7 under the recessionary (geopolitical) market-shock assumptions. These findings underscore the importance of the sovereign–bank nexus. Nonetheless, even under the most severe scenario, the aggregate CET1 ratio remains above the hurdle rate, which comprises the Pillar 1 minimum requirement plus the Pillar 2 Requirement (P2R), with the CET1 ratio declining to 8.2 percent. These results should be interpreted with caution, given the limitations in estimating potential market losses and the low likelihood that banks would liquidate these securities rather than use them as collateral in repo operations with the ECB or in market repo transactions.

[24] Greece's sovereign debt market has strengthened in recent years. Transactional liquidity has improved, supported by regular issuance by the Hellenic Republic Public Debt Management Agency and renewed investor confidence following the restoration of investment-grade status. Nonetheless, secondary market liquidity remains shallower than in larger euro area sovereign markets, reflecting in part a relatively concentrated investor base, including official sector institutions and domestic banks. While such concentration may constrain market depth, the predominance of long-term holders contributes to stability. Market resilience has increased, underpinned by a long average maturity, a predominantly fixed-rate debt structure, sizable cash buffers, and strengthened fiscal fundamentals, although sensitivity to changes in global risk sentiment remains comparatively elevated.

[25] The average residual maturity is 7.7 years as of July 2025.

Figure 28. Greece: Liquidity to Solvency Interactions

There is a significant additional depletion in bank's capital ratios under moderate and severe cash-flow stress scenarios….



Sources: ECB and IMF staff calculations.

LSI ANALYSIS

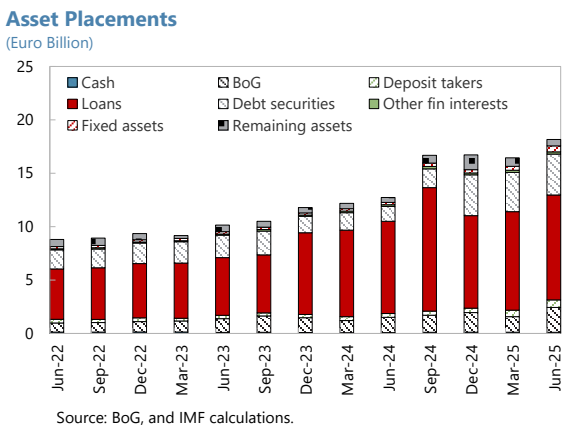
71. As an aggregate, the less significant institution (LSI) sector in Greece is quite small for European standards at 4 percent of total banking system assets. It consists of three cooperative banks and five commercial banks. Among the latter, the largest commercial bank is in the process of acquiring a significant foreign institution (SI) and, subject to approval of the transaction, could consequently be reclassified as a European SI under the SSM.

72. Assets are composed mainly by loans, but growth has been higher in deposits at the Central bank and, especially in debt placements, which have doubled in the past year and are now 21 percent of total placements, in line with the rest of the banking system (SIs). On the funding side, there is strong deposit growth which is mostly short term. The business model is centered on:

- Energy sector (13.4 percent of portfolio) which is growing at 17.4 percent pa especially in renewables such as wind and solar.
- Shipping sector (6 percent of the portfolio) grew at 14 percent pa.
- At the other end, Agriculture and Consumer (only 1.4 percent of the portfolio, each) are decreasing at -13.6 percent and -66 percent pa, respectively)

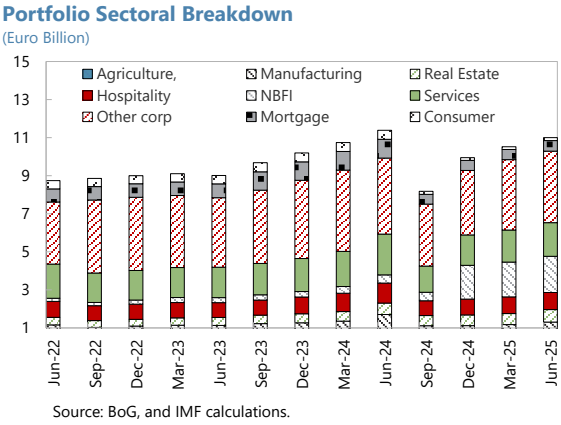
Figure 29. Greece: LSIs' Structure of Assets and Liabilities

Debt placements now 21 percent of assets



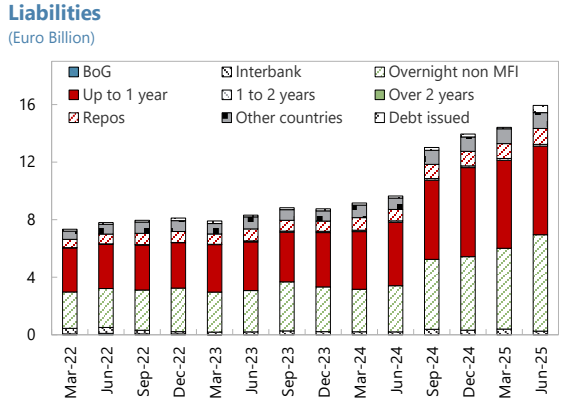
Source: BoG, and IMF calculations.

NBFI is 17.3 percent of the loan portfolio



Source: BoG, and IMF calculations.

Strong (short term) deposit growth



Source: BoG, and IMF staff calculations

Asset Quality

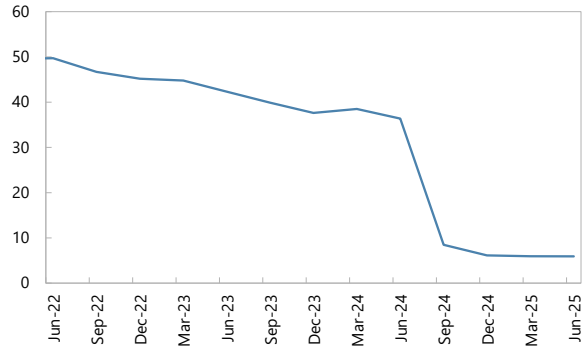
73. NPLs have dropped dramatically to single digits. The ratio reflects deleveraging charge offs in the numerator or the ratio but also strong loan recovery. NPL coverage has remained at about 50 percent of total loans. NPLs resolution was helped by the HAPS and most NPLs remain in the 'Services' sector.

74. Some sectoral NPL ratios have flatlined at high levels. In agriculture (19 percent of NPLs to sector loans), farmers still struggle with livestock and working capital debt due to shocks such as low commodity prices, high costs from energy, feed and climate impacts (2023 floods and sheep-pox) and blanket delays in EU subsidy payments due to alleged fraud. Elevated financial distress is also seen in consumer loans and services (16 and 11 percent of NPLs to sector loans, respectively).

Figure 30. Greece: LSIs' Asset Quality

NPLs have dropped to single digits

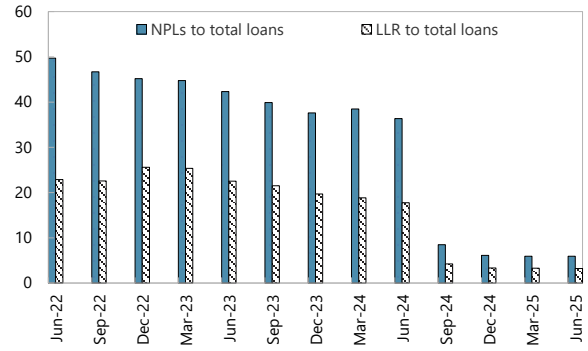
Non-Performing Loan Ratio
(In percent)



Source: BoG, and IMF staff calculations.

While coverage remains at around 50 percent

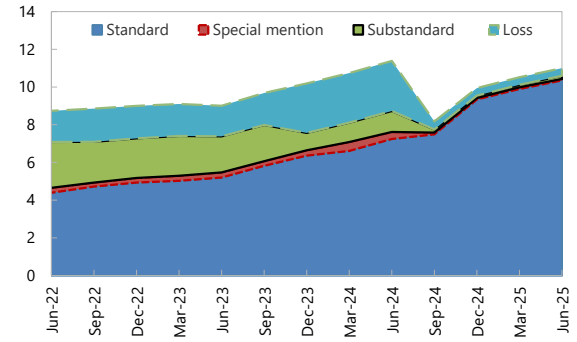
NPLs and Coverage
(In Percent of Total Loans)



Source: BoG, and IMF staff calculations.

The drop in NPL ratio reflects strong deleveraging...

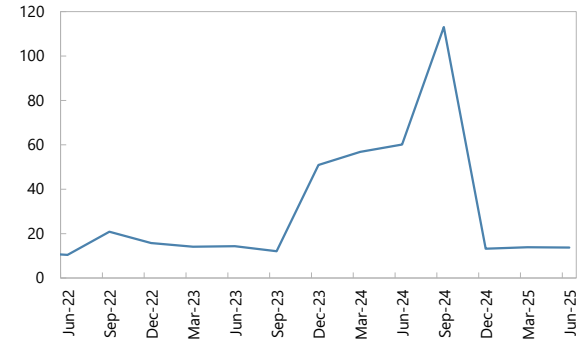
Portfolio Risk Composition
(Euro Billion)



Source: BoG, and IMF staff calculations.

But also, strong loan growth

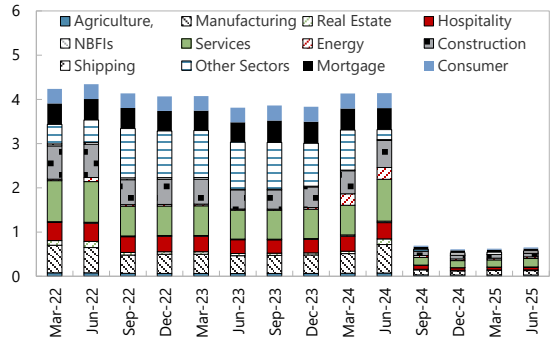
Annualized Loan Growth
(In Percent)



Source: BoG, and IMF staff calculations.

