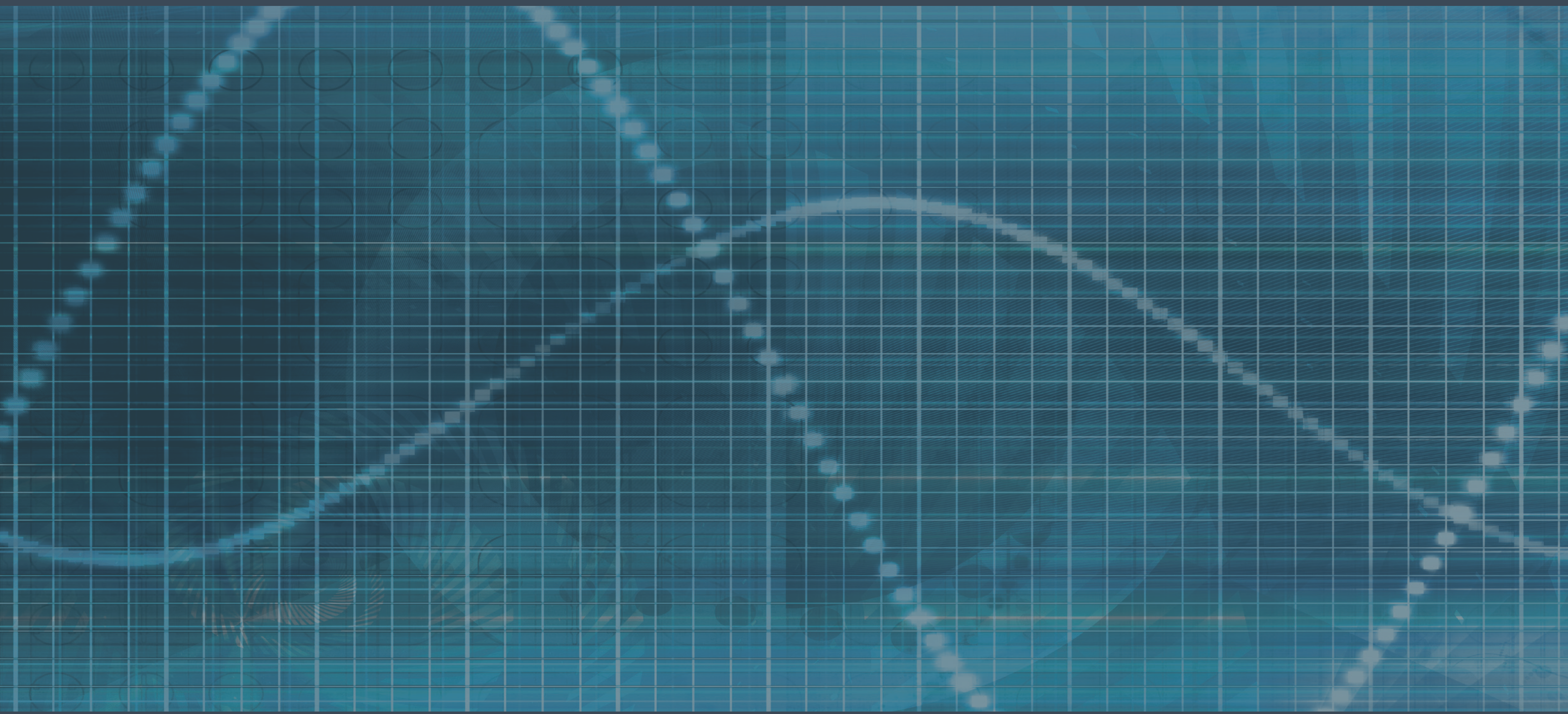
ANNUAL REPORT 2022

AMCESFI | Autoridad Macroprudencial Consejo de Estabilidad Financiera



GOBIERNO DE ESPAÑA | MINISTERIO DE ECONOMÍA, COMERCIO Y EMPRESA | BANCO DE ESPAÑA Eurosistema | CNMV Comisión Nacional del Mercado de Valores

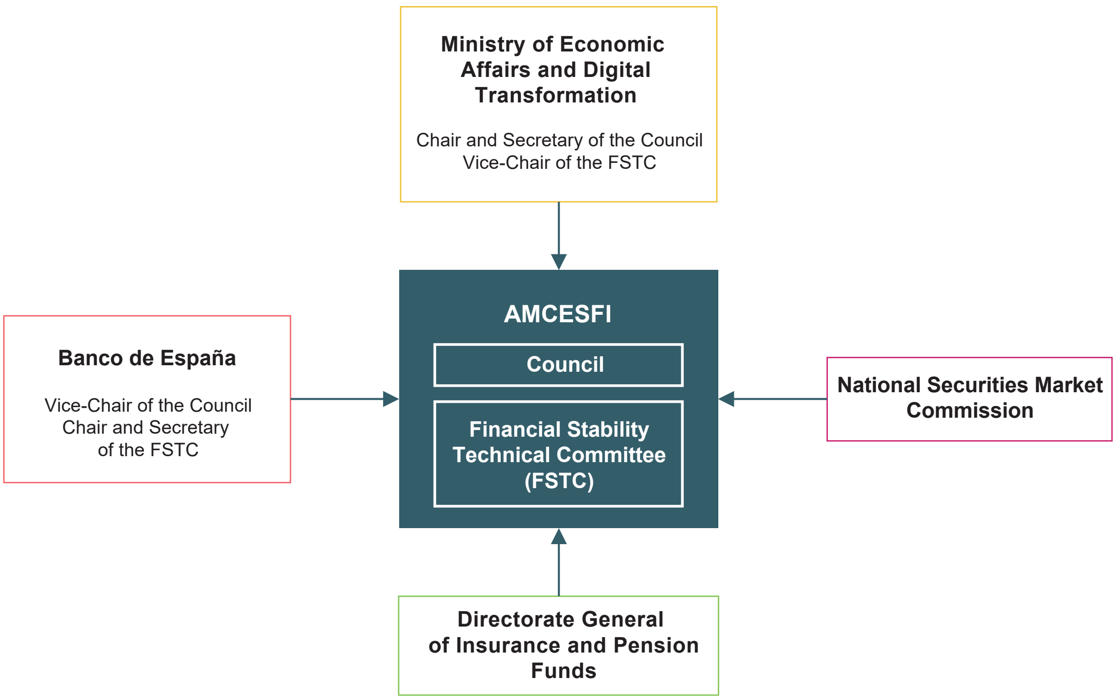
About AMCESFI

AMCESFI *(Autoridad Macroprudencial Consejo de Estabilidad Financiera)* is the macroprudential authority for the Spanish financial system. Set up in 2019, its goal is to contribute to the stability of the financial system as a whole by identifying, preventing and mitigating any circumstances or actions that may give rise to systemic risk. For this purpose, AMCESFI is empowered to issue opinions, warnings and recommendations on matters that could affect financial stability.

AMCESFI is organised as an operationally independent collegiate body attached to the Minister for Economic Affairs and Digital Transformation.[1] It also includes representatives of the three Spanish authorities with sectoral responsibilities for the regulation and prudential supervision of the Spanish financial system, namely the Banco de España, the National Securities Market Commission (CNMV) and the Directorate General of Insurance and Pension Funds (DGSFP).

AMCESFI comprises two permanent structures: a Council and a Financial Stability Technical Committee (FSTC). By its very nature, it has no human, material or

Figure 1 Structure of AMCESFI



SOURCE: AMCESFI.

1 Ministry of Economy, Trade and Enterprise at the time of publication of this report. However, the name in effect in 2022 has been used throughout.

financial resources of its own; its activity is underpinned by the support it receives from its member institutions.

This *Annual Report* is published in compliance with the accountability obligation envisaged in Article 19 of Royal Decree 102/2019 of 1 March 2019 whereby AMCESFI was created, its legal framework was established and certain aspects relating to macroprudential tools were implemented.

For more information about AMCESFI, see www.amcesfi.es.

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Introductory letter from the Minister for Economy, Trade and Enterprise

Carlos Cuerpo, Chair of the Council of AMCESFI

Dear reader:

Since its creation, more than four years ago, the Spanish macroprudential authority (AMCESFI) has established itself as an institution that preserves the stability of our financial system, contributing to the resilience of the real economy and, hence, to sustainable and inclusive growth to improve the well-being of our citizens.

Over the course of these four years, the Ministry of Economy and the banking, insurance and financial market supervisors have together played a crucial role in identifying, monitoring and analysing systemic risk factors, and in designing effective measures to keep such risks at bay, thus contributing to economic and social stability in our country in a highly uncertain, turbulent and volatile international setting.

The decisive action of the different institutions and our clear-sighted economic policies have enabled us to respond effectively when compelled to act swiftly, without losing sight of what really matters. We did this to tackle the pandemic, from March 2020. With coordinated monetary and fiscal action, financial stability was maintained in the face of an unprecedented shock, preventing structural damage and laying the foundations for a strong recovery. We also responded to the inflationary episode triggered by Russia's unjustified invasion of Ukraine, the ensuing rise in interest rates and all the other events of that period, notably the bout of instability arising from the collapse of several banks in the United States and one in Switzerland and the conflict in the Middle East, which further exacerbated an already very volatile scenario.

Despite a complex international backdrop and the economic slowdown in Europe, the Spanish economy has performed well, with strong GDP growth for two consecutive years (2021 and 2022), remaining buoyant in 2023 and with a positive outlook for 2024.

The strong performance of the Spanish economy is underpinned by the extraordinary labour market developments – with the employment and participation rate at record high levels –, resilient domestic consumption and a robust external sector. Moreover, a process of structural change is under way, borne out by the creation of jobs in high value-added sectors, the buoyancy of non-travel services, the gains in market share of Spanish firms, the weight of new technologies in GDP and the improvement in productivity.

All this has been thanks to economic policies grounded in fiscal responsibility, social justice and structural reform, which protected the productive system, employment and household income during the pandemic and swiftly brought inflation under control following the outbreak of the war, anticipating the risks it would pose and thus averting the worst-case scenarios.

AMCESFI has gradually strengthened its instruments and stepped up the frequency of its Council and Financial Stability Technical Committee meetings, providing an extremely valuable forum for sharing information, identifying vulnerabilities and adopting macroprudential measures for the financial system, in order to respond early to the growing external challenges.

Meanwhile, AMCESFI has remained attentive to the long-term challenges. 2023 saw the publication of its first *Biennial Report on Climate Change Risks to the Financial System,* which analyses the impact of climate change on the financial sector in Spain and concludes that the failure to act will lead to the worst possible outcome, that action is therefore imperative, and that a gradual transition, accompanied by mechanisms to mitigate the impact of climate change on the most vulnerable households and the hardest-hit sectors and firms, is the way forward.

Digitalisation is another area of growing interest for AMCESFI. The cross-cutting digital transition that is currently in motion globally represents a major opportunity for the financial sector and its customers, bringing new products and services, and developing technologies that will boost connectivity and productivity in the sector and promote financial inclusion. However, it is also a source of risks, such as the emergence of new products and competitors beyond the reach of regulators and supervisors or the increased frequency and scale of cyber attacks or incidents and the risks they pose for financial stability. It is therefore essential that the financial sector establishes the necessary risk management and prevention mechanisms, and that governments place more emphasis on supervisory action to address these challenges, and create an appropriate regulatory framework. Worth mentioning in this connection is the launch of the “sandbox” tool for testing new FinTech services and the coordinated effort of AMCESFI members to implement the EU’s regulation on markets in crypto-assets (known as MiCA) in Spain.

Lastly, this report is published in the wake of the Spanish presidency of the Council of the European Union, which has proved a great opportunity and responsibility for our country. During its presidency, Spain worked to strengthen Economic and Monetary Union, pressing forward with issues of crucial importance for the future, such as the reform of the fiscal rules, the integration of payment systems, the digital euro, capital market integration and the development of instruments to fund the green and digital “twin” transition.

This report represents the joint work of the Ministry of Economy, Trade and Enterprise, the Banco de España, the National Securities Market Commission and the Directorate General of Insurance and Pension Funds. These are the authorities responsible for regulating and supervising the Spanish financial sector, to safeguard the stability of our financial system, which is necessary if we are to continue moving towards a more prosperous society.

In a setting as troubled and uncertain as the present one, institutions such as AMCESFI are of the utmost value, as they promote dialogue and coordination between different institutions and bodies, with a clear objective: to protect the general interest. I would therefore like to thank the many technical teams involved for their valuable work day in day out to ensure the sound functioning of the financial system, instilling trust and peace of mind among citizens and firms and providing economic stability.

1 AMCESFI activities in 2022

In its fourth year, AMCESFI's activities were marked by the macro-financial fallout from Russia's invasion of Ukraine. Since it began in February 2022, the war has brought about a worsening of the growth outlook for the world economy, against a backdrop of high inflation and a tightening of financing conditions. Faced with the challenges posed by the geopolitical turmoil, AMCESFI stepped up its activities, adjusting its work priorities and strengthening coordination and information-sharing among its members.

2022 saw an increase in the number of meetings held by AMCESFI. The Council and its supporting body, the Financial Stability Technical Committee (FSTC), met a total of eleven times over the year (as compared with 7 in 2021). Drawing on the latest available information, these meetings addressed the main systemic risks and vulnerabilities identified, the trends observed in the way financial institutions and other agents are adapting to the new macro-financial environment, and the behaviour of the main activity variables, as well as developments in the profitability and solvency of the financial system, by sector. The members of the Council and the FSTC were informed of the latest developments as regards the measures adopted by the European Union (EU) in response to the war in Ukraine and their roll-out in Spain.

In 2022 AMCESFI made further progress in preparing its first climate change report. This initiative stems from the mandate envisaged in Law 7/2021 of 20 May 2021 on climate change and the energy transition, which tasks AMCESFI with overseeing the preparation of a biennial report based on future scenarios on the assessment of risks to the Spanish financial system arising from climate change and the policies adopted to combat it, and on the degree of alignment with the climate change goals set out in the Paris Agreement and in EU legislation. This work culminated with the publication of the first report in September 2023 (see Box 1).

On the macroprudential front, AMCESFI was informed of six proposed measures in 2022. In line with the provisions of Article 16 of Royal Decree 102/2019, the Banco de España notified the FSTC of all of the measures it proposed relating to the credit institutions sector. First, four quarterly decisions on the countercyclical capital buffer applicable to credit exposures in Spain, and second, two annual decisions on identifying and setting capital buffers for global and domestic systemically important institutions (see Chapter 3.1). For their part, the CNMV and the DGFSP did not inform AMCESFI of any macroprudential initiatives.

AMCESFI did not consider it necessary to issue warnings on factors of systemic risk to financial stability in Spain in 2022. The Russian invasion of Ukraine has had major global repercussions in the form of persistently high inflation rates, a tightening of financing conditions, supply-side bottlenecks, market turmoil (particularly in the energy derivatives markets) and a high level

Table 1.1 Composition of AMCESFI's Council at 31 December 2022

Institution	Position	Name	Position on the Council
Ministry of Economic Affairs and Digital Transformation	First Deputy Prime Minister and Minister	Nadia María Calviño Santamaría	Chair
Banco de España	Governor	Pablo Hernández de Cos	Vice-Chair
National Securities Market Commission	Chair	Rodrigo Buenaventura Canino	Member
Banco de España	Deeputy Governor	Margarita Delgado Tejero	Member
National Securities Market Commission	Vice-Chair	Montserrat Martínez Parera	Member
Ministry of Economic Affairs and Digital Transformation	Secretary of State for Economic Affairs and Support to Enterprise	Gonzalo García Andrés	Member
Ministry of Economic Affairs and Digital Transformation	Director General of Insurance and Pension Funds	Sergio Álvarez Camiña	Member
Ministry of Economic Affairs and Digital Transformation	General Secretary of the Treasury and International Financing	Carlos Cuerpo Caballero	Secretary

SOURCE: AMCESFI.

of uncertainty. Thus, the European Systemic Risk Board (ESRB) – of which AMCESFI's three sectoral authorities form part – issued its first ever Europe-wide warning on the vulnerabilities identified in the financial system. Chapter 5 and Annex 2 of this Report contain further details of this and other recent ESRB-related developments of relevance for AMCESFI.

AMCESFI's members shared their institutions' reports and publications on financial stability and macroprudential policy. The FSTC was informed of the publication of the Banco de España's *Financial Stability Report* and the CNMV's *Financial Stability Notes,* both issued twice a year, as well as of the latest (annual) report submitted by the Banco de España to the Spanish Parliament on the stress testing of the Spanish deposit-taking institutions under its direct supervision. Annex 3 sets out a detailed breakdown of the main publications of AMCESFI's member institutions over the past year.

2022 saw a change in the membership of AMCESFI as a result of the appointment made by the Ministry of Economic Affairs and Digital Transformation. In August 2022, Álvaro López Barceló – formerly the Deputy Director General of Public Debt Management at the General Secretariat of the Treasury and International Financing – was named Director General of the Treasury and Financial Policy, thus making him an ex officio member of the FSTC, replacing Pablo de Ramón-Laca Clausen.

In 2022 AMCESFI published its annual report referring to 2021. The *Annual Report 2021* was released on 7 September 2022, coinciding with the appearance

Table 1.2 Composition of AMCESFI's FSTC at 31 December 2022

Institution	Position	Name	Position on the Committee
Banco de España	Deputy Governor	Margarita Delgado Tejero	Chair
Ministry of Economic Affairs and Digital Transformation	General Secretary of the Treasury and International Financing	Carlos Cuerpo Caballero	Vice-Chair
CNMV	Vice-Chair	Montserrat Martínez Parera	Member
Ministry of Economic Affairs and Digital Transformation	Director General of the Treasury and Financial Policy	Álvaro López Barceló	Member
Ministry of Economic Affairs and Digital Transformation	Director General of Insurance and Pension Funds	Sergio Álvarez Camiña	Member
Banco de España	Director General Financial Stability, Regulation and Resolution	Ángel Estrada García	Member and Secretary
Banco de España	Director General Banking Supervision	Mercedes Olano Librán	Member
CNMV	Director General of Strategic Policy and International Affairs	Víctor Rodríguez Quejido	Member
CNMV	Director General of Markets	Ángel Benito Benito	Member
CNMV	Director General of Institutions	José María Marcos Bermejo	Member

SOURCE: AMCESFI.

by the AMCESFI Council Chair before the Parliamentary Economic Affairs and Digital Transformation Committee, in accordance with Article 20 on parliamentary oversight of Royal Decree 102/2019. An English-language version of the *Annual Report 2021* is available on AMCESFI's website (www.amcesfi.es).

Members of the AMCESFI FSTC

Source: AMCESFI.

Note: from left to right, José María Marcos Bermejo, Víctor Rodríguez Quejido, Álvaro López Barceló, Carlos Cuerpo Caballero, Margarita Delgado Tejero, Ángel Estrada García, Montserrat Martínez Parera, Mercedes Olano Librán and Sergio Álvarez Camiña.

BOX 1.A First biennial AMCESFI report on climate change

Law 7/2021 of 20 May 2021 on climate change and the energy transition (LCCTE) tasks AMCESFI with integrating climate change-related risks within the financial system. Specifically, Article 33.1 of the LCCTE states that AMCESFI must work with the three sectoral supervisory authorities (the Banco de España, the CNMV and the DGSFP) to prepare a report assessing the risks to the Spanish financial system posed by climate change and the degree of compliance with the Paris Agreement goals. The report must be prepared every two years and submitted to Parliament and the Senate.

In September 2023, AMCESFI published its first *Biennial Report on Climate Change Risks to the Financial System,* which includes an analysis of the impact of transition and physical risks on the financial system. The transition risks assessment focused on a common scenario for the financial sector as a whole, in which such risks arise suddenly and unpredictably, with a medium-term impact on the economy and instant impact on the financial markets. This scenario is in line with that used in other European impact assessments, and is based on those designed by the Network for Greening the Financial System (NGFS). It is more likely to arise if decarbonisation measures are implemented late, or are poorly designed at earlier stages.

The results of the analysis show that a disorderly climate transition would have adverse effects on the different financial intermediaries. An immediate deterioration of financing conditions would trigger losses on the portfolios of investment funds, pension funds and insurance companies, making them less solvent. In the case of the banking sector, the macroeconomic downturn would lead to losses on loan portfolios, compounding the decline in the market value of credit institutions' investment portfolios. Notwithstanding the high level of uncertainty as to the possible costs of the climate transition, such costs are likely to be higher than in an alternative scenario in which measures to drive the decarbonisation of the economy are taken early and in an orderly fashion.

The materialisation of climate change poses significant physical risks to economic activity and the financial system. Nonetheless, such risks are hard to analyse and quantify given the challenges of assessing an unprecedented event such as climate change, as well as the long time frames analysed. Illustrative exercises suggest that, from 2030 onwards, a failure to act and the physical risks that would follow is likely to lead to an appreciable increase in expected credit loss. The report also explores the costs for the financial system of certain extreme climate events. For example, droughts and heat waves could lead to a deterioration in bank loan portfolios and, by extension, in the banking sector's profitability and solvency. Similarly, more frequent extreme climate events are likely to trigger a rise in the claims incurred by the insurance sector, and a worsening of institutions' solvency ratios.

In short, the climate change impact analysis reveals significant challenges for financial supervisors. These challenges stem not only from the uncertainty over climate change and the limitations of the current models, but

BOX 1.A First biennial AMCESFI report on climate change (cont'd)

also from the need for additional data and improvements in the quality of such data. With this in mind, improving the data provided by supervised financial institutions is key to making future climate change analyses more accurate. The LCCTE envisages the preparation of annual reports detailing banks' exposure to the risks posed by the transition towards a sustainable economy and the measures adopted to address such risks. These reports will represent an important source of information for the next edition of AMCESFI's *Biennial Report on Climate Change Risks to the Financial System,* due in 2025.

2 Macro-financial environment

Main macro-aggregates

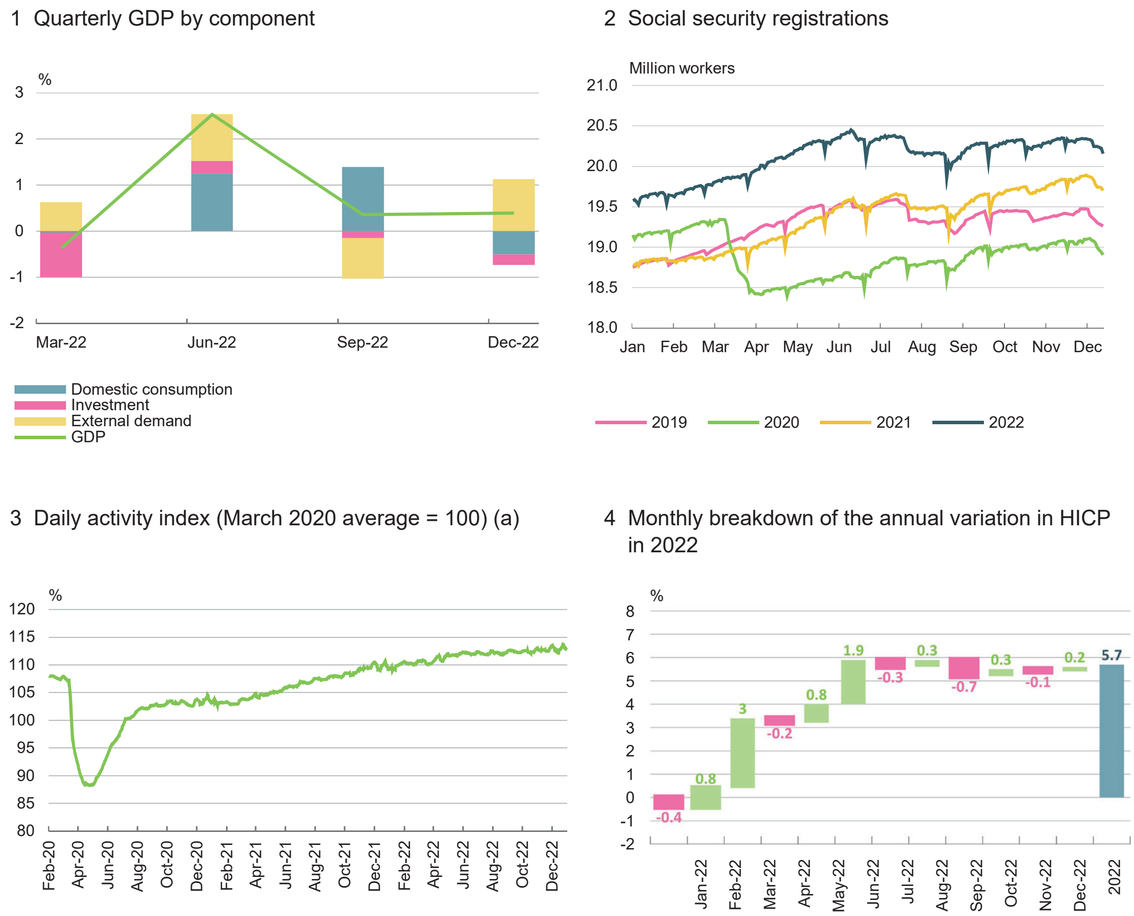
The Spanish economy saw continued GDP growth in 2022, particularly in the second quarter of the year, albeit at a slower pace than in 2021 as the post-COVID 19 macroeconomic recovery took root. All told, GDP growth over the year stood at 5.5%, above the figure initially forecast. Nominal GDP stood at €1,327 billion, 10% up on 2021. 2022 saw the continuation of the upward trend that began a year earlier (following the sharp contraction in 2020), buoyed by job creation, the Recovery, Transformation and Resilience Plan funds, private consumption and the external sector. Such growth took place against a backdrop in which the disruptive effects of the COVID-19 pandemic still persisted, and which were further compounded by the impact of the Russian invasion of Ukraine in February in areas such as energy prices, inflation rates and international trade.