NPLs remain mostly in the services sector

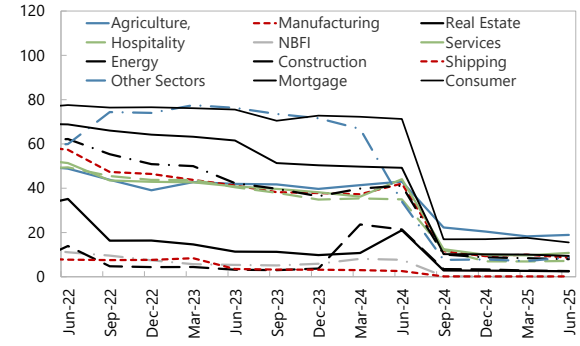
Non Performing Loans
(Euro Billion)



Source: BoG, and IMF staff calculations.

Agriculture, consumer loans and service still high

NPL Ratio by Sector
(In Percent)



Source: BoG, and IMF staff calculations.

Profitability

75. Profitability drivers are mixed as net interest margins are dropping, but efficiency has improved. Greek bank profitability drivers center on Net Interest Income (NII) from growing loans and deposits (about two thirds of total revenue), robust fee & commission income via strategic

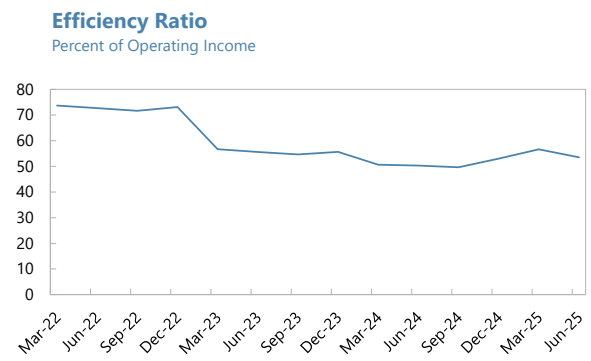
initiatives (about one third of total revenues), and improved asset quality (lower loan loss provisions) after recent balance sheet cleanup under HAPS, alongside increased efficiency, all heavily influenced by Greece's improving Macroeconomic Environment, strong GDP growth, and EU funding, though diversifying revenue remains a challenge. Profits are slowly recovering and apparently, boosted by recent subordinate debt issues.

Figure 31. Greece: LSIs' Profitability

Net interest margins have dropped

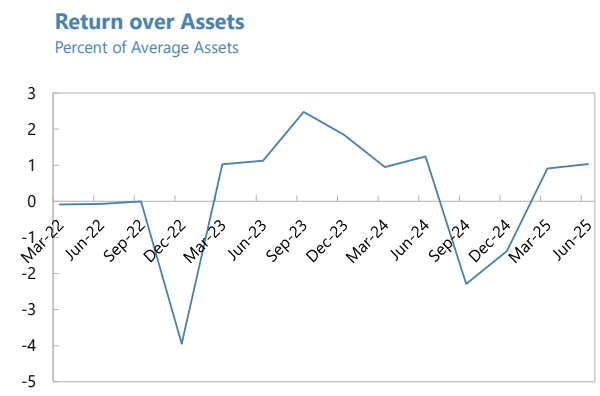
Source: BoG

But efficiency has improved



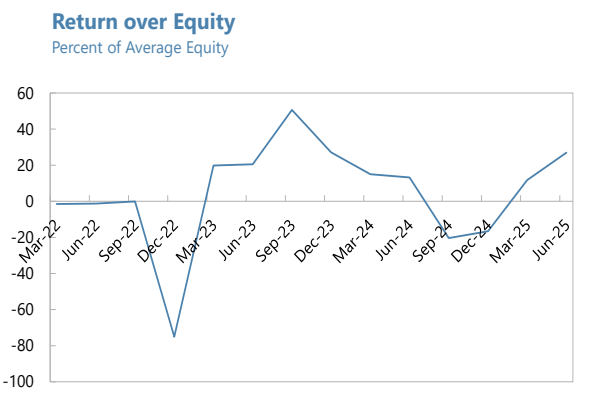
Source: BoG

Profits have recovered slowly



Source: BoG

And apparently, boosted by debt



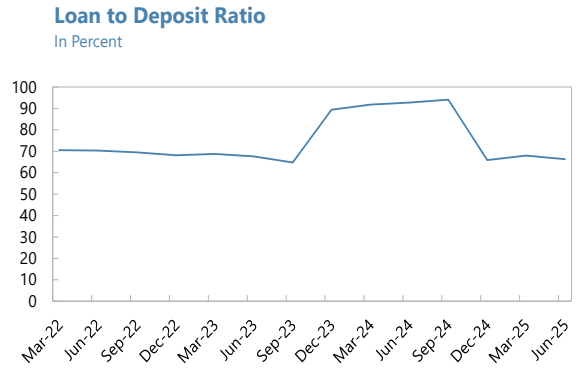
Source: BoG

Liquidity and Funding

76. Banks are well funded to extend loans through a renewed deposit franchise after significant reductions in non-performing loans (NPLs) through HAPS securitization and sales. This allows for sizable liquidity buffers, which improves their position to manage deposit outflows and results in less need for market financing.

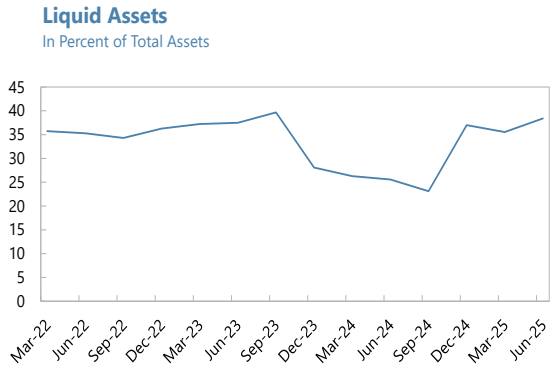
Figure 32. Greece: LSIs' Liquidity and Funding

Banks have ample margin to extend loans



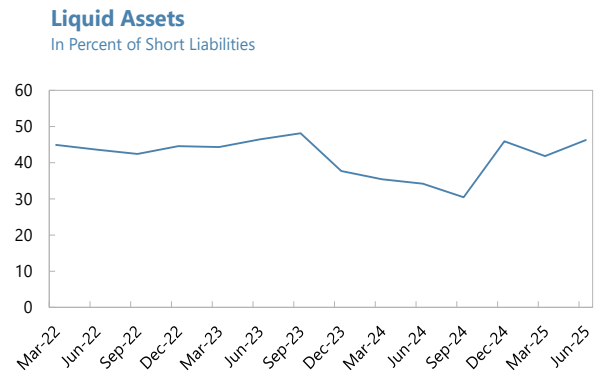
Source: BoG

And sizable liquidity buffers



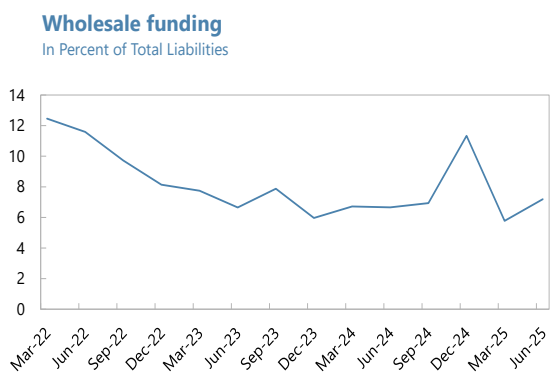
Source: BoG

With an improved position to manage outflows



Source: BoG

Resulting in less need for market financing



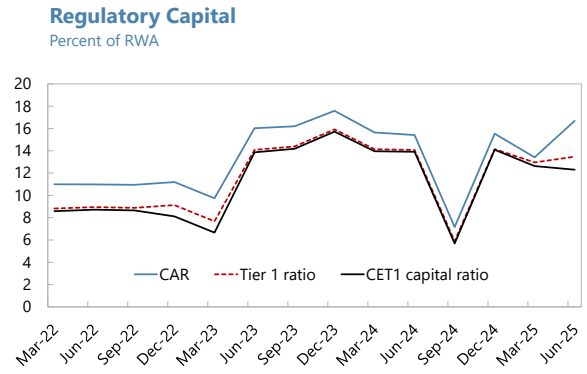
Source: BoG

Capital

77. Regulatory capital increases are increasingly relying on subordinated debt and additional Tier 1 capital, while CET1 capital is flat. This results in an overall capital adequacy ratio that is increasing while Tier 1 ratio remains flat, and the CET1 ratio is dropping. These issuances, based on Euro Medium Term Note Programmes (see Box 2), reflect strategic capital raising using both Tier 2 and AT1 instruments, leveraging credit enhancement and international market access. On the other hand, these Programmes also point to a medium-term capital strategy based on less absorbing capital.

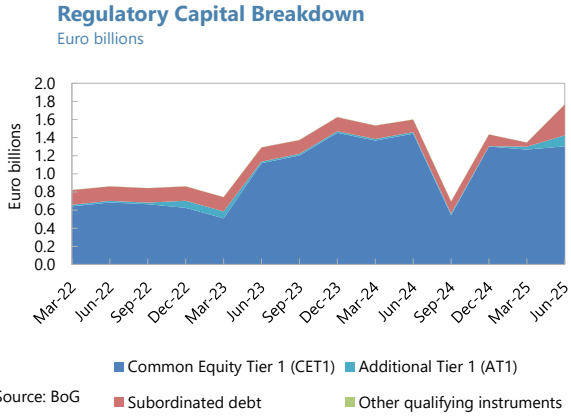
Figure 33. Greece: LSIs' Capital

CAR is increasing, Tier 1 is flat and CET1 is dropping



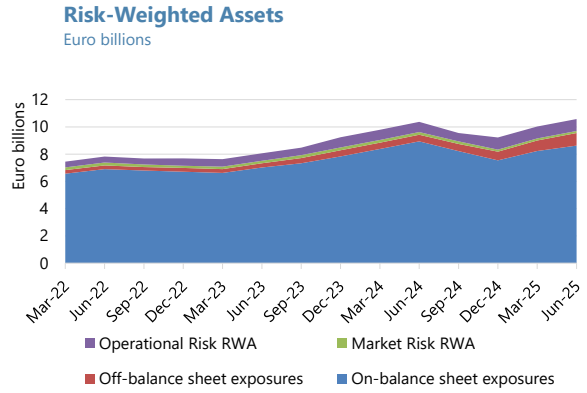
Source: BoG

Capital raises are relying on AT1 and Tier 2 capital



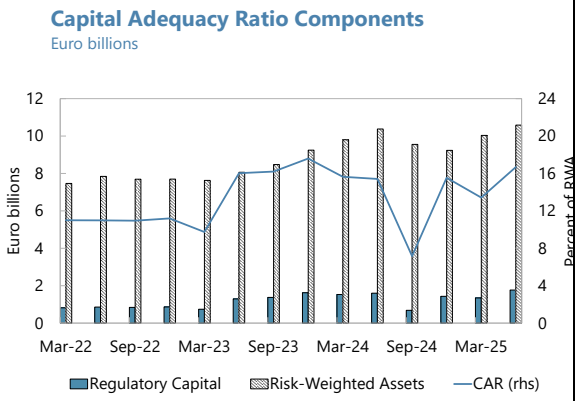
Source: BoG

While RWAs experience strong growth



Source: BoG

Capital, while high, lags RWA growth



Source: BoG

Box 2. Greece: LSI Euro Medium Term Program 2025 Issues

- **Attika (June 2025) "combined" 1st int'l issue:**
  - **€150 million Tier 2 subordinated notes**, fixed-rate notes with a 10-year maturity, callable after five years.
  - **€100 million Additional Tier 1 (AT1) notes**, which are perpetual, fixed-rate notes, callable after five and a half years.
  - Combo allows each tranche to benefit from the credit enhancement of the other.
  - Both part of the bank's €1 billion Euro Medium Term Note Programme (the "EMTN Programme"), which was approved by the Luxembourg Stock Exchange on April 25, 2025
- **Optima (June 2025)**
  - **€150 million unsecured Tier 2 (T2) subordinated bonds** issued under the Bank' s Euro Medium Term Note Programme ("EMTN") of total nominal amount of up to €500 million. The bonds have a maturity of 10.25 years, an embedded issuer call option of 5.25 years (September 25,2030) and will be traded on the MTF Market of the Luxembourg Stock Exchange. The settlement date is June 25, 2025

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Appendix I. Cross-Sector Financial Exposure by Selected Instruments

Cross-Sector Financial Exposures
(Percent of GDP, as of 2025Q3)

Debt Securities

Creditor/Debtor	Central bank	Banks	NBFIs	Non-financial corporations	General government	Household sector	Rest of the world
Central bank		0.0	0.0	0.0	14.6	0.0	48.0
Banks	0.0		0.1	0.5	13.7	0.0	24.4
NBFIs	0.0	2.5		0.4	1.5	0.0	7.0
Non-financial corporatior	0.0	0.2	0.0		0.3	0.0	0.8
General government	0.0	0.0	0.0	0.0		0.0	1.4
Household sector	0.0	0.2	0.2	1.2	1.4		1.1
Rest of the world	0.0	6.0	1.8	0.7	8.9	0.0	

Loans

Creditor/Debtor	Central bank	Banks	NBFIs	Non-financial corporations	General government	Household sector	Rest of the world
Central bank		0.0	0.0	0.0	0.0	0.0	0.0
Banks	0.0		3.8	32.0	0.2	15.5	6.8
NBFIs	0.0	0.0		3.0	0.0	0.1	0.2
Non-financial corporatior	0.0	0.0	0.0		1.0	0.0	0.6
General government	0.0	0.0	0.0	2.8		1.5	2.8
Household sector	0.0	0.0	0.0	0.0	0.2		0.0
Rest of the world	0.0	0.0	0.0	0.0	0.0	0.0	

Listed Shares

Creditor/Debtor	Central bank	Banks	NBFIs	Non-financial corporations	General government	Household sector	Rest of the world
Central bank		0.0	0.0	0.0	0.0	0.0	0.0
Banks	0.0		0.0	0.1	0.0	0.0	0.0
NBFIs	0.0	0.2		0.7	0.0	0.0	0.9
Non-financial corporatior	0.0	0.1	0.1		0.0	0.0	0.4
General government	0.0	0.9	0.2	2.1		0.0	0.1
Household sector	0.0	0.7	0.6	3.7	0.0		2.2
Rest of the world	0.0	8.0	8.5	13.7	0.0	0.0	

Investment Fund Shares/Units

Creditor/Debtor	Central bank	Banks	NBFIs	Non-financial corporations	General government	Household sector	Rest of the world
Central bank		0.0	0.0	0.0	0.0	0.0	0.0
Banks	0.0		0.4	0.0	0.0	0.0	0.1
NBFIs	0.0	0.0		0.0	0.0	0.0	2.7
Non-financial corporatior	0.0	0.0	0.2		0.0	0.0	0.3
General government	0.0	0.0	0.4	0.0		0.0	0.0
Household sector	0.0	0.4	6.2	0.0	0.0		4.9
Rest of the world	0.0	0.0	0.8	0.0	0.0	0.0	

Cross-Sector Financial Exposures (concluded)
(Percent of GDP, as of 2025Q3)

Transferred Deposits; Other Deposits

Creditor/Debtor	Central bank	Banks	NBFIs	Non-financial corporations	General government	Household sector	Rest of the world
Central bank		0.9	0.0	0.0	0.4	0.0	0.0
Banks	0.0		0.0	0.0	0.0	0.0	0.0
NBFIs	0.5	1.5		0.0	0.0	0.0	0.0
Non-financial corporatior	0.0	21.5	0.0		0.0	0.0	0.0
General government	14.3	3.6	0.0	0.0		0.0	0.0
Household sector	0.1	61.9	0.0	0.0	2.2		0.0
Rest of the world	43.2	15.9	0.0	0.0	0.4	0.0	

Sources: Eurostat, National Account, Sectoral Financial Account; and IMF staff calculation.
Note: The household sector includes non-profit institutions serving households. Exposures between the central bank and the rest of the world reflects transactions within the European System of Central Banks, i.e., TARGET and correspondent account balances.

Appendix II. Financial Sector Assessment Program Risk Assessment Matrix

Risk Assessment Matrix		
Risk	**Relative Likelihood**	**Impact if Materialized**
Conjunctural Risks		
Trade-related Risks **Protectionism and Trade Disruptions.** Tariff and nontariff measures disrupt global supply chains, weighing on activity while increasing inflation. Trade diversion triggers broader protectionism.	**High**	Higher trade barriers and supply chain disruptions lead to increased inflation and slower economic growth in the region, which negatively affect demand for Greek tourism and products. This, in turn, will constrain business earnings growth, employment, and overall economic expansion, ultimately harming banks' asset quality. The banking system could face higher credit losses, lower profitability, greater market volatility, and increased funding pressures.
Geopolitical Tensions and Intensification of Conflicts. Rising geopolitical tensions, and a weakening of multilateralism, raise the risk of an escalation in military conflicts, accompanied by damage to key physical and financial infrastructure, disruptions in major transit routes and supply chains, higher migration pressures, additional financial frictions and market volatility.	**High**	Negative effects on tourism, shipping, and exports would impede growth. Heightened energy and food prices would fuel inflation, imposing a burden especially on vulnerable households. These economic pressures could increase credit risk within the financial system and hinder the progress in resolving non-performing loans.
Fiscal Vulnerabilities and Higher Interest Rates. Higher public debt and deficit levels put further upward pressure on long-term interest rates, sharply tightening global financial conditions, amplifying currency volatility, and reducing consumption and investment that exacerbate adverse debt dynamics.	**High**	Higher long-term rates would trigger valuation losses on banks' government-bond holdings and raise their funding costs. Rising yields translate into higher borrowing costs and stricter credit conditions, weakening economic activity and increasing borrower vulnerabilities. Slower growth and higher debt-servicing burdens raise default risks, leading to new NPL formation and higher provisioning needs for banks.
Commodity Price Volatility. Supply and demand imbalances—triggered by geopolitical tensions, coordinated production decisions, shifts in investor preferences, or structural changes in demand—fuel commodity price swings, amplifying external and fiscal pressures, social unrest, and macro instability.	**High**	Large increases in energy and food prices could re-spark bouts of inflation, burdening the still vulnerable households, denting investor confidence and deterring investment, and worsening the elevated external imbalances.
Structural Risks		
Cyberthreats. Cyberattacks on physical or digital infrastructure, technical failures, or misuse of AI technologies could trigger financial and economic instability.	**High**	Cyberattacks could disrupt payment and financial systems, posing a threat to the stability of financial institutions and their capacity to provide financial services.
Climate change. Extreme climate events and rising temperatures could cause loss of life, damage to infrastructure, food insecurity, supply disruptions, and heighten economic and financial instability.	**High**	Damage could undermine tourism, agriculture, and investment, leading to lower growth and higher inflation. Economic damage leads to credit, liquidity, and operational risks to financial institutions.

Appendix III. Corporate and Household Vulnerability Analysis

Corporate Vulnerability Analysis

1. Firm-level data used in the corporate vulnerability analysis are drawn from two sources:

- Moody's CreditEdge Database for listed firms, accessed on July 16, 2025. The key variable of interest is the estimated one-year expected default frequency, for which we convert the daily data for each firm into yearly frequency by taking the annual average.[1]
- Moody's Orbis Database for financial and income variables for both listed and non-listed firms, accessed August 19, 2025. The listed firms when possible are matched with those in CreditEdge (using variable BvdId as the identifier). The latest available Orbis data end in 2022 though many firms have not completed the 2022 reporting.
- As of 2021, the listed firms available in CreditEdge accounts for only 0.5 percent of the Orbis sample in count, but they have disproportionately large balance sheets: in terms of total assets or debt obligations, the listed firms account for 25–30 percent of the Orbis sample.[2]

Appendix III Table 1. Sample coverage in CreditEdge and Orbis, 2021
(Million euro)

	Number (count)	Total obligations 1/	Debt	Total assets
CreditEdge (CE)	131	44,446	36,687	84,484
Orbis	28,245	161,238	122,262	340,176
Share: CE/Orbis (percent)	0.5	27.6	30.0	24.8

Sources: Moody's Orbis; CreditEdge; and IMF staff calculation.
1/ Total obligation is calculated as debt (financial debt) plus payables to suppliers and contractors.