Employment continued to recover, breaking the all-time records set the preceding year. 2022 came to a close with almost 20.3 million social security registrations, with headcount employment rising by 471,360 over the year (see Chart 2.1.2). Although growth slowed in the second half of the year, the job market remained strikingly resilient. As a result, the Spanish unemployment rate at end-2022 stood at 12.87% (see Chart A1.2 of Annex 1), which, while high when compared to other EU countries, is the lowest year-end figure since 2007.

2022 was shaped by significant risk factors such as the war in Ukraine, rising inflation and interest rates and the slowdown in global growth. The roll-out of measures to support households and firms helped the Spanish economy to continue growing in 2022, although GDP had yet to return to its pre-pandemic level by the end of the year. Against this background of risks and rising prices and financial costs, the private sector's NPL ratio continued its downward trend, falling to 3.5%, its lowest level since 2008.

Despite the risks referred to above, the Spanish economy's core external and internal metrics continued to perform well in 2022. First, the current account surplus continued in 2022 (0.6% of GDP). In turn, the capital account balance for the year remained positive (0.9% of GDP). Thus, the Spanish economy's net lending stood at 1.5% of GDP. This net lending, combined with a more negative valuation effect for liabilities held abroad than for assets held abroad, and, in particular, nominal GDP growth in 2022, helped to continue reducing the negative net international investment position (-60.4% of GDP at end-2022, versus -71.5% in 2021), although the pace of this reduction slowed in Q4. On the domestic front, the process of private deleveraging also gathered pace. Thus, at end-2022, private debt stood at 125.1% of GDP, compared with 140% twelve months earlier, reflecting both a reduction in debt and, to a greater extent, higher income.

Chart 2.1 Main macro-aggregates



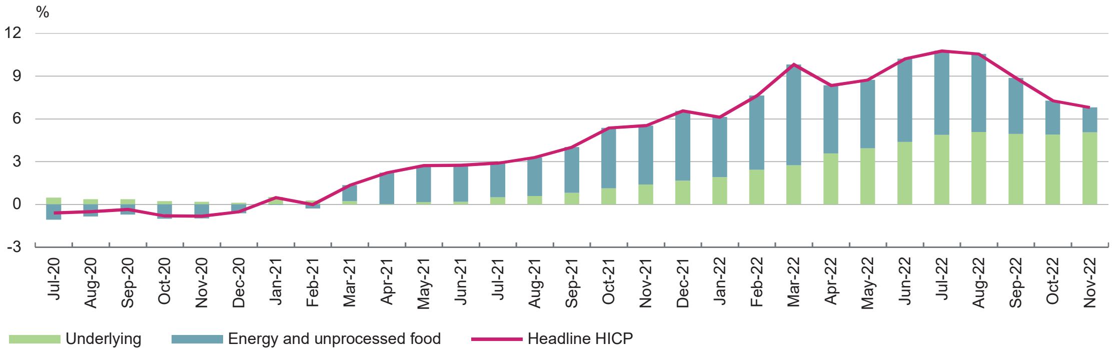
SOURCES: INE, Ministerio de Inclusión, Seguridad Social y Migraciones, and Ministerio de Asuntos Económicos y Transformación Digital.

a The daily activity index is calculated drawing on published monthly indicators (retail trade index, industrial output index, service sector activity index, social security registrations, etc.) and on daily high-frequency data observed up to the most recent possible date (daily sales, electricity consumption, card expenditure, registrations, etc.).

The measures adopted to curb price increases helped keep rising inflation in check. Energy prices began to gain momentum in 2021 Q1, before accelerating up until 2022 Q1, when Russia invaded Ukraine. Energy inflation continued over the next two quarters, with rates, though still very high, rising slightly less sharply (see Chart 2.2). The surge in energy costs prompted more widespread inflationary pressures, with inflation – measured by year-on-year changes in the consumer price index (CPI) – standing at its highest level for three decades in summer 2022 (10.8%). Nonetheless, thanks to falling energy prices and the measures set in place to curb price rises, inflation eased significantly from September onwards. Thus, headline inflation stood at 5.7% in December 2022. The contribution made by energy and unprocessed foods to such inflation began to decline in August, and was practically non-existent by December.

The ongoing growth of economic activity and its impact on tax revenue meant that the government deficit again fell significantly in 2022. Despite the

Chart 2.2 Breakdown of the inflation rate (year-on-year rate of change)



SOURCE: INE.

roll-out of the measures approved in response to the war in Ukraine and the rise in inflation, which called for significant public expenditure, the general government deficit at end-2022 stood at 4.8% of GDP. This represents a 23% drop compared with the 2021 figure (6.9%). The reduction in the deficit in 2022 was aided by higher tax revenue, which rose to €255,463 million, a 14.4% increase on the record figure posted in 2021.

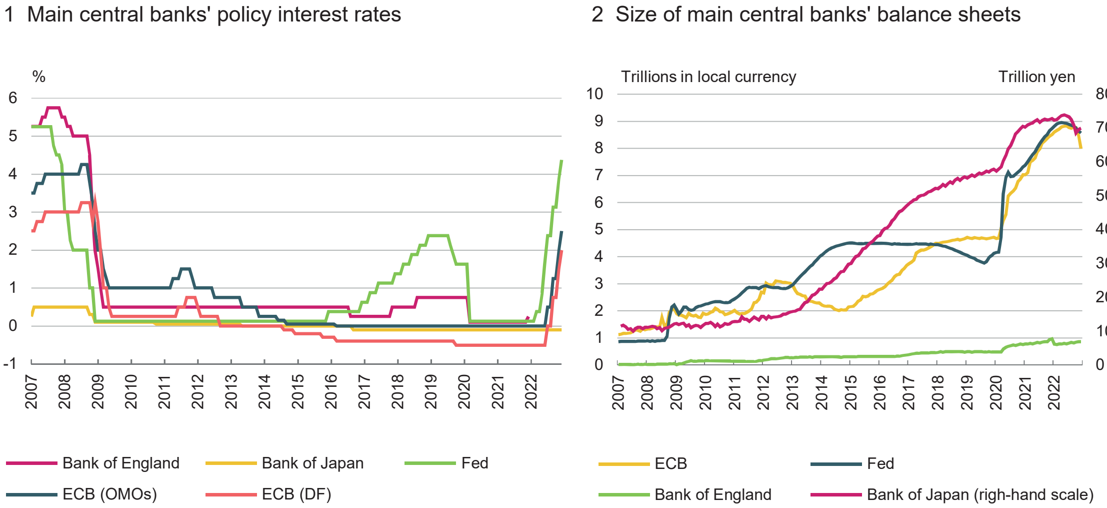
This made it possible to continue reducing the level of government debt reached as a result of the pandemic, down to 113.2% of GDP at end-2022, 5 percentage points below the end-2021 figure (see Chart A1.4 of Annex 1). Sovereign debt issuance fell by almost €5 billion, down to €70,063 million, while gross issuance stood at €232,570 million. In the current context of monetary policy normalisation, the average cost of the debt issued in 2022 stood at 1.35%, as compared with the negative average rate seen for the first time a year earlier (-0.04%).

Money markets and central banks

The change of monetary policy cycle brought about by inflation developments was the main factor driving the behaviour of money markets in 2022. With the exception of the Bank of Japan, the main central banks reversed their expansionary monetary policies in a bid to combat inflation. Thus, over 2022 they began by significantly hiking their respective policy interest rates: 425 basis points (bp) since March 2022 in the case of the United States Federal Reserve, and 325 bp since December 2021 in the case of the Bank of England (see Chart 2.3.1). The main central banks then went on to shrink their balance sheets, whether in the form of quantitative tightening (reducing their portfolio assets) or by lending less to banks (see Chart 2.3.2).

The Eurosystem raised its policy interest rates by 250 bp over 2022. As 2022 began, the deposit facility rate stood at -0.5%, the main refinancing operations (repo) rate at 0% and the marginal lending facility rate at 0.25%. In view of its

Chart 2.3 Central banks



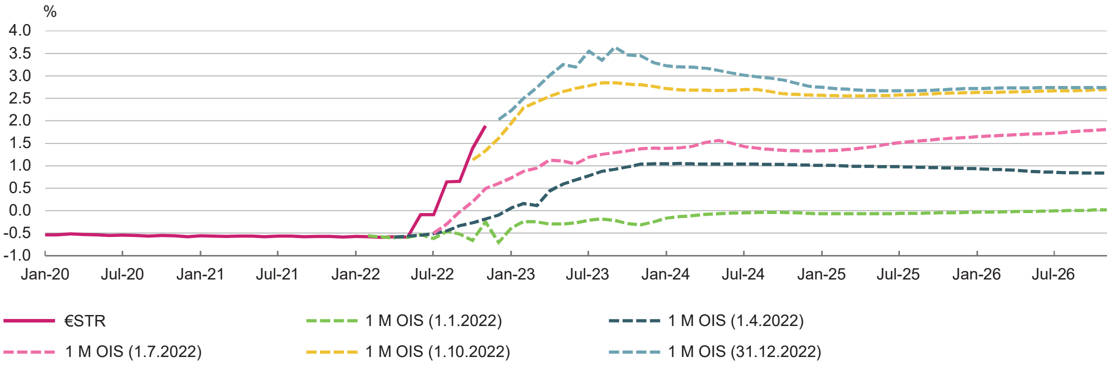
SOURCES: ECB, United States Federal Reserve System, Bank of England and Bank of Japan.
NOTE: Fed: United States Federal Reserve System.

inflation target, on 21 July 2022 the Governing Council of the European Central Bank (ECB) decided to hike the three policy rates by 50 bp. On 8 September the ECB decided to return the deposit facility rate to positive territory, hiking the three rates by 75 bp, before doing the same at the 27 October meeting of its Governing Council. Finally, on 15 December it was decided to slow the pace of hikes to 50 bp, yielding policy rates of 2% (deposit facility), 2.5% (repo) and 2.75% (lending facility), respectively.

The expected path of the Eurosystem's policy interest rates was highly volatile over 2022. The swaps segment of the money market, which rests partly on the overnight interest rate (the €STR in the euro area), is used mainly for hedging risks (in the form of spot contracts) and speculating on the path of policy interest rates (in the form of forward contracts). As can be seen in Chart 2.4, the different forward curves show the progressive rise in expected future interest rates over 2022, as inflation rates rose. In December 2022, the overnight index swap (OIS) futures market was pricing in a terminal policy (deposit facility) rate of 2.75%.

Money market interest rates reflected the policy rate hikes. With respect to the rates determined in the unsecured segment of the money market, the €STR largely mirrored the changes in the deposit facility rate, remaining 8 to 10 bp lower, given the composition of the transactions comprising the calculation of the €STR (see Chart 2.5). The EURIBOR rates at different maturities varied along similar lines, albeit reflecting different positive spreads over the overnight rate depending on their respective maturities. Meanwhile, rates in the secured (or repo) segment also reflected the normalisation of monetary policy, albeit with the occasional shortage of collateral for certain sovereign instruments, leading to a degree of lag in monetary policy transmission.

Chart 2.4 Changes in the €STR and future outlook based on 1-month forward OIS agreements (a)



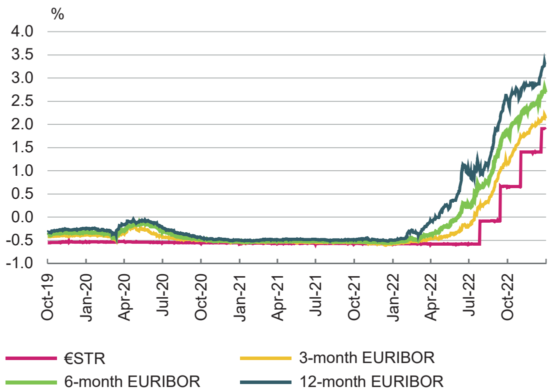
SOURCES: Refinitiv and own calculations.

a The red line denotes the level that the €STR would reach following an initial hypothetical rise of 10 bp in the ECB's deposit facility rate. The different dotted lines show the implied future rates in an €STR-based overnight index swap (OIS) that were quoted on the market on the dates indicated.

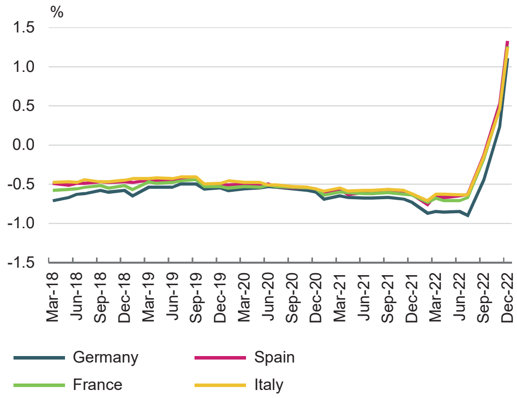
b The chart reflects the different dates in 2021 on which the market, through the implied 1-month OIS forward rates, has discounted a rise in the ECB's deposit facility rate. The first interest rate hike is assumed to be 10 bp (from -0.50% to -0.40%).

Chart 2.5 Reference money market interest rates

1 Reference unsecured money market interest rates



2 Reference secured money market interest rates, for a selection of countries (a)

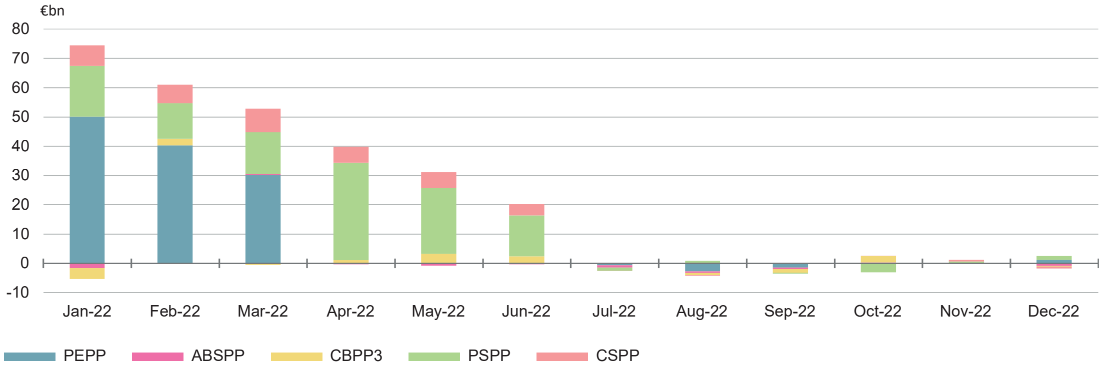


SOURCES: ECB (Money Market Statistical Reporting) and Refinitiv.

a For overnight transactions.

As a result of the normalisation and subsequent tightening of monetary policy, net asset purchases for monetary policy reasons were gradually wound down over 2022. Net asset purchases under the Pandemic Emergency Purchase Programme (PEPP) totalled €116,305 million in 2022. In December 2021 the ECB decided to discontinue the net asset purchases under the PEPP in March 2022, and to reinvest the PEPP portfolio assets maturing until December 2024. Elsewhere, net purchases under the ordinary purchase programmes (Asset Purchase Programme, APP) totalled €146,932 million in 2022 (Chart 2.6). While the initial

Chart 2.6 Net Eurosystem asset purchases, by programme



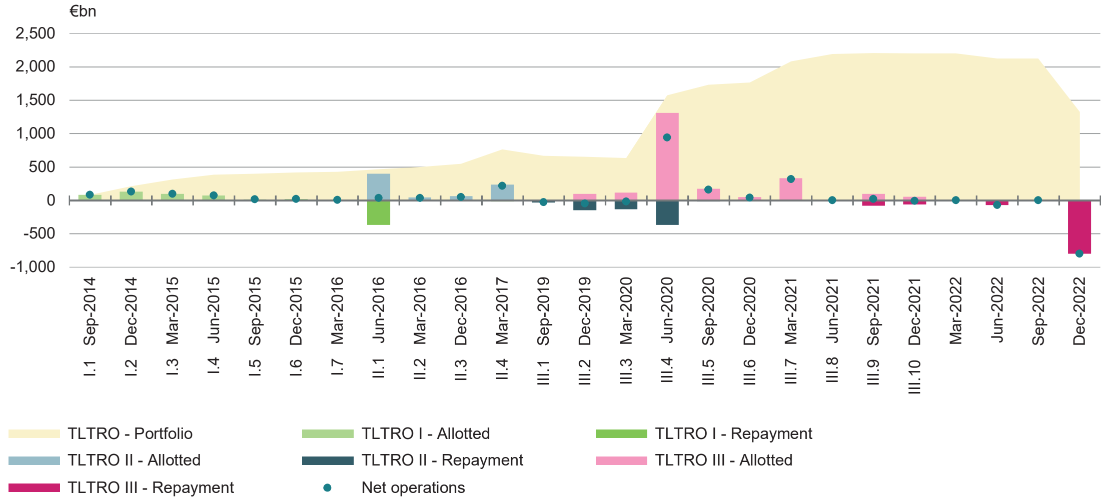
SOURCE: ECB.
NOTE: The Asset Purchase Programme (APP) comprises the Public Sector Purchase Programme (PSPP), the Covered Bond Purchase Programme 3 (CBPP3), the Corporate Sector Purchase Programme (CSPP), the Asset-Backed Securities Purchase Programme (ABSPP) and the Pandemic Emergency Purchase Programme (PEPP).

idea was that the APP would serve as a bridge programme on finalisation of the PEPP purchases, the fight against inflation led to the ECB's decision in March 2022 to scale down the volume of monthly purchases and, in June 2022, to discontinue net purchases on 1 July. Although the plan was initially to reinvest the APP assets up until a date following the first rate hike, in December 2022 it was decided to bring an end to the reinvestments (and to start shrinking the APP portfolio) in March 2023 at a rate of €15 billion a month. Eurosystem purchases of Spanish government debt totalled €34,058 million in 2022 (compared with €105,631 million in 2021), accounting for 15% of the Treasury's gross issuance. The Eurosystem's total holdings of Spanish government debt at December 2022 stood at €509,697 million, representing 34% of the outstanding debt.

The Eurosystem has created two instruments to ensure the smooth transmission of monetary policy and the integration of Europe's financial markets. In order to avoid the fragmentation of European financial markets with the emergence of yield spreads that are not warranted by the economic fundamentals of a particular country, the Eurosystem may reinvest maturing assets acquired under the PEPP as a first line of defence. Thus, the Eurosystem may adjust such reinvestments flexibly across asset classes, jurisdictions and time. Second, where necessary and provided certain criteria are met, the Eurosystem may activate the Transmission Protection Instrument (TPI) created in July 2022, allowing for unlimited asset purchases. These two lines of defence have helped ensure that the policy rate hiking cycle has not led to widening spreads across different European sovereigns.

In 2022 the Eurosystem's balance sheet shrank by €527,000 million, to stand at €7.98 billion, mainly as a result of repayments of targeted long-term refinancing operations (TLTROs). There were no new operations in the third round of TLTROs in 2022. Credit institutions were eligible for a reduced interest rate of -1% up until June 2022, provided they met the lending requirements, and, in any event, of -0.5%. Nonetheless, in October 2022 the Governing Council of the ECB

Chart 2.7 Targeted longer-term refinancing operations

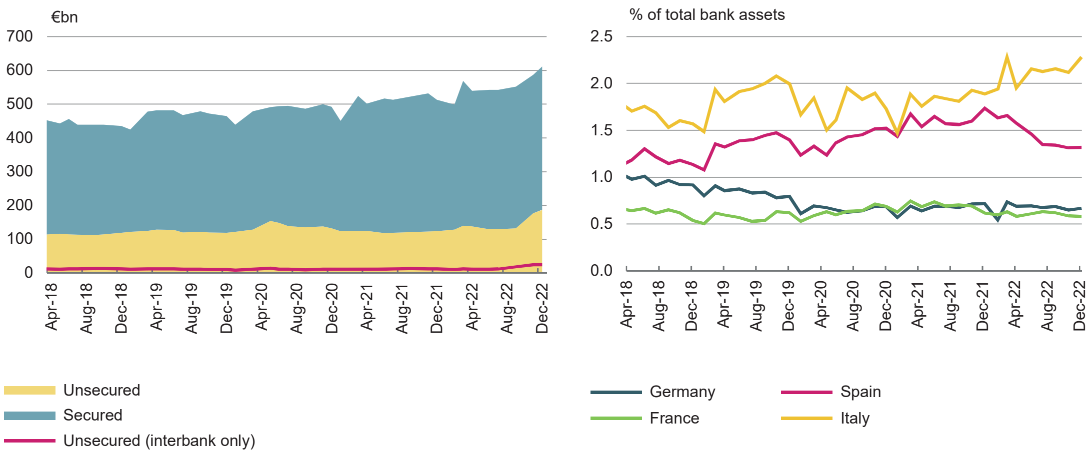


SOURCES: ECB and own calculations.

Chart 2.8 Financing on the money market

1 Average daily volume of transactions in the EU money market, by segment

2 Total lending to banks in a selection of countries



SOURCE: ECB (Money Market Statistical Reporting).

decided to modify the remuneration of TLTRO loans as from 22 November 2022, bringing it into line with the deposit facility rate, in order to strengthen monetary policy transmission. The increase in the average expected cost of the financing obtained from these types of operations meant that some credit institutions opted to make early voluntary repayment of part of the loans. Such voluntary repayments, combined with the loans maturing from the first rounds of operations, amounted to a total of €878,409 million. In 2022, the total volume of outstanding TLTRO loans fell from €2.2 billion to €1.3 billion (see Chart 2.7). The use of these operations by Spanish banks amounted to €192,970 million in December 2022.

2022 saw a rise in the volume of money market transactions. Among other consequences, the normalisation of monetary policy means that banks must ultimately turn to the market for financing, given the decline in the availability of ECB funding. This was borne out on the European money markets, where the average daily volume of transactions was up 51% for unsecured transactions (e.g. interbank deposits) and 9% for secured transactions (e.g. repos). Money market financing played a more prominent role for credit institutions in Spain and Italy than in other countries such as France and Germany (see Chart 2.8).

3 Financial system developments by sectors

3.1 Banking sector

2022 saw a decline in lending by Spanish deposit institutions to the resident private sector as a whole, in contrast to the trend over the preceding two years. Troubled assets performed notably better over the year, with steeper declines in non-performing loans for both households and firms. The trend as regards other signs of deterioration, such as Stage 2 loans and forbearances, was also encouraging. The credit quality of state-backed ICO loans continued to worsen, although this was only to be expected given the risk profile these types of loans tend to have. Banks' consolidated ordinary profit grew notably in 2022, driven by the improvement in net interest income associated with rising interest rates and the buoyancy of business in Latin America. Meanwhile, the overall level of solvency of Spanish banks declined in 2022, as the growth in assets failed to fully offset the higher regulatory Common Equity Tier 1 capital requirements.

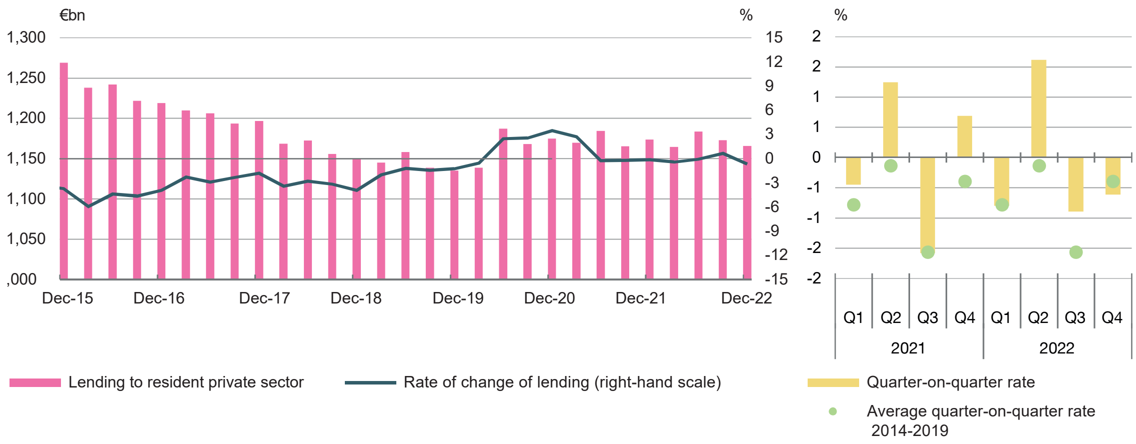
Changes in lending in operations in Spain and abroad

Despite the upturn in new loans, credit to both households and firms fell in 2022, while the rate of change in real terms returned to pre-pandemic levels. The stock of credit fell by 0.7% in 2022, in contrast to the upward trend seen in 2020 thanks to the policies rolled out to mitigate the fallout from the pandemic, and in 2021 (see Chart 3.1.1.1), when it generally held stable. Credit declined despite the rise in new lending (in terms of both new loans and the increase in the amounts drawn down on credit facilities already in place), which was more than offset by the outflows (repayments, write-offs, securitisations and portfolio sales). Household credit fell by 0.2% year-on-year, owing to the decline in the stock of loans for house purchase. Meanwhile, the outstanding balance of business loans declined by 1.5% in 2022, due to developments in both the sectors hardest hit by the pandemic (-6.9%) and those least affected (-3.3%). Moderately affected sectors saw 3.6% growth in 2022. Among the first two groups, the decline reflects a gradual deleveraging following the build-up of debt in the first quarters after the outbreak of the pandemic. Credit fell by 5.8% in real terms, due to the notable rise in inflation. This rate of decline is similar to that observed in the years leading up to the COVID-19 health crisis.

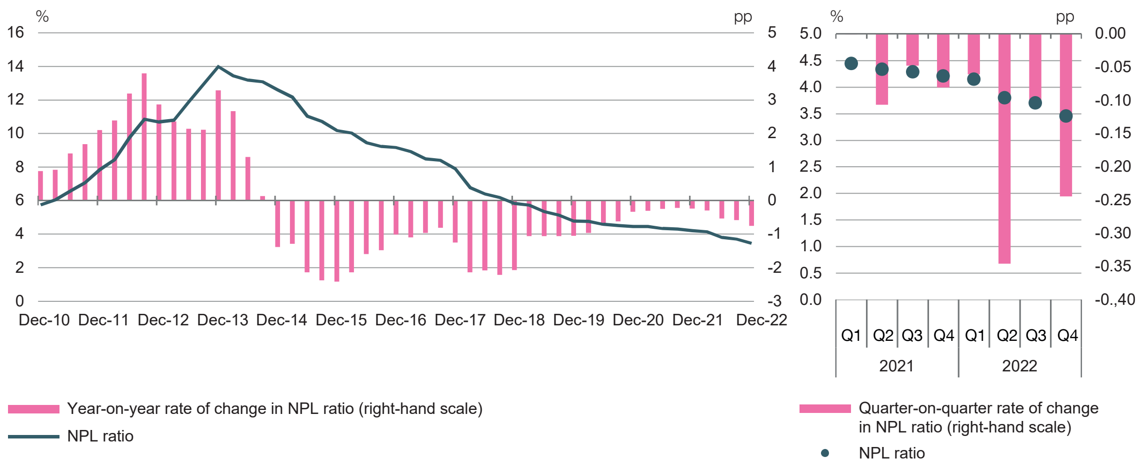
Non-performing assets continued to decline in 2022, more sharply than a year earlier, and this was borne out by NPL ratios, which also performed well. 2022 saw a continuation of the downward trend in non-performing assets observed since the end of the global financial crisis (see Chart 3.1.1.2). The decline stood at 18.5% year-on-year (more than €9 billion), and was widespread across banks and affected both households (24.3%) and non-financial corporations and

Chart 3.1.1 Lending and NPL ratio, resident private sector

1 Volume of lending and year-on-year rate of change. Business in Spain, bank-level data



2 NPL ratio



SOURCE: Banco de España.

sole proprietorships (13.7%). Moreover, in both cases the year-on-year decline outpaced that seen a year earlier. Thanks to this decline, NPL ratios fell to their lowest level since December 2008, down to 3.5% overall for the resident private sector. Over 2022, this ratio fell by 0.8 pp. By institutional sector, the decline in the household NPL ratio (0.9 pp, down to 2.8%) was slightly larger than that in the non-financial corporate sectors (0.7 pp, down to 4.7%). In particular, non-performing loans in the household consumer credit segment (generally riskier than other portfolios) saw a year-on-year decline of almost 18%, following the sharp rise observed in 2020 and the levelling off in 2021. The faster pace of decline in non-performing assets was due to fewer inflows from performing status, and more reclassifications into Stage 2. In the case of household consumer credit, 73% of the NPL outflows was due to write-offs of defaulted transactions and asset transfers (portfolio sales).

Other troubled assets (Stage 2 assets, forborne exposures and foreclosed assets) also performed well over 2022. Stage 2 loans[2] declined by 12.2% in 2022 (see Chart 3.1.2.1), with the Stage 2 loan-total credit ratio falling from 8% in December 2021 to 7.1% in December 2022. By institutional sector, the relative share of such troubled assets declined at non-financial corporations and sole proprietorships (by 2.6 pp, down to 9.8%), and increased for households (0.4 pp, to 5.5%). In the sectors hardest hit by COVID-19, which saw a significant increase in troubled assets during the first year of the pandemic, the importance of such assets declined significantly in 2022 (down 3.4 pp to 14.6%). In December 2022 Stage 2 loans remained 24.5% above the pre-pandemic level. The decline in these troubled assets over 2022 was due to fewer inflows and an increase in outflows from and to performing status. Meanwhile, forborne loans, which also tend to be at greater risk of default, fell by 16.5% in 2022, accounting for 4.2% of the total credit to the resident private sector (0.8 pp down on 2021). Lastly, foreclosed assets also trended downwards, the December 2021 figure standing at €19.7 billion, 36% below the pre-pandemic figure.

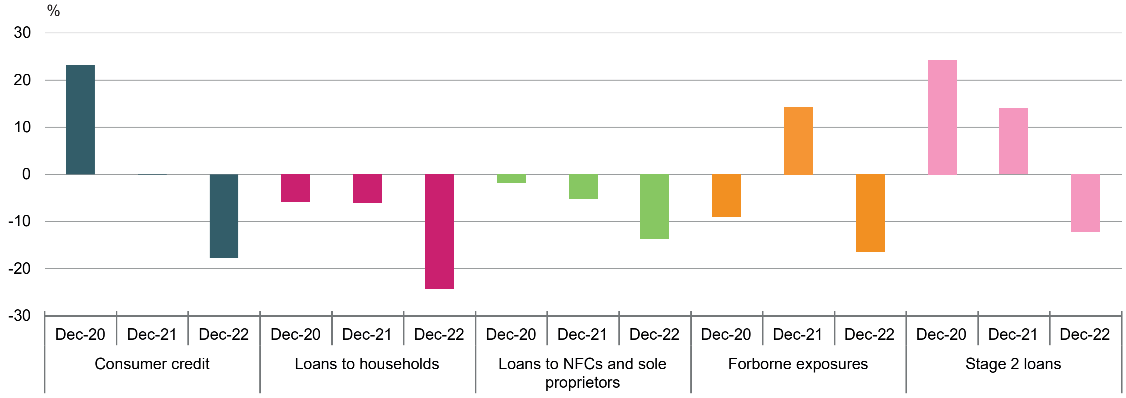
The outstanding balance of ICO loans declined in 2022, while the credit quality of such loans worsened. The amount drawn down on the Official Credit Institute (ICO)-backed credit facilities for non-financial corporations decreased by 11.3% in 2022, while the credit quality of such loans worsened (see Chart 3.1.2.2). Specifically, 19.6% of these loans were classified as Stage 2 (0.8 pp below the December 2021 figure), while the NPL ratio stood at 7.1%, due to the 78.8% year-on-year increase in the non-performing share of such loans, above all due to those falling into arrears. Nonetheless, it is worth noting that this is a closed portfolio. In other words, the denominator of the NPL ratio decreases as and when the loans are repaid. This is estimated to have contributed 0.8 pp to the increase in the NPL ratio. Also worth noting is the skewed nature of the sectoral composition of the ICO loan portfolio as compared with business loans overall, since the ICO COVID-19 guarantee programme targeted the firms hardest hit by the pandemic. Meanwhile, the NPL ratio of loans linked to expired moratoria improved (down 1.2 pp to 10.2%), with a slight rise in the Stage 2 ratio (up 0.3 pp to 21.1%).

Foreign lending by Spanish deposit-taking institutions grew by 10.3% in 2022, against a backdrop of a depreciating euro, which boosted such growth while credit quality improved. In 2022, lending increased in most of the key countries for Spanish banks' operations, growing in the United States (31.5%), Brazil (27.7%), Mexico (24.1%) and Türkiye (11.2%), while declining slightly in the United Kingdom (2.1%). The appreciation of most of these countries' currencies played a decisive role in the rise in lending, given that much of the business is done in local currency. The exception here is Türkiye, where business grew despite the notable depreciation of its currency. Meanwhile, NPL ratios performed well in all of these key countries – the United Kingdom (down 0.3 pp, to 1.3%), Mexico (down

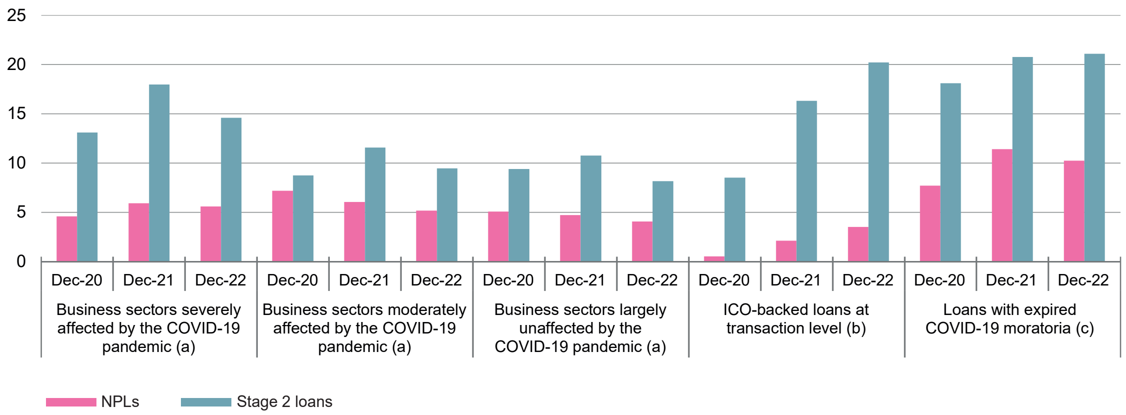
2 Pursuant to Circular 4/2017, a loan is classified as a Stage 2 exposure when credit risk has increased significantly since initial recognition, even though no event of default has occurred.

Chart 3.1.2 Troubled assets

1 Year-on-year rate of change in NPLs, forborne exposures and Stage 2 loans. Business in Spain, bank-level data



2 Share of NPLs and Stage 2 loans. NFCs and sole proprietors. Business in Spain, bank-level data



SOURCES: ICO and Banco de España.

a Lending to the severely affected sectors is proxied by that to sectors with a fall in turnover of more than 15% in 2020, which can be identified in the FI-130 regulatory return. In particular, the severely affected sectors include accommodation and food services, manufacture of refined petroleum products, social services and entertainment, transportation and storage, and manufacture of transport equipment. Lending to the moderately affected sector is proxied by the following sectorisation of the FI-130 regulatory return: basic metals, manufacture of machinery, other manufacturing, professional services, mining and quarrying, wholesale and retail trade, and repair of vehicles. The group of largely unaffected sectors comprises the remaining productive activities.

b The transaction-level analysis measures the proportion of ICO-backed loans to firms, sole proprietors and households that are NPLs or Stage 2 loans. The proportion, both for Stage 2 loans and NPLs, is measured on the basis of the amount drawn down.

c Loans with expired moratoria relating to the different schemes implemented since April 2020 to mitigate the effect of the COVID-19 pandemic are considered at each date. Stage 2 loans are loans that show a significant increase in credit risk since origination, without having defaulted or without any signal that they are highly likely to default, which would lead to their classification as NPLs. These loans are extended to both households and NFCs, although the latter represent a very small fraction of the total.

0.7 pp, to 3.1%) and Türkiye (down 2.7 pp, to 6.3%) –, with the exception of Brazil, where it rose substantially, and the United States, where it remained stable.

Financing conditions and liquidity

For the first time in recent years, the liquidity provided to European banks by the Eurosystem decreased as a result of monetary policy normalisation. The balance sheet reduction was mainly driven by the early repayment of a substantial volume of monetary policy loans (TLTRO-III), a trend that will intensify once the ECB stops reinvesting maturing assets under the purchase programmes. The monetary policy rate hikes, which are expected to continue in 2023, albeit more moderately, were quickly passed through to the money markets.

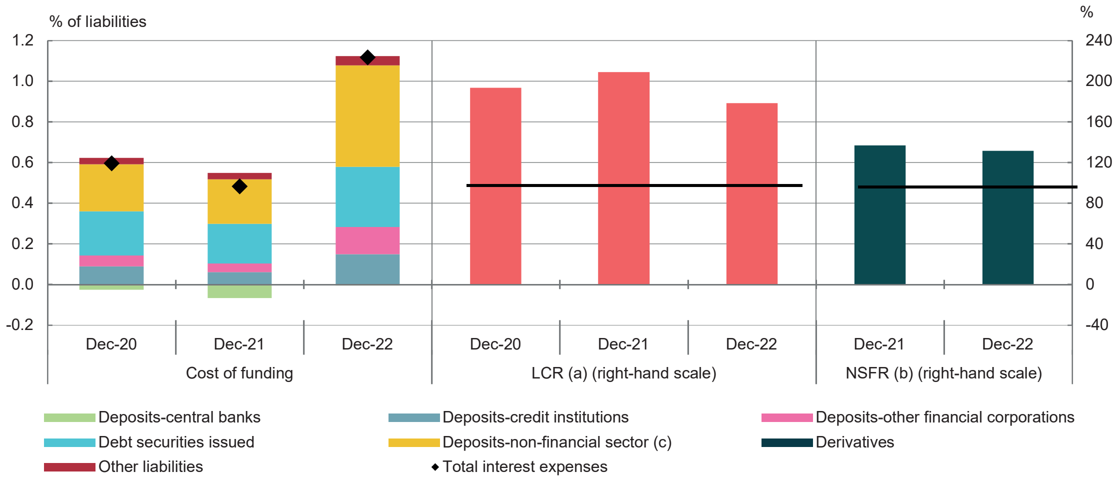
The cost of new debt issues by Spanish institutions rose in 2022, and the volume of issues was greater than in the previous year. The higher cost of issues can be explained by the rise in risk-free interest rates, and by the increase in the number of issuing banks in the senior non-preferred debt segment, possibly with a higher risk premium. The increase in the volume of new issues was accounted for by senior debt and, particularly, by secured senior debt, which offset the sharp drop in the volume of subordinated debt issues (Tier 2 and CoCos). This was due to the higher cost of the latter and the fact that banks had, in previous years, already reached the subordinated debt amounts required under prudential regulations.

On the retail funding side, deposits continued to grow in 2022, by 5.6% year-on-year at consolidated level and by 3.5% for business in Spain, with a marked downturn in the final stretch of the year. Keeping interest rates on deposits low despite the policy rate hikes, along with a reduction in saving given the current setting of high inflation, would largely explain the slowdown in growth observed in the final stretch of the year, which became more marked in early 2023. Indeed, in business in Spain, sight deposits continued to grow in 2022 at a year-on-year rate of 3.8%, unlike term deposits, which contracted by 1.1% given the low rates on offer. Households' deposits remained the main source of retail financing, accounting for 70.6% at consolidated level and 75.9% for business in Spain. At end-2022, the loan-to-deposit ratio held at levels close to 100% in consolidated terms, compared to 84.5% for business in Spain.

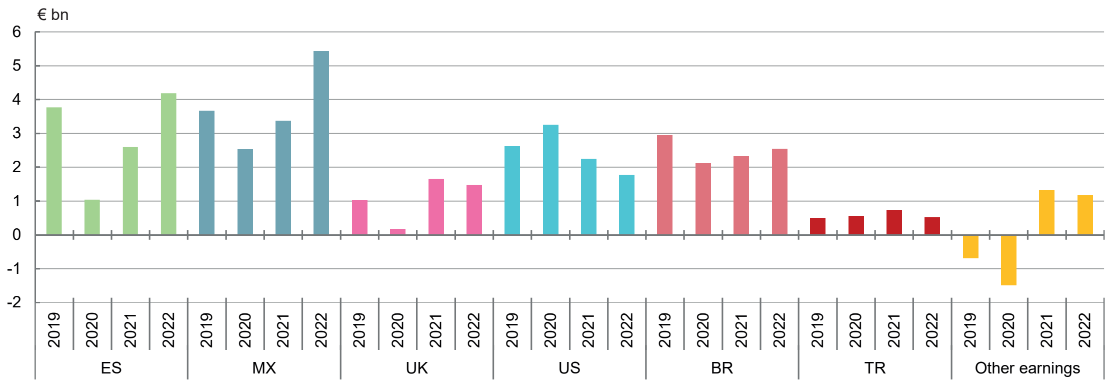
The average cost of liabilities for Spanish banks increased in 2022 with respect to the historically low levels of prior years, but this did not significantly impact banks' sound liquidity positions. The overall increase in interest rates on financing from the Eurosystem, money markets and marketable debt instruments, and likewise on deposits taken from the non-financial sector, pushed up the average cost of liabilities in 2022 to 1.12% compared with 0.48% in 2021, although it held slightly below pre-pandemic levels. Despite the higher cost of funding, banks' maintained a comfortable liquidity position to contend with any outflows of funds prompted by financial stress episodes in the short and medium term. Thus, at December 2022, the aggregate liquidity coverage ratio (LCR) of banks overall stood at 178.4%, and the net stable funding ratio (NSFR) at 131.4%, both well above the required minimum threshold of 100% (see Chart 3.1.3.1). The cost of capital of Spanish banks fell very significantly in 2022, to 6.6% in December of that year (2 pp below that recorded a year earlier), partly offsetting the increase observed in the cost of liabilities.

Chart 3.1.3 Developments in the cost of funding, liquidity coverage and net stable funding ratios, and profitability by geographical area

1 Interest expenses on funding and liquidity coverage and net stable funding ratios



2 Geographical distribution of profit attributed to the parent, excluding extraordinary profit of banks with significant international activity (d)



SOURCES: Banco de España and banks' financial reporting.

a The liquidity coverage ratio (LCR) is defined as the ratio between a bank's unencumbered assets and potential net liquidity outflows during a 30 calendar-day stress period. The black line denotes a level of 100%, above which banks hold sufficient liquid assets to cover potential liquidity outflows in a stress scenario.

b The net stable funding ratio (NSFR) is defined as the ratio of a bank's available stable funding to its required stable funding for a period of one year. The black line denotes a level of 100%, above which the bank has sufficient stable funding to satisfy its financing needs over one year, both in normal conditions and in a stress scenario. Data for December 2020 not available.

c Includes household deposits and non-profit institutions serving households, non-financial corporations and sole proprietors, and general government.

d Among the banks with significant international activity, this group includes the three in which such activity is more important and more extended in time, and non-recurring items in the period considered are excluded. The category 'Other earnings' includes the results of the banks' corporate centres.

Profitability

The Spanish banking system's consolidated ordinary profit improved in 2022, thanks to significant growth in net interest income and strong business in Latin America. Net profit amounted to €25,450 million in 2022, down on that obtained in 2021, when significant extraordinary gains were generated.

Discounting the effect of these non-recurring items, net profit in 2022 was 18.3% higher than a year earlier. Thus, excluding extraordinary items, the return on assets (ROA) stood at 0.64% at end-2022, compared with 0.56% in 2021. Ordinary profit improved mainly on account of the very significant rise (17.1%) in net interest income, which was due to the higher relative increase in lending rates vis-à-vis the more moderate rises in deposit rates.

Ordinary profit from business abroad rose significantly in 2022 (15.7%), driven by the strength of net interest income from the business in Latin America. The strong business in Mexico, where profits rose by 61%, and, to a lesser degree, in Brazil, offset the fall in profits in Türkiye, the United States and the United Kingdom. As a result, Spanish banks' profit abroad in 2022 exceeded pre-pandemic levels (see Chart 3.1.3.2).

The aforementioned growth in net interest income and the 7.9% year-on-year increase in net fees and commissions drove banks' gross income at consolidated level up by 11% in 2022. This improvement in the items at the top of the income statement offset the higher operating expenses (5.7%) and the rise in impairment charges (19.7%), mainly in banks' business abroad (see Chart 3.1.4.1).

Solvency

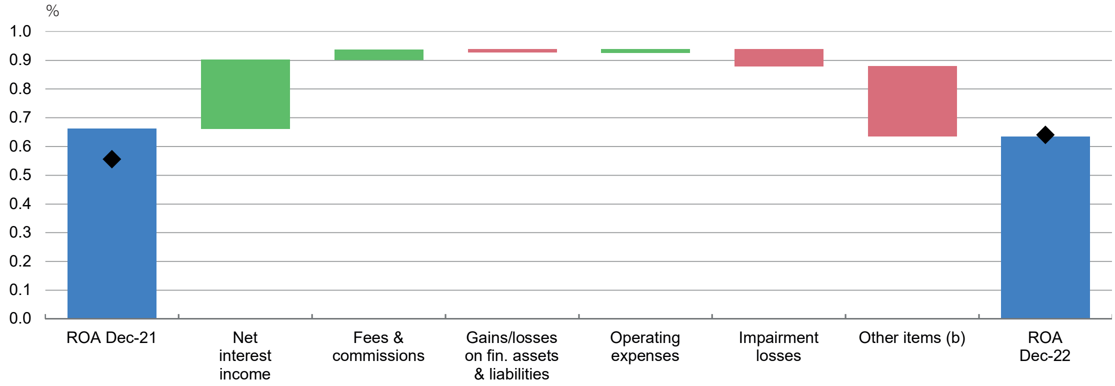
The CET1 ratio fell by 25 bp in 2022 after climbing in the two previous years (see Chart 3.1.4.2). This change may be broken down into the contribution of CET1 (common equity tier 1 capital), in the numerator, and the contribution of RWAs (risk-weighted assets), in the denominator, which in turn may be broken down as the product of total assets and RWA density (the RWAs to total assets ratio), making a total of three factors. Thus, although CET capital rose by 2.1% in 2022, the CET1 ratio declined on account of the growth in total assets (2.6%) and the increase in RWA density (53 bp) in 2022. However, the CET1 ratio of Spanish banks declined less than in other European countries (for example, France or the Netherlands) and remained above pre-pandemic levels.