2. Basic data cleaning has been performed, especially to the Orbis sample, to exclude observations with negative values for total assets, operating revenue, cash and cash equivalents, and total debt obligations (calculated as the sum of long-term and short-term financial debt and debt owed to suppliers and contractors). Following Kalemli-Ozcan and others (2015), we include firms

[1] The debt-weighted expected default frequency in CreditEdge for 2025 is slightly below the actual NFC PD for 2025Q2 provided by the Bank of Greece. In the regression analysis, further statistical errors are introduced by the fact that firm balance-sheet information is only available up to 2021-22, hence the PDs for 2023-25 are calculated based on predicted firm-level characteristics. The share of at-risk firms (as defined by firms with low ICR) and the share of debt held by them are both higher in 2025 than in 2021 (Figure 11), but this partially reflects sample selection and forecast errors, rather than a genuin deterioration of firms' solvency. To mitigate this bias, we calibrate the constant of the EDF regression so that the resulted debt-weighted average PD for 2025 to match the authorities' PD for 2025Q2.

[2] Despite the significant difference in firm scales between CreditEdge and Orbis, once normalized by total debt obligations (defined as financial debt plus payables to suppliers and contractors), the normalized firm variables (e.g., operating revenue, earnings before interests and taxes, equity, etc.) and financial ratios (e.g., the interest coverage ratio, the current ratio, the effective interest rate, etc.) seem comparable, allowing the extrapolation to the whole Orbis sample using coefficients estimated on the CreditEdge sample.

regardless of their filing types (consolidated or unconsolidated financial accounts); for firms that have a mixed filing patterns over years, we choose the filing type that occurs more frequently. Lastly, we restrict our analysis to the post-2000 period after Greece adopted euro. It is worth of mentioning that compared to Eurostat's Structural Business Statistics, Orbis appears to under-sample the lower end of the firm-size distribution, especially firms with less than 50 employees (micro and small firms) which dominate important sectors such as wholesale and retail trade, and accommodation and food services in the Greek economy. This sampling concern is partially mitigated by the fact that small firms tend to have low debt and hence their direct impact on financial stability is less prominent.

Appendix III Table 2. Summary Statistics of Selected Variables, CreditEdge vs. Orbis, 2000-22

	Age (year)	Employees (count)	Total obligation (mln €)	Debt (mln €)	Operating revenue / total obligation	Total assets / total obligation	Effective interest rate (percent)	EBIT (percent of total obligation)	ICR (EBIT / interest paid)	Current assets / current liabilities	Equity / total obligation
CreditEdge											
No. of observations	4,883	2,557	4,883	4,883	4,872	4,883	3,833	4,883	3,952	4,883	4,883
25th percentile	6.0	80.0	13.9	8.1	0.7	1.5	4.0	-1.3	-0.2	1.0	0.4
Median	10.0	224.0	43.0	30.0	1.3	2.1	5.5	6.4	1.7	1.4	0.8
75th percentile	15.0	737.0	151.1	120.2	2.3	3.2	7.6	17.6	4.9	2.0	1.8
Orbis											
No. of observations	544,185	477,217	544,906	544,906	543,689	544,906	356,556	544,906	479,474	544,036	544,906
25th percentile	3.0	3.0	0.1	0.0	0.9	1.4	4.1	-1.4	-0.2	1.0	0.2
Median	6.0	9.0	0.5	0.1	2.1	2.3	6.9	8.3	2.5	1.3	0.8
75th percentile	12.0	21.0	1.7	0.8	5.0	5.5	10.9	32.0	16.6	2.3	3.2

Sources: Moody's Orbis; CreditEdge; and IMF staff calculation.
Note: The effective interest rate is calculated as the ratio of interest paid to debt. EBIT refers to earnings before interests and taxes, ICR refers to the interest coverage ratio.

3. The probability of default (PD) is estimated from historical expected default frequency in a Bayesian Model Averaging (BMA) framework. The key equation is as follows:

$$y_{ijt} = \alpha + X_{ijt}\beta + M_t\gamma + S_i\delta + \epsilon_{ijt}, \text{ where } y = log\frac{pd}{1-pd}$$

The logit regression has been estimated for the expected default frequency y of a listed firm j in sector i and year t against a set of firm-specific financials (X), macro variables (M), and sector dummies (S). The variable selection is largely informed by the Bayesian posterior modeling and inclusion probabilities, and when necessary, subject to sign restrictions so that only those models with expected signs regarding key regressors (e.g., GDP, interest rates, etc.) are selected. In particular, among firm-level variables that have been considered, four variables, i.e., the total obligation (including payables to suppliers and contractors), the interest coverage ratio (calculated using the earnings before interests and taxes, EBIT), the share of debt with

Appendix III Table 3. Variables

Firm-level	Macroeconomic
Debt, in log (+)	GDP, level and growth (-)
Interest coverage ratio (-)	Inflation
Share of long-term debt in total debt (-)	Unemployment rate (-)
Share of non-current assets in total assets (+)	Short-term interest rate (+)
Operating revenue	Long-term interest rate (+)
Total assets	Equity, level and growth (-)
Effective interest rate	Housing price, level and growth (-)
P&L before or after tax	Euro per dollar, level and growth
EBIT or EBITDA	Oil price, level and growth
Sales	Loans to NFC, growth
Cash flow	Sovereign spread (over Bund)
Cash	NFC borrowing spread
Current ratio	
Shareholder funds	
Capital relative to shareholder funds	
Share of tangible fixed assets	
Number of employees	
Firm age	

Source: IMF staff.

maturity over one year to total debt (i.e., share of long-term debt), and the share of current assets in total assets, are found to be with high posterior inclusion probabilities, statistically significant in all specifications, and consistently show the expected signs, and hence are selected. Accordingly, we further estimate the following supporting regressions for the four firm-level variables through BMA to gauge how they move with macroeconomic variables, where Z mainly includes lags of the X variable and firm age (calculated as the distance between the current year and the year the specific firm ID first appeared in Orbis plus one):

$$X_{ijt} = \alpha^X + Z_{ijt}\lambda^X + M_t\gamma^X + S_i\delta^X + \epsilon^X_{ijt}$$

Appendix III Table 4. Coefficient Estimates across Models in EDF Regression

	BMA coefficient	Min	25th	50th	75th	Max
Firm-level variables						
Total obligations	0.1670	0.1475	0.1565	0.1631	0.1717	0.1817
Interest coverage ratio	-0.5472	-0.6155	-0.5754	-0.5559	-0.5253	-0.3448
Share of long-term debt	-0.0443	-0.0500	-0.0449	-0.0444	-0.0441	0.0415
Share of non-current assets	1.1721	1.1579	1.1695	1.1735	1.1804	1.2207
Macro variables						
GDP, y/y change	0.0000	-0.0117	-0.0038	0.0113	0.0140	0.0220
Unemployment rate	0.0001	-0.0367	-0.0240	-0.0163	0.0055	0.0329
Short-term interest rate	0.0000	-0.4942	-0.3531	-0.2789	-0.2427	0.0184
Long-term interest rate	0.1364	0.0163	0.1353	0.1723	0.1952	0.2957
Sovereign spread (over Bund)	0.0001	-0.3053	-0.0966	-0.0702	-0.0534	0.0302
NFC borrowing spread (over 3M Euribor)	0.4636	0.1986	0.5497	0.5787	0.8432	0.9636
Loans to NFCs, y/y change (*)	0.0696	0.0501	0.0733	0.0880	0.0968	0.1108

Source: IMF staff estimates.
Note: Sector dummies (defined according to NACE2.1 Level 1), and the constant are not shown.
(*) Not used in projection as a constant loan portfolio is assumed.

4. The loss given default (LGD) is projected following the approach proposed by Frye and Jacobs (2012).[3] For any given projected PD trajectory for each firm, the corresponding LGD trajectory at time t with a forward step of h is calculated according to the following transformation using the cumulative standard normal distribution and its inverse:

$$lgd_{t+h} = \frac{\Phi\left(\Phi^{-1}(pd_{t+h}) - k\right)}{pd_{t+h}} \text{ where } k = \frac{\Phi^{-1}(\overline{pd}) - \Phi^{-1}(\overline{pd}\cdot\overline{lgd})}{\sqrt{1-\rho}}$$

Parameter ρ is set at zero following other FSAP practice (e.g., Japan 2023). Both the aggregate PDs and LGDs are obtained by averaging firm-level PD and LGD estimates weighted by the actual debt holdings as of 2021 (the latest year when Orbis data have a comprehensive coverage).

Household Vulnerability Analysis

5. The household data used for the simulation are from the 2021 wave of the European Central Bank's Household Finance and Consumption Survey (HFCS). The survey was conducted during October 2021 and April 2022 for Greece and covers 3386 households. Among them, 646 households have non-missing, non-zero outstanding liabilities and hence are the main focus of the

[3] See Frye and Jacobs 2012, "Credit Loss and Systematic Loss Given Default," Journal of Credit Risk.

simulation. These liabilities largely reflect housing-related debt, but many households also report outstanding non-housing debt. In addition to household financing, we use information regarding household income and essential expenses, as well as household members' labor status and demographic characteristics. The following table explains the household variables in the simulation and their mappings to HFCS. The key variables of interest are the debt-service-to-income (DSTI) ratio and the augmented debt-service-to-income ratio, i.e., the ratio of debt service costs plus spending on food (HI0100 and HI0200) and utilities (HI0210) to household income. Household income is calculated by summing up household members' labor or pension income (PG0110-PG0510) and income from financial assets (DI1400), rental income from real estate (DI1300), public and private transfers (DI1620 and DI1700), and income from other sources (DI1800). Debt service takes into consideration both mortgage (DL2100) and non-collateralized (DL2200) loans.

Appendix III Table 5. Survey Based Variables Used in Household Analysis

	Variable description	HFCS code
Household level	***Survey information***	
	Household identification number	sa0010
	Country	sa0100
	Implicate ID	im0100
	Household weight	hw0010
	Income over last 12 months (divided by 4)	
	Income from financial assets	di1400
	Other income = the sum of the following:	
	Rental income from real estate property	di1300
	Other social transfers	di1620
	Regular private transfers	di1700
	Income from other sources	di1800
	Liabilities	
	Total outstanding balance of household liabilities	dl1000
	Outstanding balance of mortgage debt	dl1100
	Outstanding balance of consumer debt = dl1000 - dl1100	
	Type of mortgage = fixed rate if dl1110ai = 0 and dl1110bi = 1.	dl1110bi
	Otherwise, variable rate.	dl1110ci
	Monthly payments for mortgage * 3	dl2100
	Monthly payments for non-collateralized debt	dl2200
	Mortgage maturity = balance (hb170x) weighted average maturity (hb171x) up to three mortgages for x = 1,2,3	Maturity: hb171x
	Initial mortgage interest rate = balance (hb170x) weighted average interest rate (hb190x) up to three mortgages for x = 1,2,3	Balance: hb170x Rate: hb190x
	Initial consumer interest rate = mortgage rate + aggregate consumer-mortgage rate spread as of end-2024	
	Essential expenses (monthly amount * 3)	
	Montly amount spent on food at home	hi0100
	Monthly amount spent on food outside home	hi0200
	Monthly amount spent on utilities	hi0210
Household member level	***Labor status***	
	Employed if pe0100a = 1 (employed) or 2 (on sick leave) or 7 (compulsory military service or equivalent social service). Unemployed if pe0100 = 3 (unemployed). Missing value for other values of pe0100a.	pe0100a
	Household member income over last 12 months (divided by 4)	
	Gross cash employee income	pg0110
	Gross self-employment income or profits/losses of unincorporated enterprises	pg0210
	Gross income from public pensions	pg0310
	Gross income from occupational and private pension plans	pg0410
	Gross income from unemployment benefits	pg0510
	Other household member information/dummies	
	Personal ID	ra0100
	Married if pa0100 = 2 (married) or 3 (consensual union on a legal basis) or 4 (widowed). Not married if pa0100 = 1 (never married) or 5 (divorced)	pa0100
	Tertiary education or above if pa0200 = 5	pa0200
	Is male if ra0200 = 1	ra0200
	Is prime age if ra0300 is between 25 and 54	ra0300

Source: IMF staff.

6. We simulate the DSTI and the augmented DSTI according to the paths of the unemployment rate, the real GDP growth, and the short-term interest rate as in the baseline and adverse scenarios underlying the bank solvency stress tests. In particular:

- Changes in the interest rate would affect households' interest income from financial assets and the repayment on variable-rate loans, but not the repayment on fixed-rate loans. We assume that all non-housing loans are variable-rate loans.

- Real GDP growth (or decline) would impact individuals' labor or pension incomes. As expense is assumed to be constant in the simulation, the impact of inflation is also proxied through real income. We also assume that social transfers such as unemployment benefits change according to changes in real GDP.

- To translate shocks to the aggregate unemployment rate into the binary employment status at individual level, we first estimate a probit model using the full Greek household member sample to determine each individual's relative likelihood of being employed based on a few characteristics. Then we fit the estimated coefficients to those household members who belong to households with non-zero outstanding debt (the simulation sample). For each realization of the aggregate unemployment rate, we adjust the constant of the probit regression so that the average probability of being unemployment among household members in the simulation sample is equal to the aggregate unemployment rate. This adjustment preserves the relative order of individuals with respect to how likely they become unemployed as suggested by their demographic or educational background. Once the individual-level likelihood of being unemployed is determined, we replicate each household member N times (N=500 in the implementation) and make random draws to select which replicates receive the binary unemployment shock; if an individual replicate receives an unemployment draw, the labor status remains unemployed for a certain number of periods (7 quarters in implementation in light of the average unemployment duration of 7.62 quarters according to OECD data), unless the aggregate unemployment rate declines so fast that even recently unemployed have to return to being employed to match the aggregate trend.

Appendix III Table 6. Probit Regression Coefficients

Dummy Variables	Employed
Married	0.357***
	(0.0223)
Education: Tertiary or above	0.437***
	(0.0229)
Male	0.414***
	(0.0243)
Age between 25-54	0.255***
	(0.0212)
Constant	0.328***
	(0.0244)
Observations	3950
Pseudo R-squared	0.0579

Bootstrap standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

7. The simulation yields the DSTI and the augmented DSTI along the quarterly path over the four-year horizon, with the first year calibrated to reflect the common macro situations in 2025. It needs to be noted that the household balance sheets underlying the simulation are outdated—information is collected by April 2022—and may be influenced by lingering pandemic effects. To mitigate the bias associated with the outdated starting point, we report and examine the simulated results in the form of the deviations from the baseline.

Appendix IV. Stress Test Matrix (STeM)

Banking Sector: Solvency Stress Test			
Top-down by IMF			
1.	Institutional Perimeter	Exercise	• Top-Down by FSAP team.
		Institutions included	• The four SIs
		Market Share	• The four SIs represent about 95 percent of banking sector assets.
		Data and Baseline Date	• Cut-off date: June 2025 • Data: Various sources, including the following. ○ Supervisory data: Bank balance sheet and supervisory statistics (including FINREP and COREP), information on interest rate risk in the banking book (IRRBB), provided by the ECB. ○ Publicly available data, such as information from BoG on funding and lending rates for new business by type of asset and funding portfolios ○ Expected Default Frequency sourced from Moody's. ○ Supervisory information on historical credit risk information. ○ Corporate sector analysis uses data from Moody's Orbis and CreditEdge. ○ Household analysis relies on household survey microdata from the 2021 (latest) HFCS survey. • Scope of consolidation: banking activities of the consolidated banking group for banks having their headquarters in Greece.
2.	Channels of Risk Propagation	Methodology	• FSAP team satellite models and methodologies. • PDs estimated through corporate and household stress test will be linked to the solvency stress test. Corporate PDs are estimated from firm-level data using the one-year ahead expected default frequency from CreditEdge as a proxy for PD according to the Bayesian model averaging method. Household PDs on mortgage loans are simulated from household balance sheet data in ECB's Household Finance and Consumption Survey (2021 wave). • Provisioning for IRB and SA are modeled using IFRS9 transition matrix approach. • Structural model of bank NII, based on repricing ladder and estimated betas. • Static balance-sheet approach, allowing the re-issuance of maturing loans at current market rates. • Traded risk impact from the revaluation of trading assets (FVPL) and securities classified as fair value through other comprehensive income (FVOCI) will be assessed either using a modified duration approach or bank-specific sensitivities reported in STE to market risk factors, dependent on data availability. • In line with the regulatory framework, the main stress test results will include DTCs as part of capital, consistent with the approach used by the ECB. The amount of legal and voluntary DTC amortization is estimated and incorporated in the results.

		Stress Test Horizon	• 2026 – 2028 (three years)
3.	Tail Shocks	Scenario	• The resilience of the banking sectors was assessed under three macro-financial scenarios. These will include a baseline scenario aligned with the October 2025 World Economic Outlook (WEO) projections, along with two adverse scenarios that capture the main risks identified in the RAM and are consistent with those used in the euro area FSAP. • The "Recessionary scenario" features a synchronized global slowdown amplified by sovereign debt distress in the euro area, a widening of credit spreads, term premium decompression, and confidence losses softening aggregate demand. Accommodative monetary policy mitigates the adverse impact on aggregate demand. • "Geopolitical scenario:" features a materialization of a further escalation of geopolitical conflicts, heightening commodity price volatility and disrupting global production chains, with large adverse trade, price, and tariff shocks ("trade wars") slowing growth. Fiscal policies in countries with fiscal space are used to counteract partly the fall in demand and support consumption. However, the inflationary impact of production chain disruptions leads to monetary policy tightening. • The two adverse scenarios rely on GFM, a structural macro econometric model of the world economy, disaggregated into 40 national economies, documented in Vitek (2018).
4.	Risks and Buffers	Risk Covered	• Risks covered include credit (on loans and debt securities), market (valuation impact of debt instruments through repricing and credit spread risk as well as the P&L impact of net open positions in market risk factors such as foreign exchange risks) and interest rate risk on the banking book (IRRBB).
		Behavioral Adjustment	• Static balance sheet approach: size of portfolios (gross of NPLs) remains constant throughout the stress testing horizon (with no write-offs allowed). • Maturing assets are replaced by exposures of the same type and risk. • In projecting RWAs, standardized and IRB portfolios are differentiated. For the standardized portfolios, RWAs change due to the shift in the composition of performing and non-performing exposures, and a deterioration in creditworthiness is modeled as a credit rating downgrade linked to the initial rating of the exposure and the projected rise in loan losses. For the IRB portfolios, through-the-cycle-PDs, downturn LGDs and EAD for each asset class/industry are used to project risk weights. • Interest income from nonperforming loan is not accrued. • Dividends are paid out by banks that remain profitable and adequately capitalized. • Banks can only accumulate capital through retained earnings. • If banks' capital ratio falls below regulatory minimum during the stress test horizon, no prompt corrective action is assumed.
5.	Regulatory and Market-		• In the baseline, hurdles include the regulatory minimum plus P2R, the Capital Conservation Buffer (CCoB), the countercyclical

	Based Standards and Parameters		Capital Buffer (CCyB) and Other Systemically Important Institutions Buffer (O-SII). • In the adverse scenario, banks are allowed to deplete the CCoB and the CCyB. Other requirements remain in place. • Hurdle rates are based on common equity tier-1, tier-1, and total capital ratios.
6.	Reporting Form for Results	Output Presentation	• Evolution of CET1 for four SIs in aggregate. • Decomposition of key drivers to aggregate net profits and aggregate CET1 capital ratios, including differences between baseline scenarios and adverse scenarios. • Number of banks and share of total assets that fall below hurdle rates
Banking Sector: Liquidity Stress Test			
Top-down by IMF			
1.	Institutional Perimeter	Exercise	Top-Down by FSAP team
		Institutions Included	The four SIs
		Market Share	The four SIs represent about 95 percent of banking sector assets
		Data and Baseline Date	• Cut-off date: August 2025 • Scope of consolidation: banking activities of the consolidated banking group for banks having their headquarters in Greece • Supervisory data files (FINREP, COREP) and historical time series where available
2.	Methodology		• LCR- and NSFR-based tests, using regulatory parameters and more severe scenarios. • Cashflow-based liquidity stress test • Stress test horizon: 30 days for LCR-based tests, 1 year for NSFR-based tests, and up to 12 months for cashflow analysis.
3.	Type of Analyses	Scenario Analysis	• Various stress scenarios are considered, with varying intensity of adverse liquidity conditions. Main risks analyzed are market upheaval and tightening of market liquidity conditions (linked to solvency adverse scenario, where possible), deposit run-offs, outflows from top funding sources.
4.	Buffers	Behavioral Adjustments	Liquidity from the central bank is not considered.
		Buffers	Capacity of banks to generate liquidity from inflows and from assets under stress (i.e. counter-balancing capacity)
5.	Regulatory Standards	Regulatory/Accounting and Market-based Standards	For both LCR- and NSFR-based tests, the hurdle rate is set at 100 percent at the aggregate currency level (per Basel III and domestic regulation). For cashflow analysis, the outcomes of interest are the Net Liquidity Position and the survival period.
6.	Reporting Format for Results	Output Presentation	Outputs include (1) Average LCR, NSFR, Net Liquidity Position and survival period, (2) Number of institutions with LCR/NSFR below regulatory limits.