The change in CET1 ratios in 2022 was uneven across banks. The three largest banks, which at December 2022 accounted for 76% of RWAs, saw their (RWA-weighted) average CET1 ratio fall by 33 bp in 2022. By contrast, other banks saw their (RWA-weighted) average CET1 ratio increase by 8 bp year-on-year. In general, Spanish banks have voluntary capital buffers that amply exceed requirements, allowing them to contend with highly adverse macroeconomic scenarios without any significant disruption to the flow of credit to the economy.

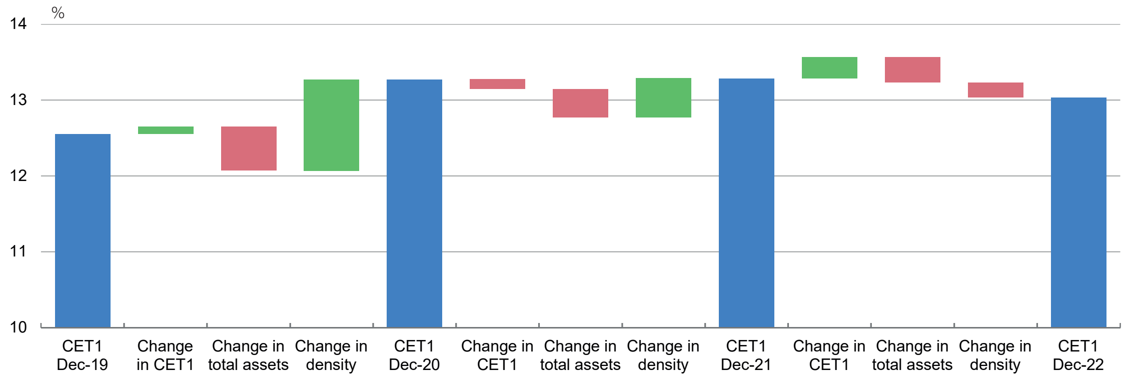
In any event, the banking sector must approach the future guided by prudence. The significant rise in interest rates in 2022 was not accompanied by the materialisation of potential associated risks. Thus, banks have improved their

Chart 3.1.4 Bank profitability and solvency

1 Breakdown of the change in profit. Net consolidated profit as a % of ATA (a)



2 Breakdown of the change in the CET1 ratio. Change in the numerator and the denominator (c)
Consolidated data



SOURCE: Banco de España.

a The red (green) bars denote a negative (positive) contribution by the corresponding item to the change in consolidated profit at December 2022 compared with December 2021. The black diamonds show the ROA excluding extraordinary profit. In particular, at December 2021: extraordinary profit as a result of two mergers (€4.2 billion), spinoff of an insurance company (€0.9 billion) and extraordinary structuring costs (–€1.2 billion); and at December 2022: net impact of the office purchases by one bank (–€0.2 billion).
b Includes, among other items, the extraordinary profit referrred to in note a above.
c The CET1 ratio can be broken down as the change in CET1, total assets and density, where the density is calculated as the RWAs to total assets ratio. Thus, the CET1 ratio is calculated as CET1 over total assets x density. The red (green) colour of the bars denotes a negative (positive) contribution to the change in the CET1 ratio.

net interest income and largely preserved the credit quality of their portfolio, while their solvency and liquidity positions remain sound. However, it cannot be taken for granted that this favourable scenario will last, especially given the persistence of inflationary and geopolitical tensions, which could reduce the balance sheet and income statement, affecting solvency and liquidity. Against this background, it is essential that banks maintain a sufficient flow of credit to solvent undertakings and observe prudent provisioning and capital planning policies, to allow a portion of the current short-term increase in profits to be used to further bolster the sector's resilience in the face of unexpected contingencies.

Macroprudential analysis and measures

In 2022, the Banco de España held the countercyclical capital buffer (CCyB)[3] rate applicable to credit exposures in Spain unchanged at the minimum level of 0%. The inflationary pressures, which emerged in a setting of tensions on energy markets and uncertainty over the Russian gas supply to the EU, along with global geopolitical tensions and tightening financial conditions, significantly increased downside risks to economic activity. To avoid undesired macroeconomic effects, the Banco de España reiterated its intention, already announced at the outbreak of the COVID-19 pandemic, not to increase the buffer rate. This macroprudential policy stance is an attempt to stave off the potential procyclical behaviour that might arise if the CCyB is activated in an environment in which risks are highly likely to arise.[4]

The Banco de España's decisions to hold the CCyB rate at 0% in 2022 were guided by the quarterly analysis of a broad set of macro-financial indicators. The main benchmark indicator used is the credit-to-GDP gap, which measures the distance between the economy's aggregate indebtedness (credit-to-GDP ratio) and its long-term equilibrium trend.[5] This indicator fell slightly below the benchmark threshold of 2 pp, suggesting the absence of imbalances in the credit cycle (see Chart 3.1.5).[6] The recovery in economic activity following the major contraction caused by COVID-19, and the slower growth of credit (which had increased during the pandemic), helped correct the imbalances in this indicator stemming from the pandemic.

CCyB decision-making is also informed by other indicators relating to the cyclical position of the economy. Specifically, the indicator known as the "output gap", which measures the distance between actual growth and the level that could be reached without increasing inflation, continued on the recovery path that had begun in 2021, although it remained in negative territory (see Chart 3.1.5), which would also support holding the CCyB at 0%. The analysis is complemented with other indicators of credit and real estate sector price imbalances, which held in positive values in 2022, albeit close to the equilibrium levels (at which no warnings are triggered) towards which they had converged in previous years.[7] The Banco

3 See the macroprudential tools section on the Banco de España's website, with the relevant methodological information for setting the CCyB on which the announcement of measures relating to this instrument is based.

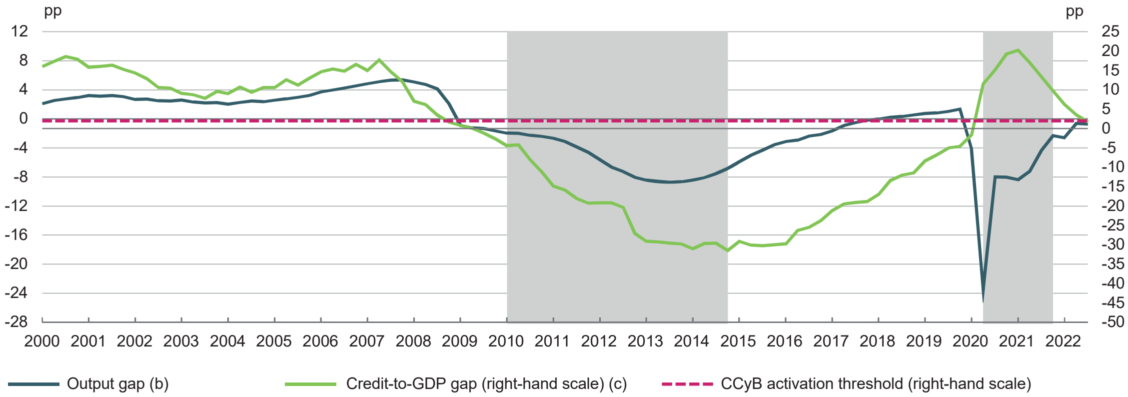
4 In particular, a tightening of macroprudential policy could have procyclical effects in highly uncertain environments like the present one. By hampering the provision of financing to the economy, it could curb economic growth, exacerbating the consequences of any future materialisation of risks.

5 Calculated using a one-sided Hodrick-Prescott statistical filter.

6 The decision to hold the CCyB rate at 0% is also backed by the changes in the credit-to-GDP gap calculated in accordance with the technical guidelines of the Basel Committee, using a smoothing parameter that is higher than that of the Banco de España (400,000 instead of 25,000).

7 The set of quantitative indicators guiding decisions on the CCyB includes indicators of credit imbalances, real-estate-sector price imbalances, debt servicing, external imbalances and the macroeconomic environment. For more details, see Christian Castro, Ángel Estrada and Jorge Martínez. (2016). The Countercyclical Capital Buffer in Spain: An Analysis of Key Guiding Indicators. Working Papers - Banco de España, 1601. For a historical perspective on the cyclical performance of bank lending in Spain, see Mikel Bedayo, Ángel Estrada and Jesús Saurina. (2018). Bank Capital, Lending Booms and Busts, Evidence from Spain in the last 150 years, Working Papers - Banco de España, 1847.

Chart 3.1.5 Output gap and credit-to-GDP gap, 2000-2022 (a)



SOURCE: INE and Banco de España.

- **a** The shaded areas denote two crisis periods: the last systemic banking crisis (2009 Q1 to 2013 Q4) and the crisis triggered by COVID-19 (2020 Q1 to 2021 Q4). The horizontal dotted line denotes the CCyB activation threshold equal to 2 pp of the credit-to-GDP gap.
- **b** The output gap represents the percentage difference between recorded GDP and its potential value. Values calculated at 2010 constant prices (for more details, see Pilar Cuadrado and Enrique Moral-Benito (2016), "Potential growth of the Spanish economy", Occasional Papers, 1603, Banco de España).
- **c** The credit-to-GDP gap is calculated as the percentage point difference between the ratio recorded and its long-run trend calculated using a one-sided Hodrick-Prescott filter with a smoothing parameter equal to 25,000. This value fits the financial cycles historically observed in Spain (for more details, see Jorge E. Galán (2019), "Measuring credit-to-GDP gaps. The Hodrick-Prescott filter revisited", Occasional Papers, 1906, Banco de España).

de España has continued to monitor the situation closely in 2023, paying particular attention to developments in the real estate sector.

In 2022, the Banco de España conducted the annual review of the list of Spain's systemically important credit institutions. The Banco de España identifies "global systemically important institutions" (G-SIIs) and domestic systemically important institutions, dubbed "other systemically important institutions" (O-SIIs), based on objective criteria that take into account institutions' size and business model.[8] Each institution identified must meet an additional capital requirement to strengthen its resilience, mitigate the adverse effects that it might have on the global or domestic financial system and encourage more prudent risk-taking.

The latest analysis of systemically important institutions again identified one G-SII and four O-SIIs, whose macroprudential capital buffers were reviewed. In July 2022, the Banco de España announced[9] the designation, in 2023, of four O-SIIs with their associated macroprudential capital buffers, and the identification of one G-SII with its corresponding requirement for 2024 was

8 Specifically, indicators are used that relate to: balance sheet size; interconnectedness with the banking and non-banking financial system; substitutability of the services provided by the institution; complexity of activities; and volume of cross-border activity. Similar indicators are used in the methodologies for identifying G-SIIs and O-SIIs.

9 See "The Banco de España updates the list of other systemically important institutions and sets their macroprudential capital buffer rates for 2023", press release of 22 July 2022.

Table 3.1.1 Capital buffers for systemically important institutions in 2022

LEI code (a)	Institution	Designation (b)	Capital buffer requirement in 2022 (%)	Capital buffer requirement in 2023 (%)
5493006QMFDDMYWIAM13	Banco Santander, SA	G-SII and O-SII	1.00	1.00
K8MS7FD7N5Z2WQ51AZ71	Banco Bilbao Vizcaya Argentaria, SA	O-SII	0.75	0.75
7CUNS533WID6K7DGFI87	CaixaBank, SA	O-SII	0.375	0.5
SI5RG2M0WQQLZCXKRM20	Banco de Sabadell, SA	O-SII	0.25	0.25

SOURCE: Banco de España.

a Legal Entity Identifier.
b G-SII refers to global systemically important institutions; O-SII to other systemically important institutions.

announced in December 2022.[10] The buffers applicable to systemic institutions in 2022 (see Table 3.1.1) had already been announced in 2020 (G-SIIs) and 2021 (O-SIIs). The buffers applicable in 2022 remained unchanged for three of the four institutions identified as O-SIIs. Only one bank (CaixaBank S.A.) saw its capital buffer raised to 0.375% in 2022, accounting for 0.5% of its risk-weighted assets in 2023, as a result of its merger (by absorption) with Bankia, S.A. in March 2021.[11]

3.2 Securities, commodities and foreign exchange markets

Securities markets

In Spain, as in the rest of the world, financial market developments in 2022 were shaped by rising interest rates and weaker economic growth, as a result of the sharp rise in prices and the effects of the war in Ukraine. Spanish equity markets performed poorly (the IBEX 35 fell by 5.6%), but relatively better than other European markets, most of which ended the year with falls of more than 10%. The Spanish stock market's better relative performance, albeit insufficient to close the overall gap after three disappointing years in a row, owed to the sound performance of the banking industry and of the energy and utilities industries (which have a greater weight in the Spanish index), compared with technology firms and firms whose activity is more cyclical, which were more affected by the falls and have a lower weight in the index. Volatility spiked briefly both in the Spanish market and in the main international markets following the outbreak of the war in Ukraine, but average

10 See the Banco de España press release of 16 December 2022.

11 This buffer recalibration was envisaged in the Banco de España's announcement in 2021. See the Banco de España press release of 29 July 2021.

volatility levels remained low (around 20% or lower)[12] In addition, liquidity conditions[13] remained favourable throughout the year, even at times of severe turmoil.

Issuance activity declined significantly and only one new company debuted on the stock market. The volume of share issues fell sharply to just €4,700 million in 2022 (72.6% less than in 2021), the lowest level in recent years. Only one company (Opdenergy) was launched on the stock market, but the alternative market BME Growth continued to display strong momentum, with the admission of 15 new companies (10 growth-stage firms and five real estate investment companies (SOCIMIs)).

Trading of Spanish equities in 2022 picked up somewhat (by 6.4%), to €738,600 million. Despite this increase, these trading volumes were low in historical terms. The shift in trading away from the Spanish regulated market towards other trading venues and competing markets gathered momentum once again, as in other European markets. Thus, trading on the Spanish regulated market decreased by 4.6% to €315,800 million, while trading on other trading venues and competing markets grew by 18.9% to €386,500 million. As a result, the latter's market share reached an all-time high of 52% (46.7% in 2021).

In the domestic bond markets, the upward trend in yields in the first half of the year took hold in the second half (as occurred in all European economies), as a result of the ECB's tightening of monetary policy In the first part of the year, the upward trend was concentrated in the longer end of the curve but, as the year progressed and the ECB applied successive interest rate hikes, the yields rose across the entire curve. In the case of government bonds, the rate on the 10-year benchmark was above 3.6% at year-end, with yields of around 3% or higher for all maturities of three years or more. The risk premium also rose from 77 bp to 108 bp at year-end, as did corporate risk premia, affected by the end of the ECB's debt asset purchase programmes and the expected slowdown in economic growth.

Activity on the primary debt markets increased significantly in 2022, owing to growth in the issuance of corporate commercial paper, which almost doubled in volume compared with the previous year. The volume of fixed-income issues registered with the CNMV increased by 23.7% to €99,108 million,[14] owing to strong growth in commercial paper issuance, which was underpinned by the measures stemming from Law 5/2021 (under which issuers are exempt from the obligation to provide a prospectus for commercial paper issued with maturity of less than one year) and other measures adopted by the CNMV to simplify and streamline such issuance. Issues abroad declined by 11.5% to €112,545 million, due to the more subdued long-term debt issuance. ESG bond issuance (incorporating environmental, social and governance standards) grew by 10.4%

12 In the case of the IBEX 35, the annual average of this indicator was 18.4%, slightly above its level in 2021 (15.9%). At year-end, it stood at around 12%.

13 Assessed on the basis of the bid-ask spread.

14 In addition to this amount, there are €25,283 million relating to four Sareb issues recorded at the CNMV, considered Spanish government debt.

to €15,000 million.[15] Of this amount, almost €11,000 million were green bonds. Issuance of other ESG bonds (social, sustainable or sustainability-linked) also grew, albeit less.

The strong pace of monetary tightening significantly increase the market risk of assets in 2022. However, market risk has abated somewhat given the expected slowdown in the pace of interest rate hikes, whereas credit risk has gained importance, against a setting of great uncertainty surrounding economic growth and, particularly, of higher financing costs. Moreover, investors' desire to preserve the value of money in the face of persistently high inflation rates maintains their incentive to acquire assets offering higher potential returns and, therefore, with higher levels of associated risk. In this setting, any market turmoil, such as the March 2023 shock caused by the bankruptcy and/or acquisition of certain foreign banks, could affect the valuation of the different assets and give rise to significant price corrections. These would be sharper for riskier assets and could lead to contagion spirals.

The financial infrastructures for trading and post-trading securities domiciled in Spain carried out their activities in 2022 without significant incidents. Nor were there any major incidents between the EU's central counterparties during this period. Despite the prevailing uncertainty, especially at the beginning of the year, the EU's central counterparties informed their respective colleges (including the CNMV), through the corresponding supervisory bodies, of the risk management procedures they had in place to withstand this volatile environment, and of the impact on collateral requests and results of the model validation tests. There were no significant incidents in this period.

In 2022 the CNMV conducted the annual exercises to review compliance with EU law requirements in relation to the BME Group's two systemic infrastructures, BME Clearing and Iberclear. The former's main risk control figures were greatly affected by the increase in electricity and natural gas prices. This trend in prices, which had begun in 2021, was accelerated by the effects of the war in Ukraine, mainly in February and March (during the early weeks of the conflict), and, subsequently, in August and September, as a result of the gas supply policies adopted by the EU ahead of the winter.

In 2021, the Spanish central counterparty BME Clearing had already activated several additional protection mechanisms in the energy segment which were in force during the invasion of Ukraine, though these were subsequently strengthened and extended. No incidents arose regarding collateral deposits by clearing members, owing either to the increase in the collateral requirements for closing positions resulting from the increasingly volatile prices or to the increase in

15 This figure represents close to 14% of Spanish issuers' long-term debt issues. In addition, if Spanish government debt issues are included, total issues of this type would amount to €20,861 million, 10% less than in 2021.

intraday or extraordinary margin calls. Indeed, some members posted excess or extra collateral on their own initiative in order to alleviate the operational burden in the event of extraordinary requirements. The size of the default fund for the energy segment was 2.3 times larger than at the beginning of the year and the collateral requirements for participants in that segment were almost 2.7 times higher.

June 2022 saw the entry into force, for a period of 12 months, of regulations on the setting of daily electricity prices in Spain and Portugal. Following the new regulatory cap on gas prices for market clearing purposes (between €40 and €50/MWh), the Iberian Electricity Market (MIBEL, by its Spanish abbreviation) has recorded lower prices and volatility than those observed in other European markets.

The fresh spike in market volatility at the end of August fuelled discussions within the EU about the impact of collateral deposits on non-financial energy market participants. The European Commission urged the European Securities and Markets Authority (ESMA), in coordination with the ESRB, to assess a raft of measures aimed at providing liquidity relief for non-financial participants. These measures included the easing of CCP collateral eligibility criteria, specifically, by temporarily allowing non-financial clearing members to post uncollateralised bank guarantees, under certain circumstances. This proposal, which allowed such bank guarantees to be provided as collateral until November 2023, was finally approved by Commission Delegated Regulation (EU) 2022/2311. Since this measure is limited to clearing members, in markets with indirect clearing arrangements, such as Spain, its effects are negligible in practice.

Lastly, as regards the central depositary, Iberclear, the settlement discipline regime entered into force in February 2022. There were no material incidents in this respect. According to Iberclear data, under the new penalty regime just over a million penalties were imposed (the sum of the daily number of failed settlement instructions) for a total amount of just under €94 million.

Commodities and foreign exchange markets

The war in Ukraine accelerated the rise in commodity prices that had begun in 2021, owing, in part, to supply and demand adjustments in the wake of the pandemic. The outbreak of the war in early 2022 propelled, in particular, the price of primary energy commodities, such as gas and oil, of which Russia is one of the world's largest producers. The price of other commodities, for example, agricultural commodities, also rose sharply, in a setting of heightened price volatility. Although commodity prices fell in 2022 H2, at year-end they generally remained above the levels observed in mid-2021.

In foreign exchange markets, investors' expectations about the Federal Reserve's monetary policy cycle generally prompted an appreciation of the

Chart 3.2.1 Changes in the prices of the main commodities

SOURCE: Refinitiv Datastream.
NOTE: Precious metals: gold, silver and platinum; Metals: aluminium, copper, zinc, nickel and lead; Basic materials: agricultural commodities, non-ferrous metals, iron ore and steel scrap.

United States dollar. Specifically, the euro weakened by 5.7% against the United States dollar in 2022, the exchange rate falling from 1.1374 USD/EUR to 1.0726 USD/EUR at year-end, at a certain point trading below parity at a low of 0.9589 USD/EUR. The pound sterling (GBP) depreciated by 8.38% against the dollar, from 1.3532 USD/GBP to 1.2398 USD/GBP at year-end, losing as much as 21% of its value during the British pension fund crisis of October 2022. The Japanese yen depreciated by 12.64% against the dollar and, of the most traded currencies, the Brazilian real was the only currency that appreciated against the United States dollar in 2022.

3.3 Non-bank financial intermediation

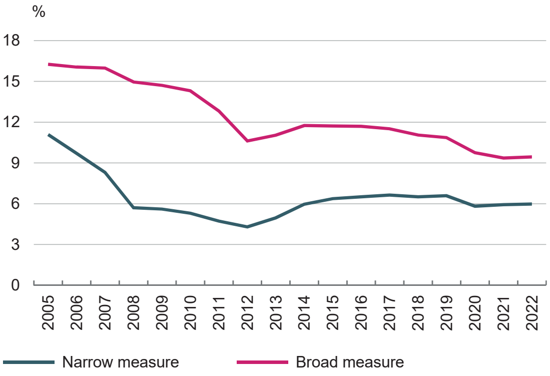
The volume of assets comprising the so-called "narrow" measure[16] of activities related to non-bank financial intermediation (NBFI) in Spain amounted to €309 billion in 2022, 6.2% less than in 2021.[17] Despite this decline, the share of NBFI in the financial system as a whole remained practically unchanged, increasing from 5.9% to 6.0%, as other segments also contracted in 2022. Central bank and insurance companies' assets fell notably (by 18.4% and 13.5%, respectively). The significance of NBFI in Spain is somewhat lower than

16 The broad NBFI measure is understood to include all institutions that perform one of the economic functions described by the FSB; the narrow measure is obtained by excluding institutions consolidated into banking groups.

17 The CNMV publishes a detailed report in this connection on an annual basis *(Non-banking financial intermediation monitor).*

Chart 3.3.1 Non-bank financial intermediation (2022)

1 Share of NBFI in the financial system



2 Economic functions (broad measure)

SOURCES: CNMV and Banco de España.

that observed in most EU countries, where its share in the total financial system ranges between 7% and 12%.[18]

The NBFI measure is obtained from the financial assets of entities that are not related to the banking sector and which fit into one of the five economic functions defined by the FSB.[19] These functions are: collective investment vehicles with features that make them susceptible to runs (EF1), loan provision that is typically dependent on short-term funding (EF2), intermediation of market activities that is dependent on short-term or secured funding (EF3), entities that facilitate the creation of credit (EF4) and securitisation-based credit intermediation for funding financial institutions (EF5). This classification gives rise to the so-called "broad" measure, which amounted to €488 billion in 2022, 6.1% more than in 2021. Of this amount, 57% related to EF1 assets, which are the most significant ones in Spain within NBFI and which draw from certain types of collective investment undertakings (CIUs). 31% of the assets belong to EF5 entities, the second most significant function, which comprises securitisations. The remaining 12% is distributed among EF2 entities (specialised lending institutions (SLIs)), accounting for 11%, with the EF3 and EF4 functions representing a meagre 1%.