Appendix V. Structural Model for Interest Income

All formulas in the following apply at the bank-segment level; the notation omits this for brevity.

The model requires two inputs:

- A repricing ladder at T0, given by the value of exposures in each repricing bucket [k,k+1] (i.e., exposures with time-to-repricing between k and k+1 years), denoted as $E_0^{[k,k+1]}$. The corresponding fraction of total exposures in that bucket is denoted as $\theta_0^{[k,k+1]}$. This is summarized in the following table:

Repricing Buckets	Value of Exposures	Share of Exposures
[0;1] yrs	$E_0^{[0,1]}$	$\theta_0^{[0,1]} = E_0^{[0,1]}/E_0$
[1;2] yrs	$E_0^{[1,2]}$	$\theta_0^{[1,2]} = E_0^{[1,2]}/E_0$
[2;3] yrs	$E_0^{[2,3]}$	$\theta_0^{[2,3]} = E_0^{[2,3]}/E_0$
[3;4] yrs	$E_0^{[3,4]}$	$\theta_0^{[3,4]} = E_0^{[3,4]}/E_0$

Any exposure with time-to-repricing larger than three years can be allocated to the [3;4] year bucket. This is without loss of generality because those exposures will not reprice within the three-year stress-testing window.

- Scenario-specific projections for the interest rate on new originations, denoted as i_t^{NO}.

The model calculations are conducted in three steps.

Step 1: Simulate the exposures originated/repriced in each bucket and period.

The model simulates the "law of motion" of exposures across buckets. Consider, for example, the value of exposures in bucket $[k-1,k]$ at the end of year-1. The exposures in that bucket will correspond either to exposures that at end of year-0 were in bucket $[k,k+1]$ (so one year later they have moved to the bucket with 1-year lower time-to-repricing), or to exposures that have been newly issued/repriced during year-1. The corresponding equation for this is:

$$(1)\ E_t^{[k-1,k]} = E_{t-1}^{[k,k+1]} + I_t^{[k-1,k]}\ for\ k = 1,2,3$$

Where $I_t^{[k-1,k]}$ are the newly issued/repriced loans in bucket $[k-1,k]$during year-t. In order to pin down the value of $I_t^{[k-1,k]}$, the key assumption is that the shares of exposures across buckets are constant over time. That is,

$$(2)\ \theta_t^{[k,k+1]} = \theta_0^{[k,k+1]}\ for\ all\ t,k$$

This assumption is consistent with the static balance sheet used throughout the stress test.

Step 2: Simulate the average interest rate for each bucket and period.

Denote as $i_{t-1}^{[k,k+1]}$the average interest rate of the exposures that at end of year-$(t-1)$ were in bucket $[k, k+1]$. This interest rate can be calculated recursively. From equation (1), $E_t^{[k-1,k]}$ is the sum of the exposures that were in bucket $[k, k+1]$ at end of year-$(t-1)$ and the newly issued/repriced exposures $I_t^{[k-1,k]}$. Then, it must be that the average interest rate of $E_t^{[k-1,k]}$ is an exposure-weighted average of the respective interest rates of these two terms. That is:

$$(3) i_t^{[k-1,k]} = \delta t i_{t-1}^{[k,k+1]} + (1-\delta t) i_t^{NO} \text{ where } \delta_t = \frac{E_{t-1}^{[k,k+1]}}{E_t^{[k-1,k]}}$$

The recursive definition in equation (3) requires an initial condition, $i_0^{[k-1,k]}$. The assumption is that the initial interest rate in all buckets is equal to the average interest rate of the portfolio at T0.

Step 3: Calculate the interest income.

Consider first the case without NPEs; the interest income is $\widetilde{II}_t$:

$$(4)\ \widetilde{II}_t = \sum_{k=1}^{3} i_{t-1}^{[k,k+1]} E_{t-1}^{[k,k+1]} + \frac{1}{2} i_{t-1}^{[0,1]} E_{t-1}^{[0,1]} + \frac{1}{2} i_t^{NO} \left(\sum_{k=0}^{3} I_t^{[k,k+1]} \right)$$

The first term of equation (4) is the interest income from the exposures that at the end of year-$(t-1)$ had at least 1 year left until repricing, so they earn their "old" interest rate throughout all of year-t (where "old" refers to the same interest rate they had at the end of year-$(t-1)$). The second term is the income from the exposures that at the end of year-$(t-1)$ had less than 1 year left until repricing. The assumption is that these exposures reprice in the midpoint of the year, so they earn the old interest rate for half the year. The last term is the interest income from newly issued/repriced loans, which are assumed to enter the portfolio in the midpoint of the year, so they earn the new interest rate for half the year.

Appendix VI. Liquidity Detailed Scenario Calibrations

Detailed LCR Scenario Calibrations

Item			Weight under scenario			
Category	COREP Label	Detailed Label	Regulatory (Basel III) SC1	Market Stress SC2, 3	Funding Stress SC4, 5	Aggressive SC6-9
Level 1 Assets	0040	Coins and banknotes_0040	100%	100%	100%	100%
	0050	Withdrawable central bank reserves_0050	100%	100%	100%	100%
	0060	Central bank assets_0060	100%	95%	100%	95%
	0070	Central government assets_0070	100%	95% (80% in SC3)	100%	95% (80% in SC7, 9)
	0080	Regional government / local authorities assets_0080	100%	95%	100%	95%
	0090	Public Sector Entity assets_0090	100%	95%	100%	95%
	0100	Recognisable domestic and foreign currency central government and central bank assets_0100	100%	95%	100%	95%
	0110	Credit institution (protected by Member State government, promotional lender) assets_0110	100%	95%	100%	95%
	0120	Multilateral development bank and international organisations assets_0120	100%	95%	100%	95%
	0130	Qualifying CIU shares/units: underlying is coins/banknotes and/or central bank exposure_0130	0%	0%	0%	0%
	0140	Qualifying CIU shares/units: underlying is Level 1 assets excluding extremely high quality covered bonds_0140	95%	95%	95%	95%
	0150	Alternative Liquidity Approaches: Central bank credit facility_0150	0%	0%	0%	0%
	0160	Central institutions: Level 1 assets excl. EHQ CB which are considered liquid assets for the depositing credit institution_0160	0%	0%	0%	0%
	0170	Alternative Liquidity Approaches: Inclusion of Level 2A assets recognised as Level 1_0170	80%	80%	80%	80%
	0190	Extremely high quality covered bonds_0190	93%	80%	93%	80%
	0200	Qualifying CIU shares/units: underlying is extremely high quality covered bonds_0200	88%	80%	88%	80%
	0210	Central institutions: Level 1 EHQ covered bonds which are considered liquid assets for the depositing credit institution_0210	0%	0%	0%	0%

Item			Weight under scenario			
Category	**COREP Label**	**Detailed Label**	**Regulatory (Basel III) SC1**	**Market Stress SC2, 3**	**Funding Stress SC4, 5**	**Aggressive SC6-9**
Level 2A Assets	0240	Regional government / local authorities or Public Sector Entity assets (Member State, RW20%)_0240	85%	65%	85%	65%
	0250	Central bank or central / regional government or local authorities or Public Sector Entity assets (Third Country, RW20%)_0250	85%	65%	85%	65%
	0260	High quality covered bonds (CQS2)_0260	85%	65%	85%	65%
	0270	High quality covered bonds (Third Country, CQS1)_0270	85%	65%	85%	65%
	0280	Corporate debt securities (CQS1)_0280	85%	65%	85%	65%
	0290	Qualifying CIU shares/units: underlying is Level 2A assets_0290	80%	80%	80%	80%
	0300	Central institutions: Level 2A assets which are considered liquid assets for the depositing credit institution_0300	0%	0%	0%	0%

Item			Weight under scenario			
Category	COREP Label	Detailed Label	Regulatory (Basel III) SC1	Market Stress SC2, 3	Funding Stress SC4, 5	Aggressive SC6-9
Level 2B Assets	0320	Asset-backed securities (residential, CQS1)_0320	75%	50%	75%	50%
	0330	Asset-backed securities (auto, CQS1)_0330	75%	50%	75%	50%
	0340	High quality covered bonds (RW35%)_0340	70%	50%	70%	50%
	0350	Asset-backed securities (commercial or individuals, Member State, CQS1)_0350	65%	50%	65%	50%
	0360	Corporate debt securities (CQS2/3)_0360	50%	30%	50%	30%
	0370	Corporate debt securities - non-interest bearing assets (held by credit institutions for religious reasons) (CQS1/2/3_0370	50%	30%	50%	30%
	0380	Shares (major stock index)_0380	50%	30%	50%	30%
	0390	Non-interest bearing assets (held by credit institutions for religious reasons) (CQS3-5)_0390	50%	30%	50%	30%
	0400	Restricted-use central bank committed liquidity facilities_0400	0%	0%	0%	0%
	0410	Qualifying CIU shares/units: underlying is asset-backed securities (residential or auto, CQS1)_0410	70%	50%	70%	50%
	0420	Qualifying CIU shares/units: underlying is high quality covered bonds (RW35%)_0420	65%	50%	65%	50%
	0430	Qualifying CIU shares/units: underlying is asset-backed securities (commercial or individuals, Member State, CQS1)_0430	60%	50%	60%	50%
	0440	Qualifying CIU shares/units: underlying is corporate debt securities (CQS2/3), shares (major stock index) or non-interest bearing assets (held by credit institutions for religious reasons) (CQS3-5)_0440	45%	30%	45%	30%
	0450	Deposits by network member with central institution (no obligated investment)_0450	75%	50%	75%	50%
	0460	Liquidity funding available to network member from central institution (non-specified collateralisation)_0460	75%	50%	75%	50%
	0470	Central institutions: Level 2B assets which are considered liquid assets for the depositing credit institution_0470	0%	0%	0%	0%

Item			Weight under scenario			
Category	COREP Label	Detailed Label	Regulatory (Basel III) SC1	Market Stress SC2, 3	Funding Stress SC4, 5	Aggressive SC6-9
Outflows (unsecured)	0035	deposits exempted from the calculation of outflows_0035	0%	0%	0%	0%
	0040	deposits where the payout has been agreed within the following 30 days_0040	100%	100%	100%	100%
	0060	category 1_0060	13%	13%	30%	30%
	0070	category 2_0070	18%	18%	30%	30%
	0080	stable deposits_0080	5%	5%	10%	10%
	0090	derogated stable deposits_0090	0%	0%	10%	10%
	0100	deposits in third countries where a higher outflow is applied_0100	0%	0%	30%	30%
	0110	other retail deposits_0110	10%	10%	25%	25%
	0140	covered by DGS_0140	5%	5%	10%	10%
	0150	not covered by DGS_0150	25%	25%	50%	50%
	0170	not treated as liquid assets for the depositing institution_0170	25%	25%	35%	35%
	0180	treated as liquid assets for the depositing credit institution_0180	0%	0%	35%	35%
	0190	maintained in the context of an established operational relationship (other) with non-financial customers_0190	25%	25%	50%	50%
	0200	maintained to obtain cash clearing and central credit institution services within a network_0200	25%	25%	50%	50%
	0204	deposits by financial customers 0204_0204	100%	100%	100%	100%
	0206	excess.other.covered by DGS_0206	20%	20%	20%	20%
	0207	excess.other.not.covered by DGS_0207	40%	40%	50%	50%
Outflows (unsecured)	0220	correspondent banking and provisions of prime brokerage deposits_0220	100%	100%	100%	100%
	0230	deposits by financial customers 0230_0230	100%	100%	100%	100%
	0250	correspondent.other.covered by DGS_0250	20%	20%	30%	30%
	0260	correspondent.other.not.covered by DGS_0260	40%	40%	60%	60%
	0280	collateral other than Level 1 assets collateral posted for derivatives_0280	20%	20%	35%	35%
	0290	Level 1 EHQ Covered Bonds assets collateral posted for derivatives_0290	10%	10%	35%	35%
	0300	material outflows due to deterioration of own credit quality_0300	0%	0%	85%	85%
	0310	impact of an adverse market scenario on derivatives transactions_0310	100%	100%	100%	100%
	0340	outflows from derivatives_0340	100%	100%	100%	100%
	0360	covered by collateralized SFT_0360	0%	0%	10%	10%
	0370	shorts.other_0370	100%	100%	100%	100%
	0380	callable excess collateral_0380	100%	100%	100%	100%
	0390	due collateral_0390	100%	100%	100%	100%
	0400	liquid asset collateral exchangable for non-liquid asset collateral_0400	0%	0%	100%	100%
	0410	loss of funding on structured financing activites_0410	0%	0%	0%	0%
	0420	structured financing instruments_0420	100%	100%	100%	100%

	0430	structured financing facilites_0430	100%	100%	100%	100%
	0450	internal netting of client´s positions_0450	50%	50%	50%	50%
	0480	to retail customers_0480	5%	5%	10%	10%
	0490	credit to non-financial customers other than retail customers_0490	10%	10%	30%	30%
	0510	credit for funding promotional loans of retail customers_0510	5%	5%	10%	10%
	0520	credit for funding promotional loans of non-financial customers_0520	10%	10%	30%	30%
	0530	credit.facilities.other_0530	40%	40%	50%	50%
	0540	credit facilities to regulated institutions other than credit institutions_0540	40%	40%	50%	50%
	0550	within a group or an IPS if subject to preferential treatment_0550	0%	0%	100%	100%
	0560	within IPS or cooperative network if treated as liquid asset by the depositing institution_0560	75%	75%	100%	100%
	0570	credit facilities to other financial customers_0570	0%	0%	100%	100%
	0590	liquidity to retail customers_0590	5%	5%	10%	10%
	0600	to non-financial customers other than retail customers_0600	30%	30%	50%	50%
	0610	to personal investment companies_0610	40%	40%	100%	100%
Outflows (unsecured)	0620	to SSPEs_0620	0%	0%	0%	0%
	0630	to purchase assets other than securities from non-financial customers_0630	10%	10%	100%	100%
	0640	liquidity.facilities.other_0640	0%	0%	100%	100%
	0660	for funding promotional loans of retail customers_0660	5%	5%	10%	10%
	0670	for funding promotional loans of non-financial customers_0670	30%	30%	50%	50%
	0680	liquidity.promotion.facitilies.other_0680	40%	40%	100%	100%
	0690	within a group or an IPS if subject to preferential treatment_0690	0%	0%	100%	100%
	0700	within IPS or cooperative network if treated as liquid asset by the depositing institution_0700	75%	75%	100%	100%
	0710	liquidity facilities to other financial customers_0710	0%	0%	100%	100%
	0731	Uncommitted funding facilities_0731	6%	6%	10%	10%
	0740	undrawn loans and advances to wholesale counterparties_0740	6%	6%	10%	10%
	0750	mortgages that have been agreed but not yet drawn down_0750	8%	8%	10%	10%
	0760	credit cards_0760	3%	3%	10%	10%
	0770	overdrafts_0770	6%	6%	10%	10%
	0780	planned outflows related to renewal or extension of new retail or wholesale loans_0780	0%	0%	10%	10%
	0850	planned derivatives payables_0850	0%	0%	10%	10%
	0860	trade finance off-balance sheet related products_0860	5%	5%	10%	10%
	0870	other.products.services.other_0870	100%	100%	100%	100%
	0890	liabilities resulting from operating expenses_0890	0%	0%	100%	100%
	0900	other in the form of debt securities if not treated as retail deposits_0900	100%	100%	100%	100%
	0912	the excess of funding to non-financial customers_0912	100%	100%	100%	100%
	0917	assets borrowed on an unsecured basis_0917	100%	100%	100%	100%
	0918	other.liabilities.and.due.commitments.other_0918	100%	100%	100%	100%

Item			Weight under scenario			
Category	COREP Label	Detailed Label	Regulatory (Basel III) SC1	Market Stress SC2, 3	Funding Stress SC4, 5	Aggressive SC6-9
Outflows (secured)	0940	level 1 excl. EHQ Covered Bonds collateral_0940	0%	0%	5%	5%
	0950	level 1 EHQ Covered Bonds collateral_0950	0%	0%	5%	5%
	0960	level 2A collateral_0960	0%	0%	30%	30%
	0970	level 2B asset-backed securities (residential or automobile, CQS1) collateral_0970	0%	0%	40%	40%
	0980	level 2B covered bonds_0980	0%	0%	40%	40%
	0990	level 2B asset-backed securities (commercial or individuals, Member State, CQS1) collateral_0990	0%	0%	40%	40%
	1000	other Level 2B assets collateral_1000	0%	0%	60%	60%
	1010	non-liquid assets collateral_1010	0%	0%	100%	100%
	1030	level 1 excl. EHQ Covered Bonds collateral_1030	0%	0%	5%	5%
	1040	level 1 EHQ Covered Bonds collateral_1040	7%	7%	7%	7%
	1050	level 2A collateral_1050	15%	15%	30%	30%
	1060	level 2B asset-backed securities (residential or automobile, CQS1) collateral_1060	25%	25%	40%	40%
	1070	level 2B covered bonds_1070	30%	30%	40%	40%
	1080	level 2B asset-backed securities (commercial or individuals, Member State, CQS1) collateral_1080	35%	35%	50%	50%
	1090	other Level 2B assets collateral_1090	50%	50%	60%	60%
	1100	non-liquid assets collateral_1100	100%	100%	100%	100%

Item			Weight under scenario			
Category	COREP Label	Detailed Label	Regulatory (Basel III) SC1	Market Stress SC2, 3	Funding Stress SC4, 5	Aggressive SC6-9
	0040	monies due from non-financial customers (except for central banks) not corresponding to principal repayment_0040	100%	100%	100%	100%
	0060	monies due from retail customers_0060	50%	50%	50%	50%
	0070	monies due from non-financial corporates_0070	50%	50%	50%	50%
	0080	monies due from sovereigns, multilateral development banks and public sector entities_0080	50%	50%	50%	50%
	0090	monies due from other legal entities_0090	50%	50%	50%	50%
	0120	monies due from financial customers being classified as operational deposits where the credit institution is able to establish a corresponding symmetrical inflow rate_0120	0%	0%	0%	0%
	0130	monies due from financial customers being classified as operational deposits where the credit institution is not able to establish a corresponding symmetrical inflow rate_0130	5%	5%	5%	5%
	0150	monies due from central banks_0150	100%	100%	100%	100%
	0160	monies due from financial customers_0160	100%	100%	100%	100%
	0170	inflows corresponding to outflows in accordance with promotional loan commitments referred to in Article 31(9) of Commission delegated regulation (EU) No 2015/61_0170	0%	0%	0%	0%
	0180	monies due from trade financing transactions_0180	100%	100%	100%	100%
	0190	monies due from securities maturing within 30 days_0190	100%	100%	100%	100%
	0201	loans with an undefined contractual end date_0201	20%	20%	20%	20%
	0210	monies due from positions in major index equity instruments provided that there is no double counting with liquid assets_0210	100%	100%	100%	100%
	0230	inflows from the release of balances held in segregated accounts in accordance with regulatory requirements for the protection of customer trading assets_0230	0%	0%	0%	0%
	0240	inflows from derivatives_0240	100%	100%	100%	100%
Inflows	0250	inflows from undrawn credit or liquidity facilities provided by members of a group or an institutional protection scheme where the competent authority has granted permission to apply a higher inflow rate_0250	0%	0%	0%	0%
	0260	other inflows_0260	100%	100%	100%	100%
	0269	CB Level 1 collateral excluding extremely high quality covered bonds_0269	0%	0%	0%	0%
	0273	CB Level 1 collateral which is extremely high quality covered bonds_0273	0%	0%	0%	0%
	0277	CB Level 2A collateral_0277	0%	0%	0%	0%
	0281	CB Level 2B asset backed securities (residential or auto) collateral_0281	0%	0%	0%	0%
	0285	CB Level 2B high quality covered bonds collateral_0285	0%	0%	0%	0%
	0289	CB Level 2B asset backed securities (commercial or individuals) collateral_0289	0%	0%	0%	0%
	0293	CB Level 2B collateral not already captured in section 1.2.1.4, 1.2.1.5 or 1.2.1.6_0293	0%	0%	0%	0%
	0297	CB collateral is used to cover a short position_0297	0%	0%	0%	0%
	0299	CB collateral that does not qualify as a liquid asset_0299	0%	0%	0%	0%
	0301	collateral is non-liquid equity extra 1_0301	0%	0%	0%	0%
	0303	all other non-liquid collateral extra 2_0303	0%	0%	0%	0%
	0309	Level 1 collateral excluding extremely high quality covered bonds_0309	100%	100%	100%	100%
	0313	Level 1 collateral which is extremely high quality covered bonds_0313	93%	93%	93%	93%
	0317	Level 2A collateral_0317	85%	85%	85%	85%
	0321	Level 2B asset backed securities (residential or auto) collateral_0321	75%	75%	75%	75%
	0325	Level 2B high quality covered bonds collateral_0325	70%	70%	70%	70%
	0329	Level 2B asset backed securities (commercial or individuals) collateral_0329	65%	65%	65%	65%
	0333	Level 2B collateral not already captured in section 1.2.2.4, 1.2.2.5 or 1.2.2.6_0333	50%	50%	50%	50%
	0337	collateral is used to cover a short position_0337	0%	0%	0%	0%
	0341	margin loans: collateral is non-liquid_0341	50%	50%	50%	50%
	0343	collateral is non-liquid equity_0343	100%	100%	100%	100%
	0345	all other non-liquid collateral_0345	100%	100%	100%	100%