18 According to the latest report published by the FSB on data for 2021, the narrow measure of NBFI in the countries analysed stood, in aggregate terms, at 14.1% of the total financial system, with very similar percentages in advanced and emerging market economies. See FSB (2022), *Global Monitoring Report on Non-Bank Financial Intermediation 2022,* of 20 December and ESRB (2022), *EU Non-bank Financial Intermediation Risk Monitor 2022,* published in July 2022.

19 See FSB (2013) *Policy Framework for Strengthening Oversight and Regulation of Shadow Banking Entities,* of 29 August.

The narrow measure of NBFI, which is obtained by deducting the assets of the entities that are consolidated in banking groups, amounted to €309 billion, as mentioned earlier. To calculate this measure, an asset amount of around €180 billion is deducted. Consolidation does not affect all the economic functions equally. For example, it does not affect the most significant function (EF1), but does affect securitisations (EF5), whose assets declined by 87% after this procedure. The proportion of assets deducted from EF2 entities (SLIs) was also substantial (84%) in 2022. As a result of these differences the share of EF1 (CIUs) in the narrow measure of NBFI increases from 57% to 90%, while that of securitisations declines to 6%. The remaining 4% is distributed among the other functions. The significance of EF1 in NBFI, despite having remained virtually unchanged in 2022, has been rising progressively since 2010, when it stood at 60%.

Analyses of the potential risks associated with NBFI entities focus on investment funds[20] and securitisations, on account of the size of their assets. In the case of investment funds, among the biggest risks that they may pose to financial stability are those associated with the inability to cope with a significant increase in their liquidity needs. These may stem from a sudden rise in the volume of redemptions for unit-holders or from significant exposure to derivatives. Therefore, monitoring the liquidity conditions of funds' portfolios and their leverage (via derivatives) remains central to risk analysis at these entities. Moreover, in 2022 it was deemed necessary to extend risk analysis to other areas such as interest rate risk, with a view to identifying potential vulnerabilities arising from the substantial changes then affecting the financial sector.[21] Securitisations should also be analysed, not only on account of their high level of interconnectedness with other parts of the financial system, but more importantly, because of the risk of maturity transformation, which in Spain does not yet point to any significant vulnerability.[22]

Estimation of the leverage of the largest EF1 funds[23] shows that their exposure to market risk remains well below the maximum permitted by legislation. Assessment is based on entities' indirect leverage, i.e. via derivatives, since borrowing (direct leverage) is highly restricted by regulations.[24] Thus, an analysis of the CIUs belonging to the NBFI sector, that perform their calculations using the commitment

20 NBFI comprises all financial CIUs, except equity investment funds. Of the vehicles belonging to the NBFI sector, at end-2022, 89.1% were harmonised, in terms of net assets (they complied with UCITS regulations), whereas the remaining 10.9% were not (alternative investment funds).

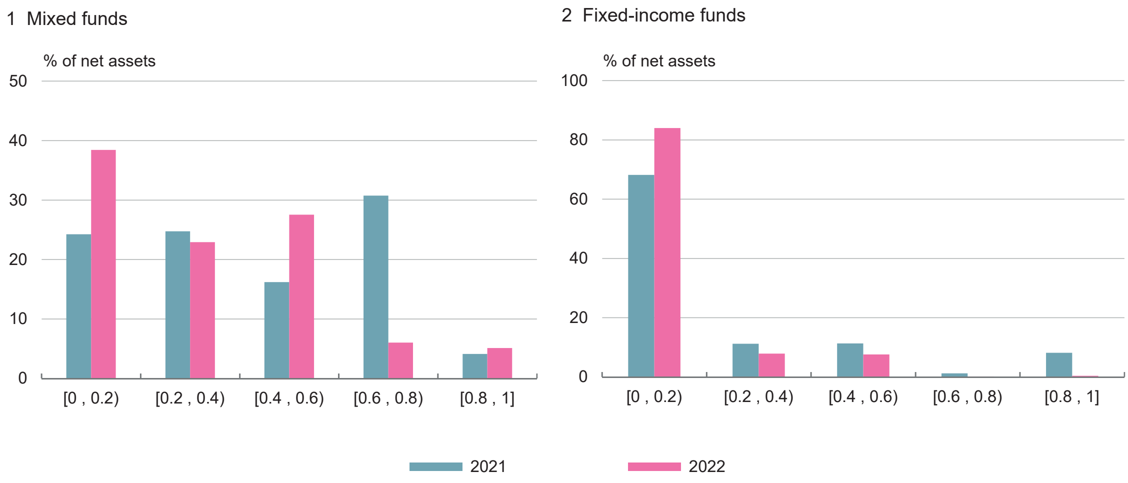
21 Analysis of the portfolio of funds with the highest investment in debt securities revealed relatively short durations in 2022 (0.19 for money market funds, 0.53 for short-term debt securities, 2.32 for euro debt securities and 3.14 for international debt securities), lower than those of 2021.

22 Thus, in 2022 short-term assets and liabilities only accounted for 21.9% and 14.4%, respectively, of the balance sheet, slightly below the figures for 2021 (22.7% and 15.4%, respectively).

23 Assessment of the leverage and liquidity of NBFI investment funds is based on fixed-income funds and mixed funds, which account for the largest proportion of EF1, concentrating 91% of assets.

24 Directive 2009/65/CE – the UCITS Directive – limits borrowing to no more than 10% of net assets to resolve temporary cash difficulties.

Chart 3.3.2 Leverage of mixed and fixed-income funds (2022) (a)



SOURCE: CNMV.

a Distribution of funds according to their exposure to market risk via the use of derivatives.

approach[25] (91.5% of the total in terms of net assets[26]), shows that net market risk exposure amounted to 23.4%[27] of their net assets at end-2022, lower than the 2021 figure (35%) and still well below the maximum permitted by current legislation (100% of net assets). As Chart 3.3.2 shows, an individualised analysis of mixed and fixed-income funds using the commitment approach reveals that net exposure to market risk, according to this methodology, was below 20% in nearly 84% of fixed-income funds and in 38.4% of mixed funds (in terms of net assets), while only 0.4% and 5.1% of their net assets, respectively, corresponded to funds with relatively high levels of exposure to market risk (between 80% and 100% of net assets).

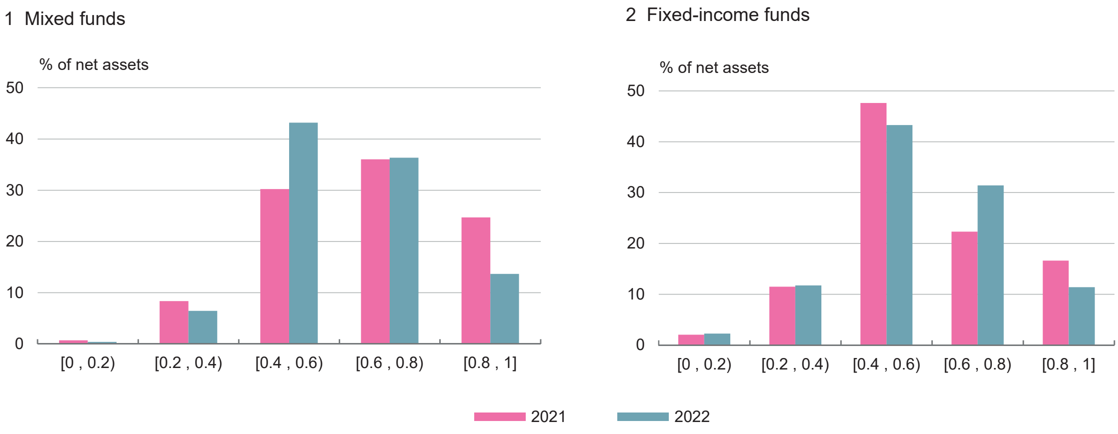
The liquidity positions of Spanish investment funds remained satisfactory in 2022, with a slight improvement on the previous year. Liquidity risk assessment is particularly important in the case of these funds, given that the majority permit daily

25 The European commitment approach, whose technical specifications are detailed in the ESMA *Guidelines on Risk Measurement and the Calculation of Global Exposure and Counterparty Risk for UCITS* (CESR/10-788), serves to calculate exposure based on the conversion of all derivative contracts into their equivalent underlying asset positions. The approach takes the market value of the underlying asset (or its notional value where this is more conservative), adjusting for the delta in the case of options and implementing certain rules to offset long positions with short positions in the same underlying asset (netting) or in different underlying assets (hedging). Derivatives whose underlying assets consist of interest rates are subject to an additional adjustment for the target duration of the fund.

26 The other 8.5% comprises CIUs: (i) with a specific yield target in terms of fixed income, which they attain through direct investment in fixed income without recourse to derivatives instruments (2%), (ii) whose market risk exposure is calculated using the VaR approach (4,5%) or (iii) that are structured funds which operate via derivatives with the aim of attaining a specific yield-at-maturity target, and are exempt from reporting on their exposure calculated using the commitment approach (2%).

27 This percentage includes indirect exposure through investment in other CIUs, estimated at 13% of net assets.

Chart 3.3.3 Liquidity positions of mixed and fixed-income funds (2022) (a)



SOURCE: CNMV.

a Distribution of funds according to their high-quality liquid assets (HQLA) ratio.

redemptions. Thus, the high-quality liquid assets (HQLA) ratio, which factors in both asset class and credit ratings when determining a portfolio's liquid assets,[28] ranged between 31.9% at mixed funds (vs 30.1% in 2021) and 56.7% at fixed-income funds (54% a year earlier). Notably, this metric does not include the liquidity assessment of investments in other CIUs, which it assumes are less liquid. It can therefore be considered a very conservative measure of liquidity. For this reason, it was decided to eliminate these investments from the total financial assets when conducting case-by-case liquidity assessments. Thus, it can be seen that high-quality liquid assets accounted for more than 40% of the total at most of the investment funds, with only 6.8% of mixed funds and 14% of fixed-income funds (in net asset terms) posting a ratio below that threshold (see Chart 3.3.3.). However, at some investment funds, albeit a small proportion, liquid assets accounted for less than 20% of the total: specifically, 2.3% of fixed-income funds and 0.4% of mixed funds.

The stress tests conducted continue to indicate that the investment fund market is, in general, resilient to the various scenarios considered. In its analysis of liquidity risk management, the CNMV performs half-yearly stress tests on investment funds. These exercises simulate one (or several) market shocks and assess the resilience of investment funds. They are performed on UCITS and

28 HQLA means total cash and deposits, 50% of the value of equity securities, and percentages of government debt, private fixed-income and securitisations that vary depending on their credit rating. The percentage of government debt deemed liquid ranges between 0 and 100%, with this figure ranging between 0 and 85% for corporate bonds and 0 and 65% for securitisations. For more details, see "Quantifying uncertainty in adverse liquidity scenarios for investment funds" (CNMV Bulletin, Quarter II 2020), by Javier Ojea.

non-harmonised UCITS, in line with the methodology proposed by the European Securities and Markets Authority (ESMA) (STRESI framework[29]) and subsequently broadened by the CNMV.[30] The results of the latest stress tests, with data at December 2022, which envisage different shock scenarios for the different fund categories, continue to show that the investment fund market is generally resilient to the scenarios considered. In the most extreme scenario simulated, which, depending on the segment, is 16 times more severe than that recorded in the worst week of March 2020, a total of 12 funds are identified as having potential liquidity problems for meeting the simulated increase in redemptions (1.7% of net assets in the sample). By segment, 10 of these funds are high-yield corporate bond funds (26.4% of net assets in the category), while the other 2 pertain to the global and absolute return fund category (1% of net assets).

Managing and controlling the liquidity risk of CIUs remained at the heart of the analyses and work performed by national regulators and supra-national institutions alike. Noteworthy on the supra-national front was the review of the recommendations issued by the FSB in 2017 and by IOSCO in 2018, the former on asset management-related vulnerabilities,[31] and the latter on collective investment-related liquidity risk management.[32] In terms of the IOSCO recommendations, the findings published show that of the 14 jurisdictions assessed, 7 (Spain included) were classed as "fully consistent", with the rest being classed as "broadly" or "partly consistent".[33] The results of the review of the FSB recommendations were also encouraging, albeit indicating the need to tackle certain vulnerabilities in the four areas addressed[34] (liquidity mismatches, management tools, data availability and stress testing).

Spain is already largely compliant with the FSB Recommendations, including the aspects calling for improvement. For years now the CNMV has been gathering monthly data on fund portfolios, enabling it to continuously track the liquidity risks assumed by investment funds. Moreover, as far as liquidity management policies and tools are concerned, the recently published Technical Guide 1/2022 on the management and control of the liquidity of collective investment schemes specifies and further details the principles laid out in CNMV Circular 6/2009 on internal control at CIU management companies. In particular, it specifies the criteria to be borne in mind to ensure suitable liquidity management policies, both at the design stage of a CIU and in its day-to-day activities, and, lastly, sets out the criteria for the proper deployment of the liquidity management tools, including anti-dilution tools.

29 See ESMA (2019), "Stress simulation for investment funds", 5 September.

30 See J. Ojea Ferreiro (2020) "Quantifying uncertainty in adverse liquidity scenarios for investment funds", CNMV Bulletin, Quarter II 2020.

31 FSB, *Policy Recommendations to Address Structured Vulnerabilities from Asset Management Activities,* January 2017.

32 IOSCO, *Recommendations for Liquidity Risk Management for Collective Investment Schemes. Final report,* February 2018.

33 IOSCO, *Thematic Review on Liquidity Risk Management Recommendations. Final report,* November 2022.

34 FSB, *Assessment of the Effectiveness of the FSB's 2017 Recommendations on Liquidity Mismatch in Open-Ended Funds,* December 2022.

In 2022, after war broke out in Ukraine, communication between the CNMV and the management companies potentially most affected remained a top priority. In the first quarter of 2022, with the outbreak of war and the resulting suspension of trading of assets linked to the two countries, five institutions activated their partial redemption mechanisms. The exposure of such institutions to the suspended securities ranged between 4.2% and 16.3%. Otherwise, these institutions continued to handle redemptions requests as normal.

Lastly, the available data[35] reveal that Spanish CIUs have ample liquidity management tools to draw on. Thanks to the CNMV policy of promoting an active use of liquidity management tools on the part of CIUs, not only in extraordinary circumstances but also in normal market conditions, a significant number of investment funds (85% of the total in terms of net assets) now provide in their prospectuses for the possibility of requiring advance notice of 10 business days where redemptions exceed €300,000. Moreover, 39% of funds (in net asset terms) have provided, whether in their prospectuses or by notifying a material event, for the possibility of using a swing pricing mechanism. This mechanism is deployed most often by money market and fixed-income funds. 95% of money market funds and 55% of fixed-income funds are equipped to do so.

3.4 Insurance undertakings and pension funds

The Spanish insurance sector has proven resilient in the face of the inflationary pressures and financial market uncertainty exacerbated by the war in Ukraine, with comfortable capital buffers in place. From a financial stability standpoint, inflation and rising interest rates are the two main factors when assessing the sector's risks and vulnerabilities. Inflation affects stability in the sector through several channels:

— **Non-life insurance.** In particular, in lines of business deemed to carry long-tail liability due to the length of their claim settlement periods, inflation may lead to a rise in costs due to claims and expenses that are higher than initially envisaged by insurers when calculating their technical provisions. Inflation, combined with higher interest rates, can also negatively impact the solvency ratios of non-life insurers, which, by their nature, have positive duration mismatches (their assets have a longer duration that their liabilities).

— **Life insurance and defined-benefit occupational pension schemes.** Inflation can have a positive impact on insurers with negative duration gaps (liabilities have a longer duration than assets), since benefits are usually established in nominal terms from the outset.

35 Data at end-September 2022.

— **Demand for insurance products.** Inflation affects real disposable income, and can negatively impact the uptake for insurance, with consequences for the profitability of insurers and, ultimately, their solvency. Moreover, a high inflation setting could trigger an increase in policy surrenders, since falling real income could lead some policyholders to draw on the funds they have built up

A faster pace of monetary policy normalisation, with interest rates rising sharply, has an uneven effect on the solvency of insurers. From an asset standpoint, a decline in the value of fixed-income positions as a result of rising interest rates has a negative impact on insurers, as this asset class accounts for a sizeable portion of their investments. On the liability side, insurers tend to benefit from rising interest rates, since future payouts to policyholders are discounted at higher rates, thus reducing the value of the technical provisions. Nonetheless, as noted above, the effects ultimately vary across life and non-life businesses, given their different asset/liability duration gaps, while the impact is also uneven across undertakings depending on the type of insurance sold.

The new interest rate setting directly affects the application of the transitional measures for adapting to the EU regime under the Solvency II Directive.[36] The transitional measures on technical provisions sought to ensure a smooth transition to the EU's new regulatory regime, and to prevent unwanted disruptions to the market and the products in circulation at that time. The current interest rate structure has shown that this transitional regime is no longer needed, since, as things stand, the Solvency II requirements are now less stringent than those under the previous regime. Thus, the Spanish authorities consider it essential, from a management standpoint, to eliminate any unnecessary dependence on the transitional measures, thereby ensuring that the solvency position reflects the real economic situation of insurers, facilitating proper risk assessment and creating a level playing field for insurers.

Effects on financial position and solvency

At aggregate level, the financial and solvency position of the Spanish insurance sector remained sound in 2022. Nonetheless, the sector's solvency ratio fell from 240% to 232% in 2022, largely due to the impact of the declining value of their fixed-income investments on the valuation of their net assets owing to financial market uncertainty and rising interest rates (see Chart A1.6.7 of Annex 2).

While the tensions caused by the Russian invasion of Ukraine had a very small direct impact on Spanish insurers and pension funds, the possible second-round effects are more relevant. The overall value of the insurance

36 Directive 2009/138/EC of the Parliament and of the Council of 25 November 2009, on the taking-up and pursuit of the business of Insurance and Reinsurance.

sector's investments fell by around 14% as 2022 drew to a close, owing essentially to the impact of higher interest rates on the fixed-income investments that account for the lion's share of the Spanish insurance sector's investments. In an uncertain setting brought about by geopolitical tensions and a worse outlook for global growth, potentially adverse developments are significant for any sectors particularly exposed to energy. Although Spanish insurers are not directly exposed to energy commodity derivatives, their exposure to energy and gas price-sensitive sectors is more significant.[37] The debt securities issued by non-financial corporations operating in energy-intensive sectors account for 13.5% of insurers' total corporate bond investments.

Turnover in the insurance sector, measured by gross written premiums, grew in the life and non-life segments. Non-life segments grew notably more (6.8%) than life segments (3.1%). While the non-life insurance business has now returned to pre-pandemic levels, the same cannot be said of the life insurance segment, which was still feeling the effects of a prolonged low-interest rate environment in 2022. Health, vehicle and multi-risk insurance were the main segments underpinning this growth, particularly the first of these, which continued the upward trend seen in the wake of the pandemic.

In the case of life insurance, the macroeconomic situation has paved the way for the gradual recovery of the savings business, which had been materially affected by the prolonged low (and even negative) interest rate setting seen in previous years. The encouraging prospects of a recovery in life insurance have been further boosted by the fact that the upturn in inflation and higher interest rates did not lead to an increase in policy surrenders in 2022. Indeed, surrenders even fell below pre-pandemic levels, testifying to the stability of savings managed in the form of life insurance.

In terms of profitability, and given inflation developments, the insurance sector has proven notably resilient thanks to the costs management measures set in place. In the case of non-life segments, insurers continued to perform well, with technical/financial income as a proportion of gross earned premiums standing at 7.7%, although inflationary pressures impacted the technical income in the form of higher operating costs. Thus, the combined sectoral ratio of the non-life segments overall (total claims incurred plus operating expenses over gross earned premiums) rose by 1.6%. Meanwhile, life insurers saw an improvement in their technical income, measured in terms of the mathematical provisions. This improvement was essentially driven by the impact of higher interest rates on the value of their technical provisions.

2022 saw a change in trend in terms of the wealth built up in pension funds (the main instrument for channelling retirement savings). The recent historical upward trend in total net assets, reaching an all-time high in 2021, was

37 Energy-sensitive sectors are identified in line with the criteria used by the ECB (in its May 2022 *Financial Stability Review),* whereby sectors whose energy consumption as a proportion of sectoral production is above average are classed as energy-sensitive.

cut short in 2022 with a slight decline (Chart A.1.7.4 of Annex 2). Broken down by schemes, this fall was slightly more pronounced in the case of individual and associated pension plans (down 10%), than in the case of occupational pension plans (9%). This decline stems from a combination of causes deriving from the levels of inflation and long-term interest rates; and from the reconfiguration of the limits on individual pension plan contributions, as part of the raft of reforms for the promotion of occupational pension plans.

Liquidity risk was one of the focal points for Europe's insurance supervisors in 2022. On this occasion this was due not only to the monitoring of policy surrenders, a traditional source of liquidity stress in the insurance sector, but also to how the situation on the financial markets impacts the use of derivatives by insurers (mainly to hedge the interest rate risk arising from the long maturities of their liabilities). In 2022 Q1 and Q2, the risk-free interest rate, proxied by the 10-year risk-free rate used by the European Insurance and Occupational Pensions Authority (EIOPA), increased by almost 200 bp, representing the most drastic change since Solvency II was introduced in 2016. In the case of interest rate derivatives (primarily interest rate swaps), a rate rise of this magnitude leaves insurers open to the risk of additional collateral requirements, with the associated increase in cash margin payments when the risk-free rates rise in the event that the insurers have arranged payments at the floating rate and are paid at the fixed rate.

In the United Kingdom, the announcement of unfunded expansionary fiscal policies in September 2022 prompted a sudden and material rise in the risk premium on the country's sovereign debt. The most exposed sectors responded to requests for more collateral by liquidating their investments, such as long-term sovereign bonds, triggering procyclical effects in a bear market. Meanwhile, the ESRB had decided to issue its first ever general warning on vulnerabilities in the EU's financial system, alerting to a significant rise in the likelihood of the materialisation of tail risks (see Chapter 5).

In response, the DGSFP has kept risks under constant surveillance. Spain's insurance and pensions sectors have proven to be less vulnerable to such risks, chiefly because the derivatives used by Spanish insurers to ensure that they meet their payment obligations are not generally of the floating-to-fixed sort, but rather fixed-to-fixed; because margin calls do not have to be met in cash, but rather other liquid assets can be put up; and since the fact that their assets are readily available enables them to meet any potential additional collateral demands.

Notwithstanding the key role played by prudential supervision in maintaining stability in the insurance and pension funds sector, monitoring of market conduct must be stepped up. Worth noting here are the actions taken in the area of credit protection insurance. Thus, with the help of national supervisors, the EIOPA conducted a thematic review on the functioning of the EU market for credit protection insurance products sold via banks (acting as insurance intermediaries) and how well it succeeds in delivering good and fair consumer outcomes. The thematic review focused on identifying potential sources of conduct risk and consumer detriment in order to allow EIOPA and the national competent authorities to take relevant policy and supervisory measures if needed. While recognising the various advantages of credit protection insurance, the thematic review highlighted significant risks for consumers, such as limited choice of products; issues with comparing, cancelling and switching products; the failure to consider consumer preferences when designing products; issues with sales practices; high profitability for insurers when compared with value for customers; and conflict of interest-related issues.

With this in mind, in September 2022 the EIOPA published a warning to insurers and banks on credit protection insurance products. In its communication, the EIOPA called on insurers and banks acting as insurance distributors to ensure credit protection insurance products offer fair value to consumers, by taking action to address issues with high remuneration paid by insurance manufacturers to insurance distributors for the sale of credit protection insurance and to prevent detrimental conflicts of interest from arising in the context of bancassurance business models. In line with the EIOPA warning, the DGSFP published a communication, informing insurance and bancassurance operators in the Spanish market of the need to review their payment protection insurance activities in order to bring their operations into line with the legislation on insurance distribution (Royal Decree-Law 3/2020) and the insurance product supervision and governance regulations. Oversight of lending-related payment protection products is thus one of the main supervisory priorities. As a result, as in the other EU Member States, the relevant supervisory powers will be exercised in Spain to ensure transparency and orderly conduct in the payment protection insurance market.