Detailed Cash-flow Analysis Scenario Calibrations

Item	Weight under scenario								
	Regulatory	Market	+sov. Stress	Outflow	Aggressive	+sov. Stress	EA FSAP Mild	Moderate	Severe
OUTFLOWS	**SC1**	**SC2**	**SC3**	**SC4**	**SC6**	**SC7**	**EASC1**	**EASC2**	**EASC3**
Liabilities resulting from securities issued (if not treated as retail deposits)									
Unsecured bonds due	100%	100%	100%	100%	100%	100%	50%	100%	50%
Regulated covered bonds	100%	100%	100%	100%	100%	100%	50%	100%	50%
Securitisations due	100%	100%	100%	100%	100%	100%	50%	100%	50%
Other liabililties from issued securities	100%	100%	100%	100%	100%	100%	50%	100%	50%
Liabilities resulting from secured lending and capital market driven transactions collateralised by (Counterparty is non - Central Bank)									
Level 1 central bank	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 1 (CQS1)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 1 (CQS2-3)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 1 (CQS4+)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 1 covered bonds (CQS1)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 2A corporate bonds (CQS1)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 2A covered bonds (CQS1-2)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 2A public sector (CQS1-2)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 2B ABS (CQS1)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 2B covered bonds (CQS1-6)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 2B: corporate bonds (CQS1-3)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 2B shares	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 2B public sector (CQS 3-5)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Other tradeable assets	100%	100%	100%	100%	100%	100%	100%	100%	100%
Other assets	100%	100%	100%	100%	100%	100%	100%	100%	100%
Liabilities resulting from secured lending and capital market driven transactions collateralised by (Counterparty is Central Bank):									
Level 1 tradeable assets	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 2A tradeable assets	85%	85%	85%	85%	85%	85%	100%	100%	100%
Level 2B tradeable assets	75%	75%	75%	75%	75%	75%	100%	100%	100%
Other tradeable assets	0%	0%	0%	0%	0%	0%	100%	100%	100%
Other assets (counterparty Central Bank)	0%	0%	0%	0%	0%	0%	100%	100%	100%
Liabilities resulting from deposits received (excluding deposits received as collateral)									
Stable retail deposits	5%	5%	5%	10%	10%	10%	5%	8%	5%
Other retail deposits	15%	15%	15%	25%	25%	25%	10%	40%	10%
Operational deposits	25%	25%	25%	40%	40%	40%	25%	49%	15%
Non-operational deposits from credit inst.	100%	100%	100%	100%	100%	100%	100%	100%	50%
Non-operational deposits from other fin. cust.	100%	100%	100%	100%	100%	100%	75%	100%	50%
Non-operational deposits from central banks	40%	40%	40%	40%	40%	40%	0%	0%	0%
Non-operational deposits from non-fin. corp.	40%	40%	40%	50%	50%	50%	25%	76%	25%
Non-operational deposits from others	40%	40%	40%	50%	50%	50%	25%	76%	25%
FX-swaps maturing	100%	100%	100%	100%	100%	100%	50%	100%	100%
Derivatives amount payables	100%	100%	100%	100%	100%	100%	50%	100%	100%
Other outflows	100%	100%	100%	100%	100%	100%	50%	100%	100%

Item	Weight under scenario								
	Regulatory	Market	+sov. Stress	Outflow	Aggressive	+sov. Stress	EA FSAP Mild	Moderate	Severe
INFLOWS	**SC1**	**SC2**	**SC3**	**SC4**	**SC6**	**SC7**	**EASC1**	**EASC2**	**EASC3**
Monies due from secured lending and capital market driven transactions collateralised by:									
Level 1 central bank	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 1 (CQS1)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 1 (CQS2-3)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 1 (CQS4+)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 1 covered bonds (CQS1)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 2A corporate bonds (CQS1)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 2A covered bonds (CQS1-2)	100%	100%	100%	100%	100%	100%	100%	100%	200%
Level 2A public sector (CQS1-2)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 2B ABS (CQS1)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 2B covered bonds (CQS1-6)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 2B: corporate bonds (CQS1-3)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 2B shares	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 2B public sector (CQS 3-5)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Other tradeable assets	100%	100%	100%	100%	100%	100%	100%	100%	100%
Other assets	100%	100%	100%	100%	100%	100%	100%	100%	100%
Monies due resulting from loans and advances granted to:									
Retail customers	50%	50%	50%	50%	50%	50%	2%	2%	2%
Non-financial corporates	50%	50%	50%	50%	50%	50%	2%	2%	2%
Credit institutions	100%	100%	100%	100%	100%	100%	100%	100%	100%
Other financial customers	100%	100%	100%	100%	100%	100%	100%	100%	100%
Central banks	100%	100%	100%	100%	100%	100%	100%	100%	100%
Other counterparties	50%	50%	50%	50%	50%	50%	3%	3%	3%
FX-swaps maturing	100%	100%	100%	100%	100%	100%	100%	100%	100%
Derivatives amount receivables	100%	100%	100%	100%	100%	100%	100%	100%	100%
Paper in own portfolio maturing	100%	100%	100%	100%	100%	100%	100%	100%	100%
Other inflows	100%	100%	100%	100%	100%	100%	100%	100%	100%

Item	Weight under scenario								
	Regulatory	Market	+sov. Stress	Outflow	Aggressive	+sov. Stress	EA FSAP Mild	Moderate	Severe
COUNTERBALANCING CAPACITY	**SC1**	**SC2**	**SC3**	**SC4**	**SC6**	**SC7**	**EASC1**	**EASC2**	**EASC3**
Coins and banknotes	100%	100%	100%	100%	100%	100%	100%	100%	100%
Withdrawable central bank reserves	100%	100%	100%	100%	100%	100%	100%	100%	100%
Level 1 central bank	100%	95%	95%	100%	95%	95%	100%	100%	100%
Level 1 (CQS1)	100%	95%	95%	100%	95%	95%	98%	98%	90%
Level 1 (CQS2-3)	100%	95%	80%	100%	95%	80%	95%	95%	85%
Level 1 (CQS4+)	100%	95%	80%	100%	95%	80%	75%	75%	60%
Level 1 covered bonds (CQS1)	93%	80%	80%	93%	80%	80%	97%	97%	90%
Level 2A corporate bonds (CQS1)	85%	65%	65%	85%	65%	65%	85%	80%	80%
Level 2A covered bonds (CQS1-2)	85%	65%	65%	85%	65%	65%	85%	80%	80%
Level 2A public sector (CQS1-2)	85%	65%	65%	85%	65%	65%	85%	80%	80%
Level 2B ABS (CQS1)	75%	50%	50%	75%	50%	50%	75%	75%	60%
Level 2B covered bonds (CQS1-6)	70%	50%	50%	70%	50%	50%	75%	75%	60%
Level 2B: corporate bonds (CQS1-3)	50%	30%	30%	50%	30%	30%	75%	75%	60%
Level 2B shares	50%	30%	30%	50%	30%	30%	75%	75%	60%
Level 2B public sector (CQS 3-5)	50%	30%	30%	50%	30%	30%	75%	75%	60%
Other tradeable assets	0%	0%	0%	0%	0%	0%	75%	75%	60%
Non-tradeable assets eligible for central banks	0%	0%	0%	0%	0%	0%	62%	62%	50%
Own issuances eligible for central banks	0%	0%	0%	0%	0%	0%	62%	62%	50%
Level 1 facilities	0%	0%	0%	0%	0%	0%	0%	0%	0%
Level 2B restricted use facilities	0%	0%	0%	0%	0%	0%	0%	0%	0%
Level 2B IPS facilities	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other facilities	0%	0%	0%	0%	0%	0%	0%	0%	0%

Item	Weight under scenario								
	Regulatory	Market	+sov. Stress	Outflow	Aggressive	+sov. Stress	EA FSAP Mild	Moderate	Severe
CONTINGENCIES	**SC1**	**SC2**	**SC3**	**SC4**	**SC6**	**SC7**	**EASC1**	**EASC2**	**EASC3**
Considered as Level 2B by the receiver	10%	10%	10%	10%	10%	10%	40%	20%	40%
Other	10%	10%	10%	10%	10%	10%	40%	20%	40%
Liquidity facilities	30%	30%	30%	30%	30%	30%	40%	20%	40%
Outflows from uncommited funding facilities	0%	0%	0%	0%	0%	0%	0%	0%	0%
Outflows due to downgrade triggers	100%	100%	100%	100%	100%	100%	25%	25%	75%