The insurance sector continued to make headway towards sustainability in 2022. Insurers continued working to integrate climate change and social and governance-related factors into their business strategies, risk and actuarial management, product design and underwriting, as well as their own governance systems. The requirements under the directly applicable EU regulations,[38] approved in 2021 and entering into force in 2022, should be adopted gradually in an industry that has a particularly key role to play in the climate challenge and that can make a decisive contribution to sustainability, given its nature as a long-term investor.

With the accelerating pace of digitisation processes and the increase in geopolitical risks, cyber risks are on the rise. The DGSFP will continue to track such risks in coordination with the national and European supervisory authorities,

38 Commission Delegated Regulation (EU) 2021/1256 of 21 April 2021 and Commission Delegated Regulation (EU) 2021/1257 of 21 April 2021.

particularly the ESRB, which issued a recommendation in late 2021[39] aimed at promoting (on a gradual basis until 2025) the establishment of a pan-European systemic cyber incident coordination framework.

In 2022 the ESRB turned its attention to the macroprudential aspects of trade credit insurance in the EU. The ESRB published an Issues Note on the specific features of this segment of the insurance business and the vulnerabilities that led several EU Member States to institute state aid schemes in the wake of the COVID-19 pandemic. This activity is less prominent in Spain than in other countries such as Germany, France and Italy.

Occupational pension schemes

In 2022 the EIOPA developed a stress test to assess the resilience of Europe's occupational pension schemes. As well as a quantitative assessment of their resilience in the face of climate risks, the exercise also included a qualitative analysis to identify and understand the possible effects of environmental risks on European pension funds. The results of the exercise show that, for Spanish pension funds, declines in asset values were less pronounced than or equal to the averages in the exercise, revealing a drop of around 9% in defined-benefit pension schemes and 10% in defined-contribution schemes. The Spanish funds were also more stable on the liability side, with a drop of 8.2% (vs an average of 11% in the exercise).

The Spanish Government's Recovery, Transformation and Resilience Plan envisaged the approval of a new legal framework to promote occupational pension schemes by June 2022. This milestone was met with the approval and publication of Law 12/2022 of 30 June 2022, regulating incentives for occupational pension schemes, which provides, as new figures within the supplementary welfare framework in Spain, for public open occupational pension funds, as well as simplified occupational pension schemes that can be assigned to such funds and that have a more straightforward system of implementation than the one previously in place, with a view to facilitating widespread take-up.

39 Recommendation of the European Systemic Risk Board of 2 December 2021 on a pan-European systemic cyber incident coordination framework for relevant authorities (ESRB/2021/17).

BOX 3.A Recent regulatory developments in crypto-assets

In May 2023, the European Council adopted the Markets in Crypto-Assets Regulation,[1] known as MiCA, set to apply 12 months (for issuances of certain crypto-assets known as "stablecoins") or 18 months (for all other issuances and crypto-asset services providers) after its entry into force.

MiCA sets out the legislative framework applicable to the issuance, offer and admission to trading of crypto-assets, as well as the legal regime governing crypto-asset service providers and rules regarding the prevention of market abuse. The Regulation will apply to natural and legal persons and other undertakings that are engaged in the issuance, offer to the public or admission to trading of crypto-assets or that provide services related to crypto-assets in the Union. The Regulation does not apply to:

— Financial instruments or other products already regulated in the prevailing financial services legislation.

— Crypto-assets that are unique and not fungible *(non-fungible tokens* or NFTs)

— The ECB or the central banks of the Member States when acting in their capacity as monetary authorities.

The Regulation classifies the crypto-assets falling under its scope into three categories:

— Assets referenced to another value or right or a combination thereof, including one or more official currencies *(asset referenced token,* ART).

— Assets referenced to the value of an official currency (electronic money token, EMT).

— Crypto-assets other than the above.

It also sets out the obligations for issuances and requests for admission to trading on a platform for crypto-assets other than ARTs and EMTs, as well as the obligations for ART and EMT issuances.

Crypto-asset services may only be provided by EU-domiciled entities that have been authorised to do so, or by credit institutions, investment services firms, market operators, electronic money entities or management companies. Such entities will not need express authorisation and may provide services comparable to the investment services already authorised.

The Regulation includes a title concerning the prevention of market abuse involving crypto assets admitted on trading platforms or that have been used, specifically, for price manipulation or inside information. The supervisory authorities are sufficiently empowered to discharge their responsibilities, and mechanisms for collaboration between authorities are established.

Under MiCA, the CNMV is the competent authority to supervise crypto-asset service providers in Spain, as well as the offer and admission to trading of crypto-assets, save with respect to issuances of ARTs and EMTs, for which the Banco de España is responsible.

On the international front, in December 2022 the Basel Committee on Banking Supervision (BCBS) published the final standard on the prudential treatment of banks' exposures to crypto-assets. The standard applies to all bank exposures to crypto-assets except for central-bank digital

1 Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets, and amending Regulations (EU) No 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937.

BOX 3.A Recent regulatory developments in crypto-assets (cont'd)

currencies (CBDCs). The Committee has agreed to implement the standard by 1 January 2025.

The prudential treatment is established on the basis of a set of conditions determining the classification of crypto-assets into two groups:

— Group 1: tokenised traditional assets and stablecoins whose issuer is supervised and regulated and is also subject to prudential capital and liquidity requirements.

— Group 2: tokenised traditional assets and stablecoins that fail to meet any of the classification conditions, as well as all unbacked traditional crypto-assets. This type of crypto-asset will be subject to more stringent prudential requirements.

The BCBS will continue to review some aspects of the prudential standard, given the lack of extensive experience with these instruments and how swiftly they have evolved. In addition, the BCBS's work programme envisages further assessments of bank-related developments in crypto-asset markets, including their role as stablecoin issuers, their risk management practices as custodians of crypto-assets and potential interconnections. Moreover, the BCBS will continue to collaborate with other international standard-setting bodies and with the Financial Stability Board (FSB) to ensure a consistent global treatment of crypto-assets.

4 Interconnectedness in the financial system

The current structure of financial institution interconnections helps the financial system to run more smoothly, though it also constitutes a network through which financial shocks can pass through. Financial interconnectedness benefits the financial system. First, it enables financial institutions to specialise in the business segments in which they have a comparative advantage, leaving the rest to other institutions. Moreover, it means that exposures can be diversified across financial institutions. However, interconnections also serve as channels for the transmission of systemic shocks. These risks can be passed through via either direct interconnections (mainly holdings of financial assets issued by other financial institutions) or indirect interconnections. Indirect interconnections can arise via both common holdings of financial assets issued by the same issuers, or via exposures to different assets whose prices are correlated.

Channels of interconnectedness take various forms. Notable examples include operations on derivatives markets and their central counterparty clearing houses, cyber risks and certain aspects of the business model of financial institutions.[40] This business model generates synergies that interconnect their activities, as regards both the income they generate and the risks to which they are subject.

The structure of the Spanish resident financial system's direct interconnections reflects the pre-eminence of the banking sector in the overall financial system. All told, the banking sector is the largest sector,[41] and one of the most interconnected (see Figure 4.1). Nonetheless, at end-2022 the total value of the direct interconnections was 14% down on December 2021, a bigger decline than that observed for the overall financial assets of Spanish financial institutions over the same period (6.1%). The most significant direct links continue to be the exposures of insurers and CIUs to systemic banks, although such exposures declined in 2022.[42] The second most notable direct interconnections were those between CIUs and less significant institutions, which increased considerably in 2022.

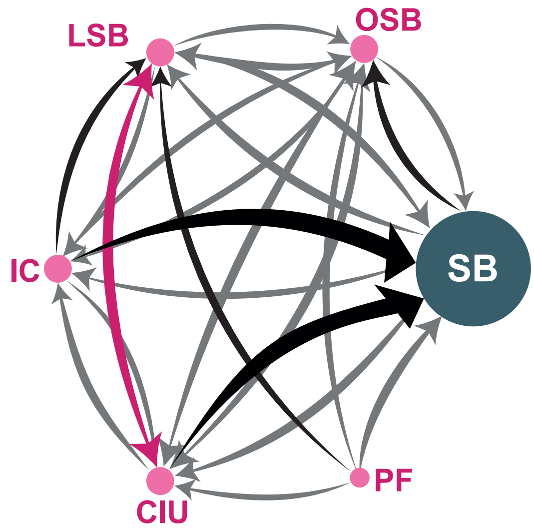
Correlations across financial assets strengthened during 2022 as a result of the tension deriving from the Russian invasion of Ukraine and the ECB rate hikes. The price correlation between the equities and debt securities issued by Spanish issuers gives an idea of the changes in indirect interconnections across

40 See Section 4 the AMCESFI *Annual Report 2021* for a more detailed explanation.

41 In Spain, the total financial assets of the resident private financial system amounted to more than €4 trillion at December 2021; the banking sector accounts for over 65% of this total.

42 The banking sector is broken down into three categories: (i) systemic institutions, i.e. those identified by the Banco de España as global systemically important institutions (G-SIIs) or other systemically important institutions (O-SIIs); (ii) non-systemic but significant institutions from the standpoint of the Single Supervisory Mechanism; and (iii) less significant institutions. For further details, see Chapter 4 of the AMCESFI *Annual Report 2020.*

Figure 4.1 Direct interconnections in the Spanish financial system. December 2022



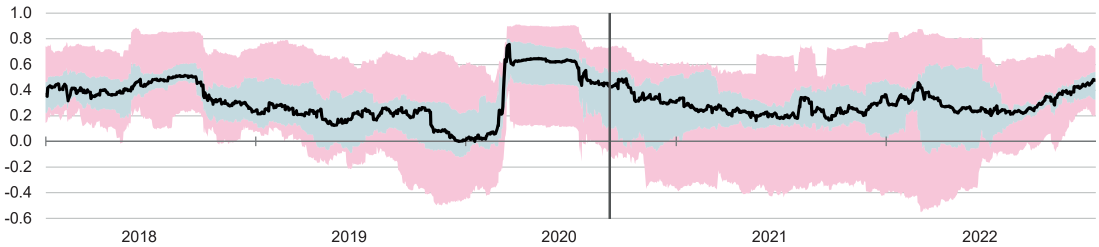
SOURCES: Banco de España, CNMV and DGSFP.
NOTE: The abbreviations denote systemic banks (SB), other significant banks (OSB), less significant banks (LSB), insurance companies (IC), collective investment undertakings (CIU) and pension funds (PF). The direct interconnections are calculated taking no account of consolidations between the different financial sectors. The size of the circles is proportional to the total financial assets of each sector or sub-sector. The colour of the arrows denotes the size of the direct exposure: grey, under €5 billion; black, €5 billion to €15 billion; and pink, over €15 billion.

financial institutions. After declining in 2021 as the COVID-19 pandemic abated, this indicator saw an initial upturn starting in February 2022 as a result of the Russian invasion of Ukraine and the energy market uncertainty that followed (see Chart 4.1.1). Although this upturn was transitory, the ECB's monetary policy decisions (in the form of interest rate hikes from summer 2022 onwards) prompted a steady rise in this indicator over Q4. This last increase in large part appears to reflect the simultaneous negative impact of rising interest rates on the value of debt securities. Indeed, the correlation between assets in the financial and non-financial sectors, calculated based only on equity securities (which are less sensitive to interest rate fluctuations), reveals a broadly downward trend from February 2022 onwards (see Chart 4.1.2).

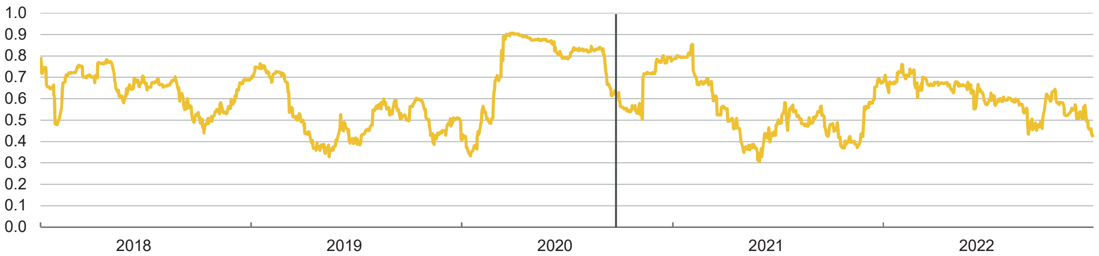
Indirect interconnections through common holdings of financial assets tend to vary depending on the net asset purchases in each sector of the financial system. Such purchases reveal certain common trends across segments of the financial system, albeit also some differences (see Chart 4.2). On the one hand, government debt purchases were positive across all segments in 2022. Nonetheless, while purchases of sovereign debt by the banking sector declined as monetary policy became increasingly tight, purchases by investment funds, pension funds and insurers grew throughout the entire year. Corporate bond purchases reveal a similar pattern across (sub)sectors, albeit on a notably smaller scale. Meanwhile, across all subsectors, net acquisitions of shares accounted for a very small share of total assets. Lastly, purchases of shares in funds tend to be

Chart 4.1 Analysis of indirect interconnections through correlations between prices of listed financial assets

1 Indicator of correlation between asset classes (a)



2 Indicators of correlation between the financial and the non-financial sector (b)



SOURCE: CNMV.

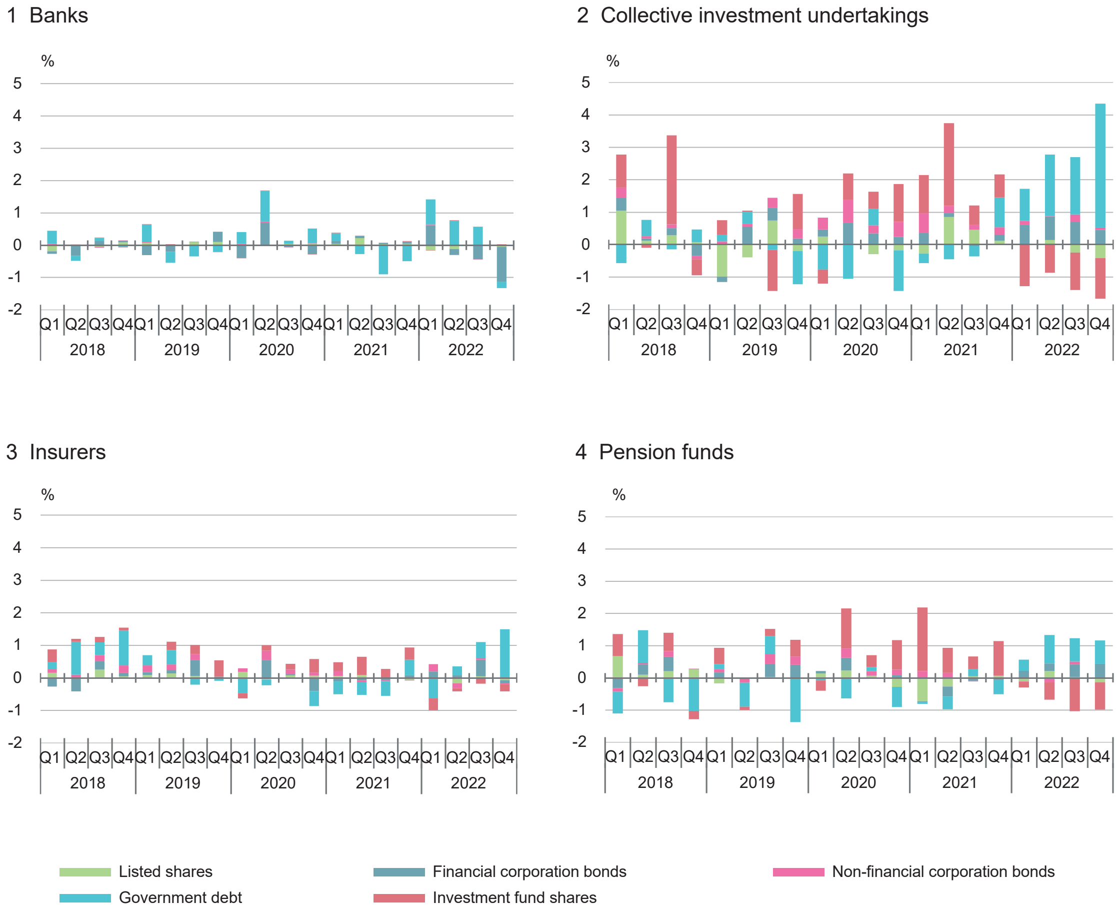
a The indicator of correlation between asset classes takes correlation pairs calculated drawing on daily data in 3-month windows. The asset classes are sovereign debt, corporate bonds of financial and non-financial institutions and equity securities of financial institutions, utilities and all other sectors. The vertical line marks early March and the start of the market turmoil owing to the health crisis.

b The indicators of correlation between the financial and the non-financial sector take correlation pairs calculated drawing on daily data in 3-month windows. The assets considered for the calculation are listed equity securities of the financial and the non-financial sectors. In addition, the latter has been split into two groups: i) the sectors most vulnerable to the effects of the COVID-19 pandemic, and ii) all other non-financial sectors. The vertical line marks the start of the market turmoil owing to the health crisis, in early March.

more commonplace at pension and investment funds, and are practically non-existent in the banking sector. In 2022, these types of shares were sold in the segments of the financial sector with this type of activity, with a general upward trend in debt security purchases across all segments of the financial sector (albeit less marked in the banking sector).

Fee and commission income continued to increase in 2022, underpinned partly by sales of insurance and funds, although its share of the banking sector's total finance income declined. As noted above, the business model of some financial institutions can also generate interconnection channels. In particular, the fee and commission income linked to the banking sector's business in Spain grew by 9.9% in 2022, representing something of a slowdown from the 13.6% growth seen in 2021. The contributions made by insurance and pension fund products to such income increased moderately in 2022, whereas those made by CIUs declined somewhat, although these variations were all minor, accounting for less than 1% of the total fee and commission income (see Chart 4.3). In any

Chart 4.2 Net transactions by type of instrument as a % of the sector's total assets



SOURCES: Banco de España (Financial Accounts of the Spanish Economy), ECB (Securities Holdings Statistics by Sector).

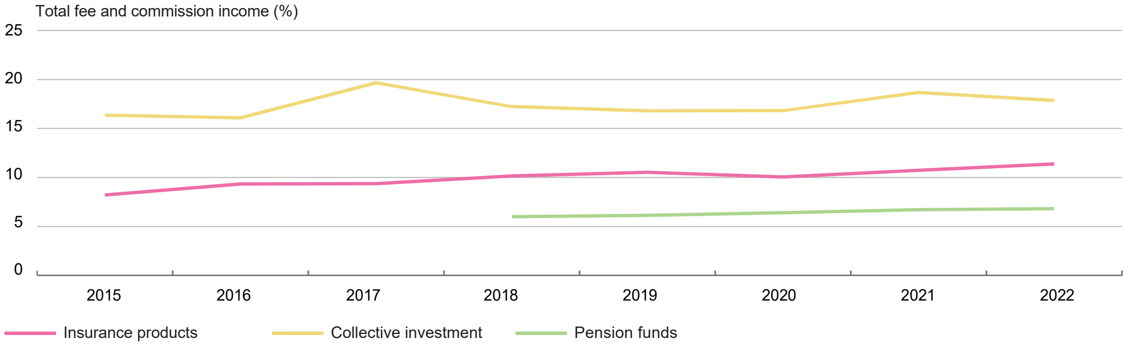
event, higher interest rates mean that fee and commission income now accounts for a smaller share of the banking sector's total finance income, falling from 41.0% in 2021 to 32.1% in 2022.

Cyber incidents are posing an increasingly significant risk to financial stability, partly due to growing geopolitical tensions. The impact of a cyber attack can be amplified and transmitted via operational, confidence and financial contagion channels throughout the financial system, potentially triggering a systemic event.[43] Such threats call for a global, European and national drive to improve cyber security in the financial sector.

In 2022, work continued in Spain on developing TIBER-ES, the national cyber security testing framework to improve the technological resilience of financial institutions. January 2022 saw the publication of the TIBER-ES Implementation Guide, while in February 2022 the supervisory institutions

43 ESRB (2023). *Advancing macroprudential tools for cyber resilience.* Report of 14 February.

Chart 4.3 Income from fees and commissions linked to insurance and collective investment products marketed by the banking sector



SOURCES: Banco de España and CNMV.
NOTE: For fees and commissions relating to the marketing of pension funds no data are available before 2018.

participating in the framework (Banco de España, CNMV and DGSFP) held an informative session outlining the importance of implementing the European TIBER-EU framework in Spain. These three supervisors make up the Tiber Cyber Team, the body that oversees TIBER-ES and ensures that the testing is conducted within this framework.

The European Regulation on digital operational resilience for the financial sector, known as DORA,[44] was approved in late 2022. The new Regulation will apply as from 2025 and sets out a broad digital framework for the European financial sector, taking in everything from market infrastructures and the institutions that offer services on securities markets, to the banking and insurance sectors. The Regulation details the requirements needed to be able to properly manage ICT risk, notifications and exchanges of information on ICT incidents, the obligation on certain financial institutions to conduct digital operational resilience testing, and the specific measures needed to manage ICT service provider risk. DORA also sets out mechanisms for applying the principle of proportionality, taking into account the nature, size, complexity and risk profile of institutions.

The EU Joint Committee on Digital Operational Resilience was set up in June 2022. Its members comprise 37 national agencies from 25 Member States and the three European Supervisory Authorities (EBA, EIOPA, ESMA), alongside other EU bodies, (such as the ESRB), as observers. The main objective of this committee is to assist the supervisory authorities in fulfilling their policy mandates under DORA, by providing input on regulatory aspects, developing a coordinated response to major cross-border cyber incidents and coordinating the monitoring of digital operational resilience threats.

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

5 European Systemic Risk Board recommendations and warnings relevant to AMCESFI

AMCESFI, in its capacity as the national macroprudential authority, is a regular addressee of ESRB recommendations. These recommendations are mainly aimed at preventing or mitigating systemic risks and vulnerabilities and are usually addressed to the relevant authorities of the EU, including national macroprudential authorities, designated supervisory and resolution authorities and even Member States. The ESRB also addresses recommendations to various European institutions and agencies such as the European Commission, ECB Banking Supervision, the European banking supervisory authorities (EBA, EIOPA and ESMA) and the Single Resolution Board (SRB).

In 2022, the ESRB issued a recommendation on vulnerabilities in the EU's commercial real estate sector.[45] Adverse developments in the commercial real estate sector can have a negative systemic impact on the financial system and the real economy. The ESRB has identified vulnerabilities in this sector such as heightened inflation, the tightening of financial conditions which limit the scope for refinancing existing debt and extending new loans, and the deterioration of the growth outlook following Russia's invasion of Ukraine. The ESRB recommends that the competent authorities in the area of financial stability improve the analysis and monitoring of systemic risks stemming from the commercial real estate sector with a view to assessing possible macroprudential policy actions. To this end, the ESRB plans to monitor national authorities' compliance with this recommendation from 2024 to 2026. In Spain, this recommendation is issued to AMCESFI (as the macroprudential authority for the financial system as a whole) and to the three sectoral authorities (Banco de España, the CNMV and the DGSFP).

In 2022 the ESRB also issued three recommendations relevant to the Banco de España on voluntary reciprocity for the macroprudential policy measures implemented in Lithuania, the Netherlands, Belgium and Germany. These recommendations, amending Recommendation ESRB/2015/2 on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures, aim to ensure that the measures activated in one Member State are applied reciprocally in the other Member States, thereby guaranteeing the effectiveness and consistency of national macroprudential policy measures. Lithuania (ESRB/2022/1) set a systemic risk buffer rate for all retail exposures to

45 ESRB Recommendation of 1 December 2022 on vulnerabilities in the commercial real estate sector in the European Economic Area (ESRB/2022/9). See also "The ESRB issues a recommendation on vulnerabilities in the commercial real estate sector in the European Economic Area", press release of 25 January 2023, and the report Vulnerabilities in the EEA commercial real estate sector, of January 2023.

Table 5.1 ESRB recommendations addressed to AMCESFI

ESRB recommendation	AMCESFI	Banco de España	CNMV	DGSFP	FROB	Government
Recommendation ESRB/2022/9 of 1 December 2022 on vulnerabilities in the commercial real estate sector in the European Economic Area						
Recommendation ESRB/2020/12 of 24 September 2020 on identifying legal entities						
Recommendation ESRB/2020/8 of 27 May 2020 on monitoring the financial stability implications of debt moratoria, and public guarantee schemes and other measures of a fiscal nature taken to protect the real economy in response to the COVID-19 pandemic	FC					
Recommendation ESRB/2020/7 of 27 May 2020 on restriction of distributions during the COVID-19 pandemic FC	FC	FC	FC	FC		
Recommendation ESRB/2019/18 of 26 September 2019 on exchange and collection of information for macroprudential purposes on branches of credit institutions having their head office in another Member State or in a third country	FC	FC				
Recommendation ESRB/2016/14 of 31 October 2016 on closing real estate data gaps	FC (a)					
Recommendation ESRB/2015/2 of 15 December 2015 on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures	FC/SE (a)	FC/SE				
Recommendation ESRB/2015/2 of 15 December 2015 on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures	LC (a)					LC

SOURCE: Devised by AMCESFI.
NOTE: The shaded cells denote the authorities to which each recommendation is addressed. Degree of compliance is indicated where an ESRB compliance assessment report is available, as follows: Fully Compliant (FC); Largely Compliant (LC); Partially Compliant (PC); Materially Non-Compliant (MN); Sufficiently Explained (SE); and Insufficiently Explained (IE).

a Before the creation of AMCESFI in 2019, Banco de España, as the designated authoritiy for the banking sector, assumed responsibility for complying with the ESRB Recommendations addressed to the macroprudential authority.

natural persons resident in the Republic of Lithuania that are secured by residential property. The Netherlands (ESRB/2022/1) established a measure to set a minimum average risk weight applied by credit institutions using the IRB approach for their portfolios of exposures to natural persons secured by residential property located in the country. Belgium (ESRB/2022/3) introduced a systemic risk buffer rate for all retail exposures to natural persons secured by residential immovable property in Belgium, to which the internal ratings-based approach (IRB) is applied. Lastly, Germany (ESRB/2022/4) set a systemic risk buffer rate for all exposures secured by residential immovable property located there.

The recommendations issued by the ESRB are not binding, but they are subject to a general "act or explain" principle. The ESRB conducts regular multi-year assessment exercises to determine the degree of compliance by the addressee authorities with each of its recommendations. Notably, in 2022, an ESRB assessment team concluded that AMCESFI, the Banco de España, the CNMV and the DGSFP had fully implemented the recommendation issued at the outbreak of the COVID-19 pandemic on restrictions on dividend pay-outs and on variable remuneration at financial institutions (ESRB/2020/7). Table 5.1 lists ESRB recommendations addressed to AMCESFI in reverse chronological order, indicating the degree of compliance, based on the ESRB's assessment, if available. Annex 2 lists other ESRB recommendations addressed to at least one Spanish national authority.

As well as recommendations, the ESRB can issue warnings on vulnerabilities in the EU if systemic risk to financial stability is identified. These warnings can be addressed to the EU as a whole or to individual Member States, the European supervisory authorities or national authorities. The ESRB and the EU Council decide, on a case-by-case basis, whether a warning should be made public, bearing in mind that disclosure can be key to its effectiveness and may help foster compliance. The ESRB will then monitor if the systemic risk has been appropriately addressed and, if necessary, will take action by issuing a recommendation.

In 2022 the ESRB issued a warning on vulnerabilities in the EU's financial system. In ESRB/2022/7, the first EU-wide warning issued, the ESRB cautioned that, following Russia's invasion of Ukraine, risks to financial stability in the EU had increased significantly owing to heightened geopolitical tensions, a deterioration in the macroeconomic outlook, a greater risk of sharp corrections in asset prices, and the implications of all these factors for credit quality, as yet not fully recovered from the effects of the COVID-19 pandemic. Accordingly, the ESRB underlines the need to preserve and enhance the resilience of the financial sector so that it can continue to support the real economy should risks to financial stability materialise.

Annex 1 Dashboard of risk indicators

Chart A1.1 **Macroeconomic risk**

1 Real GDP, quarter-on-quarter rate of change
2 Unemployment rate according to the LFS
3 Inflation according to headline HICP
4 Government debt and deficit
5 Resident private sector debt, consolidated
6 Current account balance
7 Negative net international investment position
8 Unit labour costs

Chart A1.2 **Market risk**

1 Equity markets
2 10-year government bond yield
3 1-year EURIBOR
4 International market volatility
5 IBEX 35 volatility

Chart A1.3 **Credit risk**

1 NPL ratio, deposit institutions
2 Coverage ratio, deposit institutions
3 Spanish 10-year government bond yield spread over Germany
4 Credit default swap indicators
5 Credit to the resident private sector
6 New credit to the resident private sector

Chart A1.4 **Real estate exposure**

1 Real estate market developments
2 House price overvaluation estimates
3 Housing and construction loans
4 New housing loans

Chart A1.5 **Liquidity and funding risk**

1 3-month LIBOR-OIS spread

2 Eurosystem monetary policy interest rates

3 Spain's average interest rate spread against the euro area on new loans of up to €1 million extended to firms

4 Bond issuances

5 Equity issuances by Spanish firms

6 Loan-to-deposit ratio, other resident sectors

7 Trading of Spanish equities

8 Bid-ask spreads

Chart A1.6 **Solvency and profitability risk**
Banks

1 Return on equity (ROE)

2 Cost-to-income ratio

3 Capital ratios

4 Leverage ratio (phase-in)

Insurance undertakings

5 Return on equity (ROE)

6 Gross non-life combined ratio

7 Solvency ratio

Chart A1.7 **Structural risks and interconnectedness**

1 Financial sector assets

2 Assets of other financial intermediaries

3 Investment funds

4 Assets of insurers and pension funds

5 Banking sector liabilities, by sector

6 Systemic risk indicator

Chart A1.8 **Other risks**

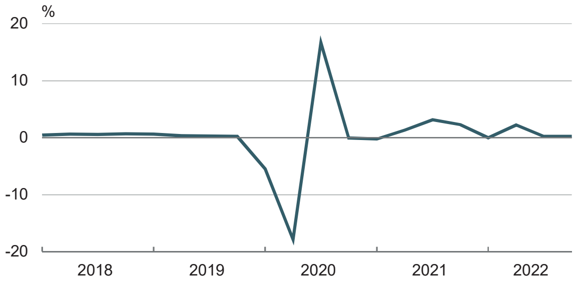
1 Greenhouse gas emission intensity

2 Global crypto-asset market capitalisation

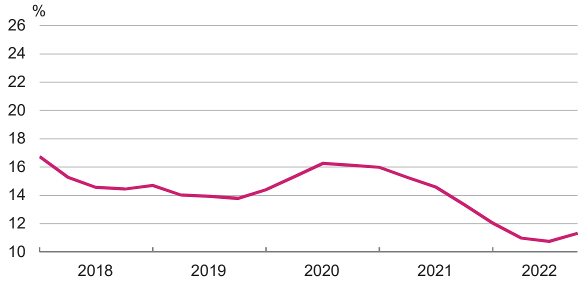
3 Global market capitalisation of the main stablecoins

Chart A1.1 Macroeconomic risk

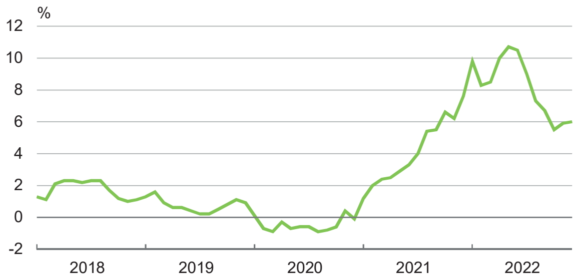
1 Real GDP, quarter-on-quarter rate of change (a)



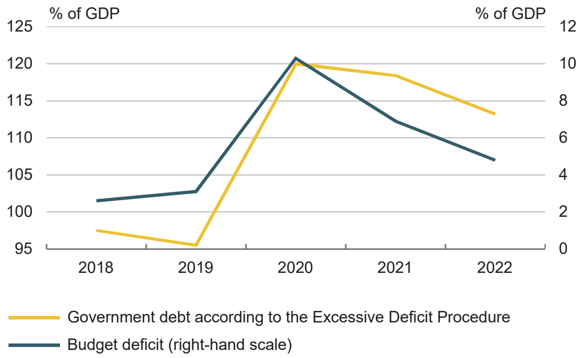
2 Unemployment rate according to the LFS



3 Inflation according to headline HICP (b)



4 Government debt and deficit

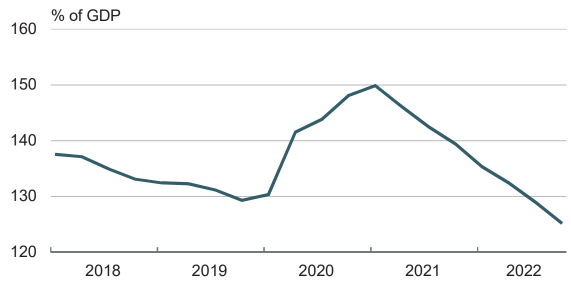


SOURCE: Ministerio de Asuntos Económicos y Transformación Digital.

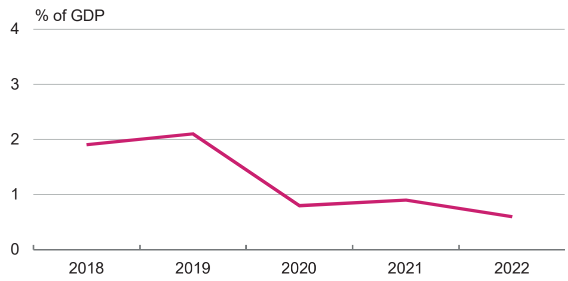
a Quarterly rate of change.
b Annual rate of change.

Chart A1.1 Macroeconomic risk (cont'd)

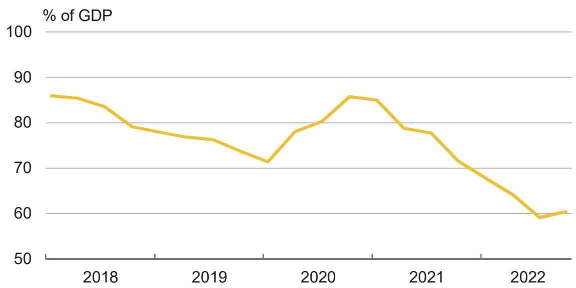
5 Resident private sector debt, consolidated (a)



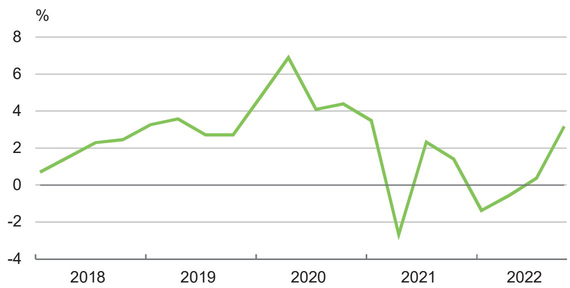
6 Current account balance



7 Negative net international investment position



8 Unit labour costs (ULC) (b)

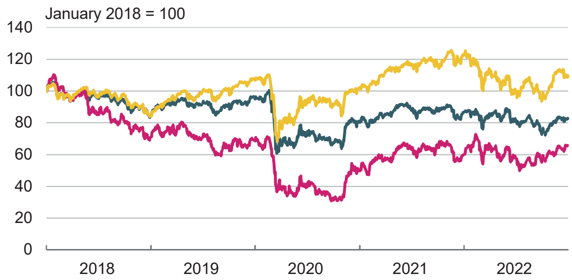


SOURCE: Ministerio de Asuntos Económicos y Transformación Digital.

a NFCs and households and non-profit institutions serving households.
b Annual rate of change.

Chart A1.2. Market risk

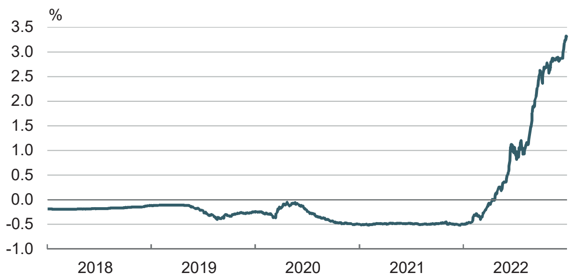
1 Equity markets



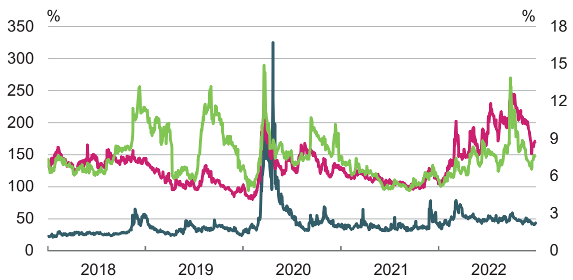
IBEX 35
Madrid Stock Exchange Bank Index
EURO STOXX 50

2 10-year government bond yield

3 1-year EURIBOR

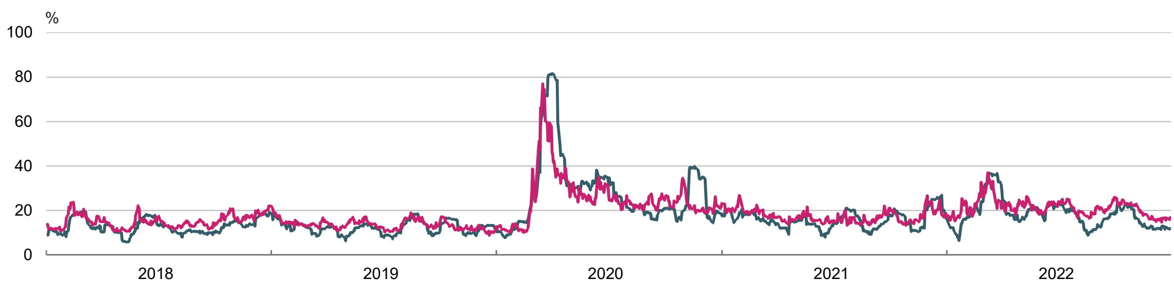


4 International market volatility



Implicit daily oil price volatility (Brent)
Implicit daily euro/dollar exchange rate volatility (right-hand scale)
Implicit daily euro/sterling exchange rate volatility (right-hand scale)

5 IBEX 35 volatility



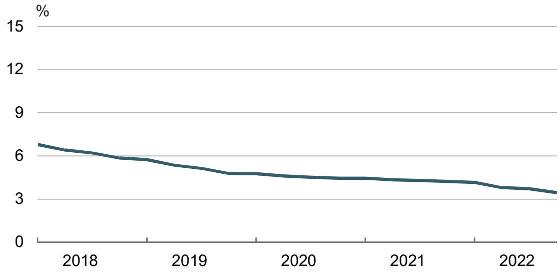
Historical IBEX 35 volatility (a)
Implicit volatility of the IBEX 35 derivatives market. First maturity

SOURCE: Datastream.

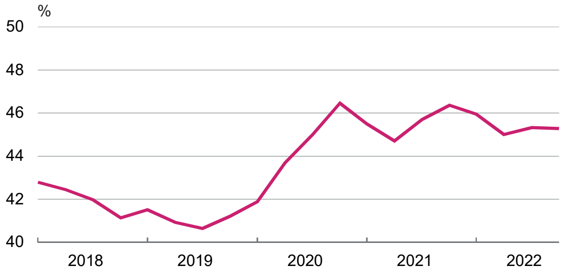
a The indicator of historical volatility is calculated as the annualised standard deviation of daily IBEX 35 price changes over 21 days.

Chart A1.3 Credit risk

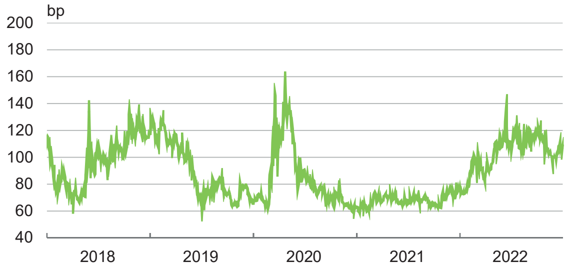
1 NPL ratio, deposit institutions (a)



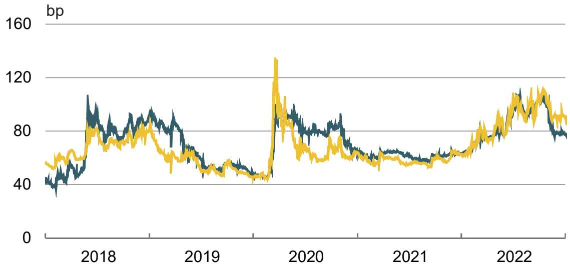
2 Coverage ratio, deposit institutions (a)



3 Spanish 10-year government bond yield spread over Germany



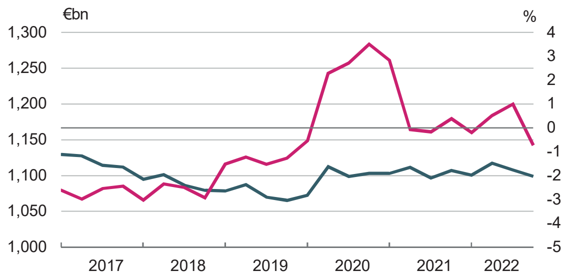
4 Credit default swap indicators (b)



5-year CDS of euro-denominated senior debt of Spanish financial institutions

5-year CDS of euro-denominated senior debt of Spanish non-financial institutions

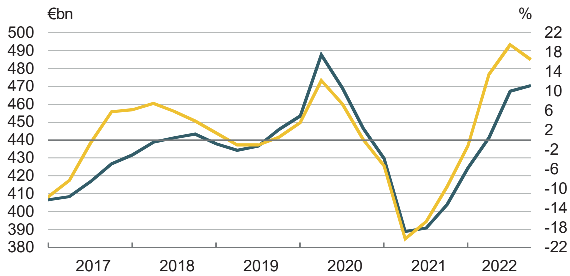
5 Credit to the resident private sector (c)



Total

Rate of change (right-hand scale)

6 New credit to the resident private sector (c) (d)



Total new credit

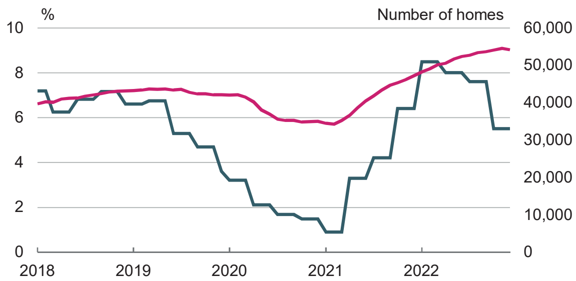
Year-on-year rate of change of new credit

SOURCE: Banco de España.

a Bank-level data, business in Spain.
b Simple average of a sample of IBEX 35 members.
c Households and NFCs
d Cumulative 12-month flow.

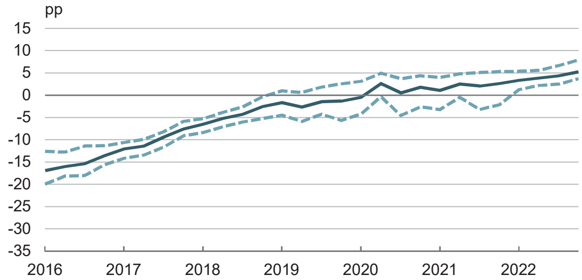
Chart A1.4 Real estate exposure

1 Real estate market developments

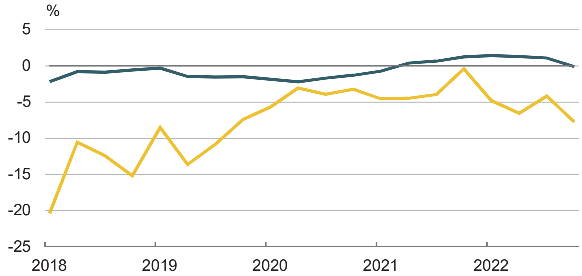


House price index (INE) (a)
House sales (INE) (b) (right-hand scale)

2 House price overvaluation estimates (c)

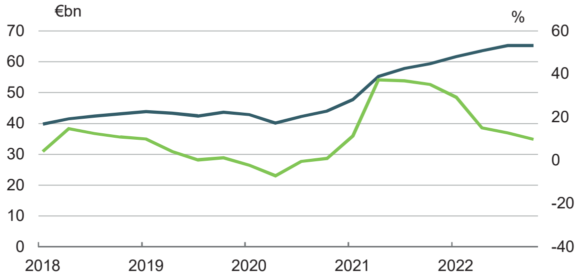


3 Housing and construction loans (d)



Loans to households for house purchase
Loans for construction, property development and real estate activities

4 New housing loans (e)



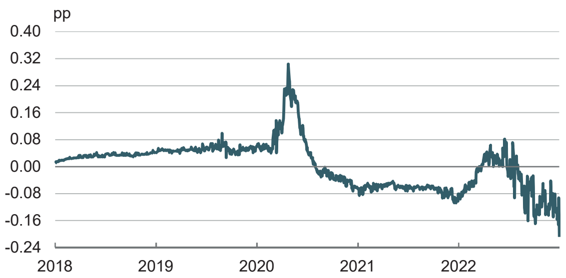
New loans for house purchase
Rate of change year-on-year in new loans for house purchase (right-hand scale)

SOURCE: Banco de España.

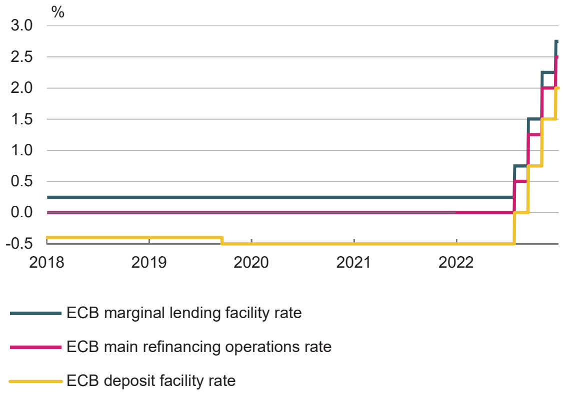
a Annual rate of change.
b 12-month moving average.
c The solid and broken lines denote, respectively, the average, minimum and maximum values of a set of four indicators for changes in real estate sector prices vis-à-vis their long-term trends: (i) house price gap with respect to the long-term trend calculated using a Hodrick Prescott filter with a smoothing parameter of 400,000; (ii) house-price-to-disposable income ratio gap with respect to the long-term trend calculated using Hodrick Prescott filter with a smoothing parameter of 400,000; (iii) econometric model for house price imbalances explained by long-term trends in disposable income and mortgage rates; and iv) long-term econometric model for long-term house price imbalances explained by prices in preceding periods, disposable income, new mortgage rates and fiscal variables.
d Year-on-year rate of change.
e Cumulative 12-month flow. Including credit to households and NPIs.

Chart A1.5 Liquidity and funding risk

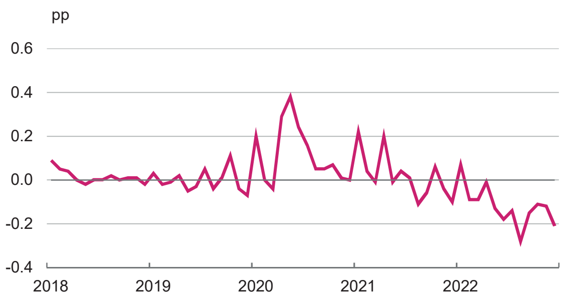
1 3-month LIBOR-OIS spread



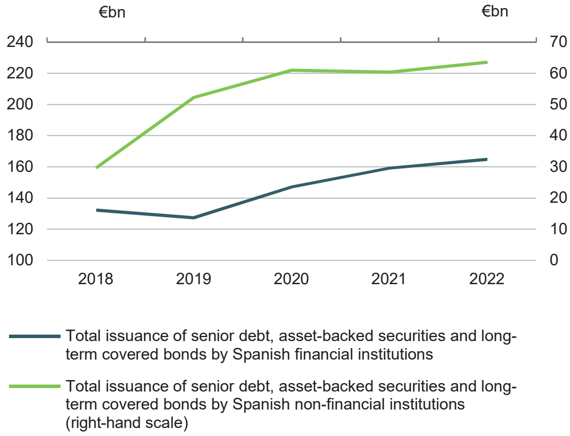
2 Eurosystem monetary policy interest rates



3 Spain's average interest rate spread against the euro area on new loans of up to €1 million extended to firms



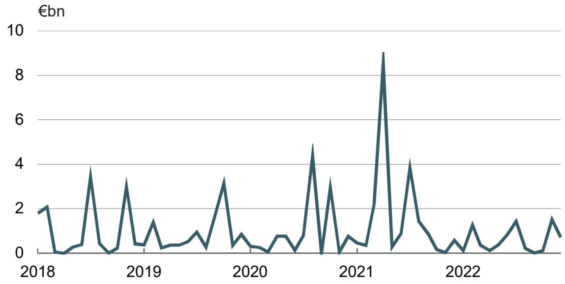
4 Bond issuances



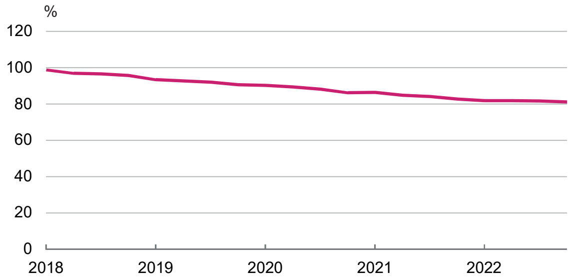
SOURCES: Banco de España, ECB and CNMV.

Chart A1.5 Liquidity and funding risk (cont'd)

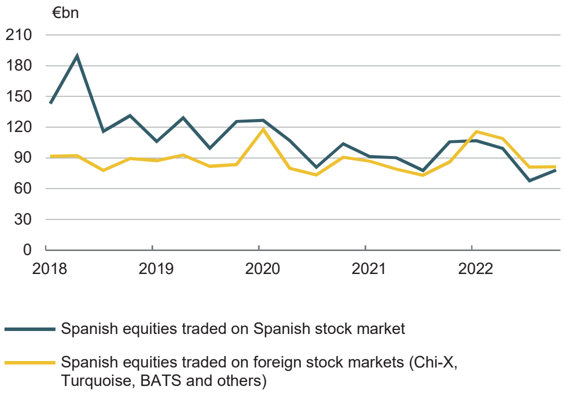
5 Equity issuances by Spanish firms



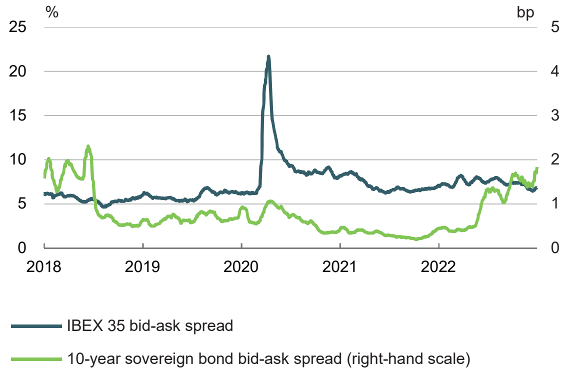
6 Loan-to-deposit ratio, other resident sectors (a)



7 Trading of Spanish equities



8 Bid-ask spreads



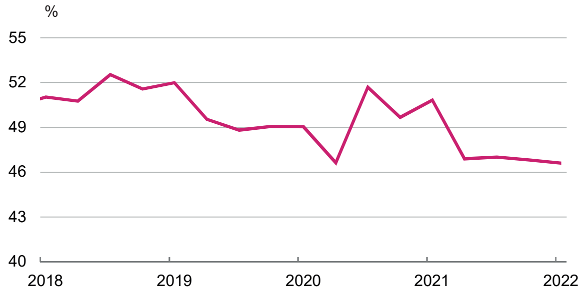
SOURCES: CNMV and Banco de España.

a Households and NFCs.

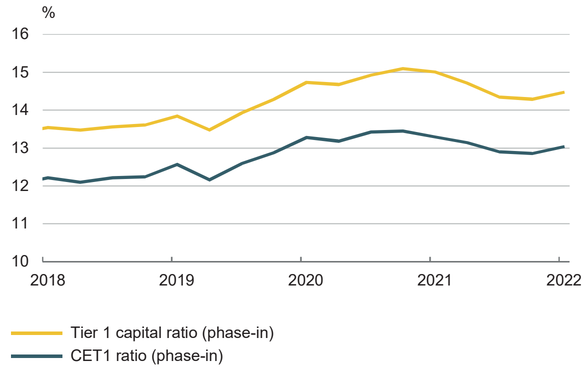
Chart A1.6 Solvency and profitability risk. Banks. Consolidated data

1 Return on equity (ROE) (a)

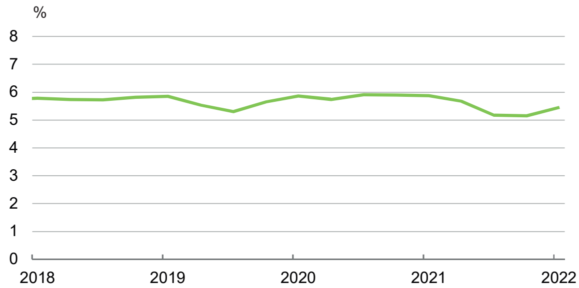
2 Cost-to-income ratio (b)



3 Capital ratios



4 Leverage ratio (phase-in)

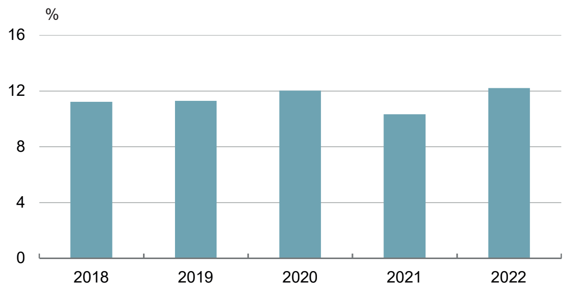


SOURCE: Banco de España.

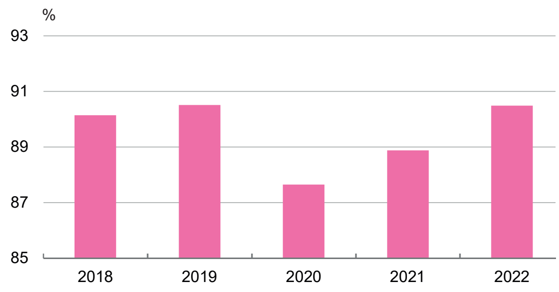
a Net income as a proportion of average equity.
b Operating costs as a proportion of gross income.

Chart A1.6 Solvency and profitability. Insurance undertakings (cont'd)

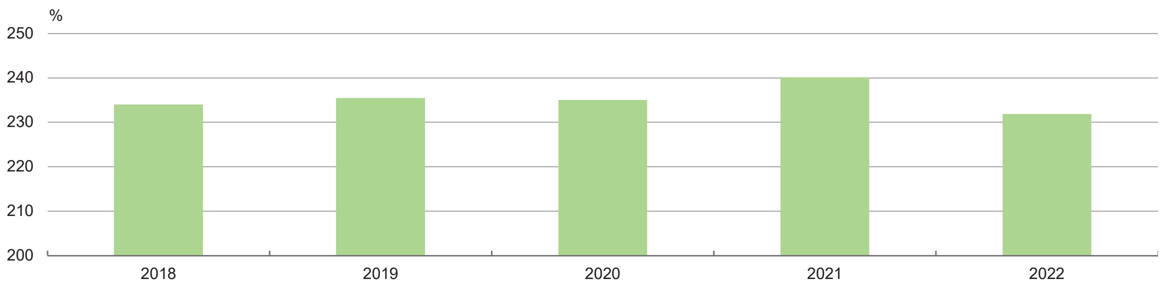
5 Return on equity (ROE)



6 Gross non-life combined ratio



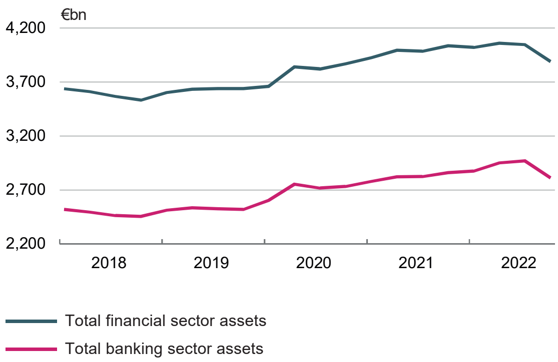
7 Solvency ratio



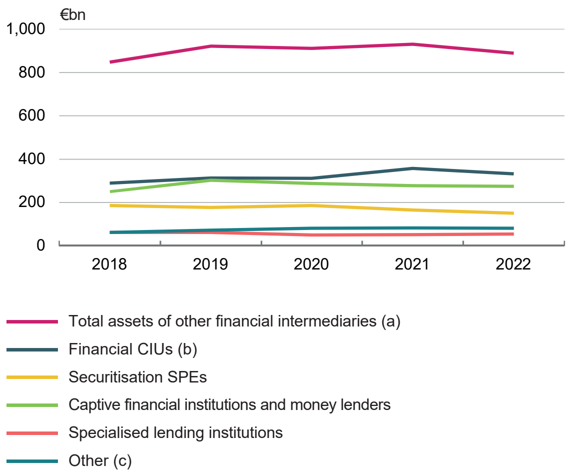
SOURCE: DGSFP.

Chart A1.7 Structural risks and interconnectedness

1 Financial sector assets

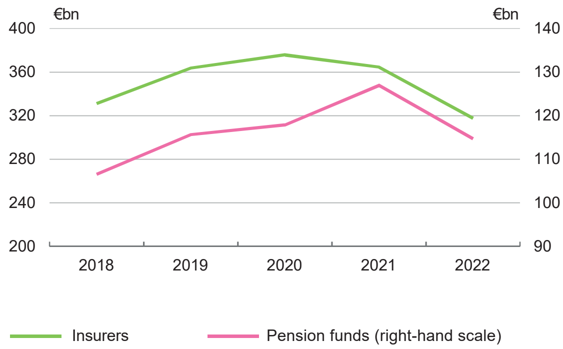


2 Assets of other financial intermediaries



3 Investment funds

4 Assets of insurers and pension funds

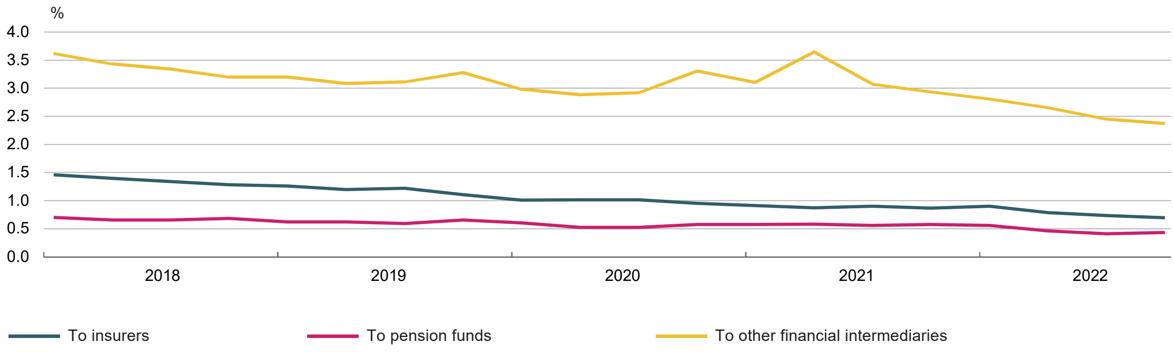


SOURCES: CNMV, DGSFP and Banco de España.

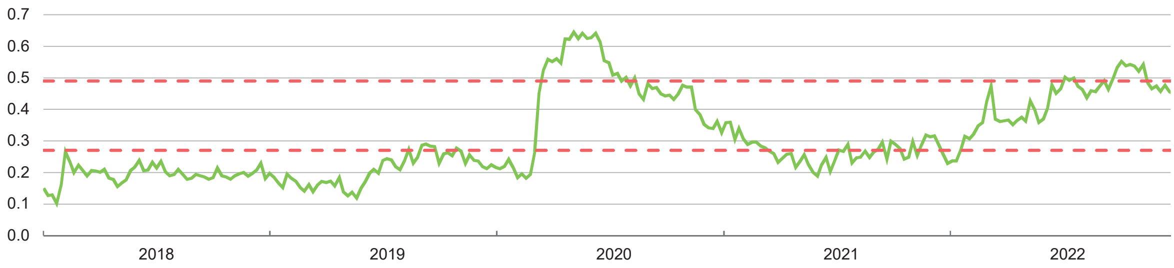
a The 2021 data are provisional.
b Includes investment funds (including money market funds), open-end investment companies and hedge funds.
c From 2020, not including assets belonging to Sareb, which was reclassified in the general goverment sector.

Chart A1.7 Structural risks and interconnectedness (cont'd)

5 Banking sector liabilities, by sector (a)



6 Systemic risk indicator (b)

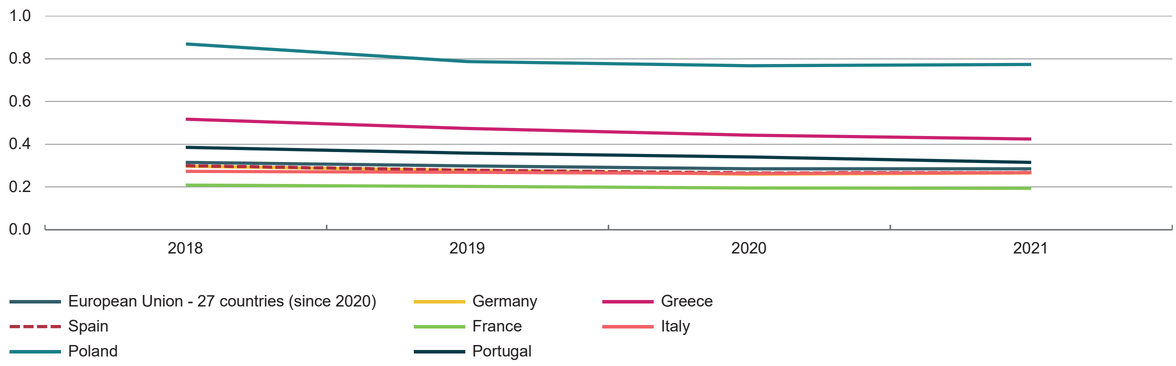


SOURCES: Banco de España and CNMV.

a Distributions as a percentage of total liabilities with the financial sector.
b Stress is measured in six segments of the financial system and is aggregated, to obtain a single figure that factors in the correlation between the segments. The econometric estimates suggest that indicator values below 0.27 denote periods of low stress, values between 0.27 and 0.49 denote periods of medium stress, and values over 0.49 denote periods of high stress. The broken red lines mark the different stress levels (high, medium and low).

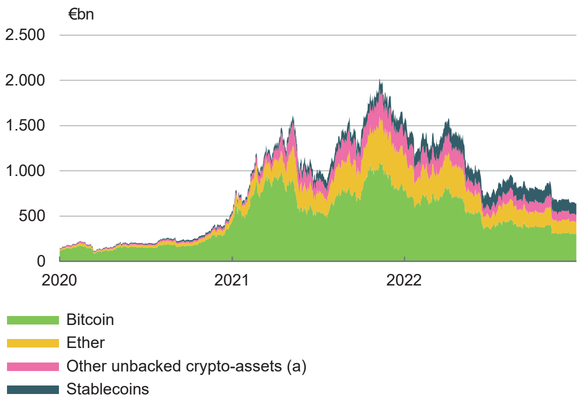
Chart A1.8 Other risks

1 Greenhouse gas emission intensity

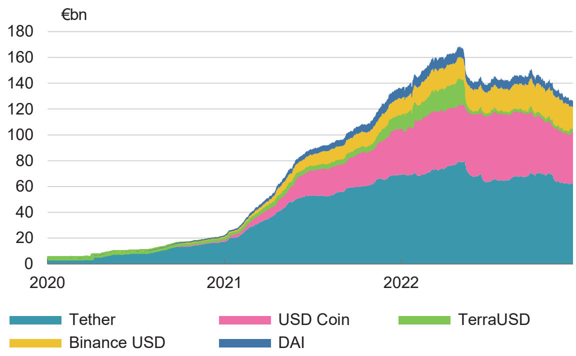


SOURCE: Eurostat.
NOTE: Intensity calculated as greenhouse gas emissions (in thousands of tonnes) as a proportion of real GDP (in € millions).

2 Global crypto-asset market capitalisation



3 Global market capitalisation of the main stablecoins



SOURCE: CoinGecko.
NOTE: CoinGecko, like other similar websites, does not constitute an official, comparable data source.

a Other unbacked crypto-assets include the market capitalisation of the top 10 crypto currencies, excluding stablecoins, Bitcoin and Ether.

Annex 2 Recommendations issued by the ESRB relevant to AMCESFI member institutions and other authorities in Spain

Table A2.1 Relevant ESRB recommendations, by authority

ESRB recommendation	Banco de España	CNMV	DGSFP	Government
Recommendation ESRB/2021/17 of 2 December 2021 on a pan-European systemic cyber incident coordination framework for relevant authorities				
Recommendation ESRB/2020/6 of 25 May 2020 on liquidity risks arising from margin calls	SE	FC/LC	SE	
Recommendation ESRB/2015/1 of 11 December 2015 on recognising and setting countercyclical buffer rates for exposures to third countries	FC			
Recommendation ESRB/2014/1 of 18 June 2014 on guidance for setting countercyclical buffer rates	FC			
Recommendation ESRB/2012/2 of 20 December 2012 on funding of credit institutions	FC			
Recommendation ESRB/2011/3 of 22 December 2011 on the macroprudential mandate of national authorities				PC[1]
Recommendation ESRB/2011/2 of 22 December 2011 on US dollar denominated funding of credit institutions	FC			
Recommendation ESRB/2011/1 of 21 September 2011 on lending in foreign currencies	FC			

SOURCE: Devised by AMCESFI.
NOTE: The shaded cells denote the authorities to which each recommendation is addressed. ESRB recommendations not addressed to national authorities and those only affecting specific Member States are excluded. Recommendations amending previous recommendations are likewise not included. Degree of compliance is indicated where an ESRB compliance assessment report is available, as follows: Fully Compliant (FC); Largely Compliant (LC); Partially Compliant (PC); Materially Non-Compliant (MN); Sufficiently Explained (SE); and Insufficiently Explained (IE).

Annex 3 Key publications by AMCESFI institutions

This annex compiles regular articles and occasional papers on topics related to the analysis of financial stability and macroprudential policy published by AMCESFI member institutions between July 2022 and June 2023. For publications relating to 2022 H1, see Annex 2 of the AMCESFI *Annual Report 2021.*

Banco de España

Financial Stability Report. Spring 2023

Financial Stability Report. Autumn 2022

Supervision Report 2022

Annual Report 2022

"Evolución reciente de la financiación y del crédito bancario al sector privado no financiero. Segundo semestre de 2022"
Pana Alves, Javier Delgado, Jaime Garrido, Nadia Lavín y Carlos Pérez Montes
Economic Bulletin - Banco de España 2023/Q1, January 2023

"Decentralised finance: the latest generation of crypto-assets"
Sergio Gorjón
Economic Bulletin - Banco de España 2023/Q3, July 2023

"The EURIBOR surge and bank deposit costs: an investigation of interest rate pass-through and deposit portfolio rebalancing"
Alejandro Ferrer, Gergely Ganics, Ana Molina and José María Serena
Financial Stability Review. Issue 44. Spring 2023. Banco de España

"Digital assets and reporting: is there anything new under the sun?"
Fernando García Martínez and José Ramón Martínez Resano
Financial Stability Review. Issue 44. Spring 2023. Banco de España

"Climate change, financial risks and reporting: distant horizons?"
Covadonga Martínez and Pablo Pérez Rodríguez
Financial Stability Review. Issue 44. Spring 2023. Banco de España

"Crypto-asset regulation in the current international and European framework"
Rebeca Anguren, José García Alcorta, Lucas García Calvo, Diego Hernández García and Eva Valdeolivas
Financial Stability Review. Issue 44. Spring 2023. Banco de España

“The European Central Bank and financial stability: a quarter of a century of evolution and transformation (1998-2023)”
Luis Gutiérrez de Rozas
Financial Stability Review. Issue 44. Spring 2023. Banco de España

“Systemic analysis framework for the impact of economic and financial risks”
Carlos Pérez Montes, Jorge E. Galán, María Bru, Julio Gálvez, Alberto García, Carlos González, Samuel Hurtado, Nadia Lavín, Eduardo Pérez Asenjo and Irene Roibás
Occasional Papers, 2311, Banco de España (2023)
“The forgotten lender: the role of multilateral lenders in sovereign debt and default”
María Bru Muñoz
Working Papers, 2301, Banco de España (2023)

“Credit line runs and bank risk management: evidence from the disclosure of stress test results”
José E. Gutiérrez and Luis Fernández Lafuerza
Working Papers, 2245, Banco de España (2022)

“A house price-at-risk model to monitor the downside risk for the Spanish housing market”
Gergely Ganics and María Rodríguez-Moreno
Working Papers, 2244, Banco de España (2022)

“Do buffer requirements for European systemically important banks make them less systemic?”
Carmen Broto, Luis Fernández Lafuerza and Mariya Melnychuk
Working Papers, 2243, Banco de España (2022)

“Analysis of the usability of capital buffers during the crisis precipitated by COVID-19”
Luis Fernández Lafuerza, Matías Lamas, Javier Mencía, Irene Pablos and Raquel Vegas
Occasional Papers, 2223, Banco de España (2022)

“Macroprudential FX regulations: sacrificing small firms for stability?”
María Alejandra Amado
Working Papers, 2236, Banco de España (2022)

“Could Spain be less different? Exploring the effects of macroprudential policy on the house price cycle”
Adrián Carro
Working Papers, 2230, Banco de España (2022)

“The information content of conflict, social unrest and policy uncertainty measures for macroeconomic forecasting”
Marina Diakonova, Luis Molina, Hannes Mueller, Javier J. Pérez and Cristopher Rauh
Working Papers, 2232, Banco de España (2022)

“Mortgage securitization and information frictions in general equilibrium”
Salomón García
Working Papers, 2221, Banco de España (2022)

“Impact of payout restrictions in the wake of the COVID-19 pandemic on European and US banks’ stock market valuation”
Irene Pablos Nuevo and Carlos Pérez Montes
Financial Stability Review. Issue 43. Autumn 2022. Banco de España
“Structural risk indicators for the Spanish banking sector”
Carmen Broto and Mariya Melnychuk
Financial Stability Review. Issue 43. Autumn 2022. Banco de España

“Digital resilience and financial stability. The quest for policy tools in the financial sector”
José Ramón Martínez Resano
Financial Stability Review. Issue 43. Autumn 2022. Banco de España

“Beyond the LTV Ratio: Lending Standards, Regulatory Arbitrage, and Mortgage Default”
Jorge E. Galán and Matías Lamas
Journal of Money, Credit and Banking. 23 March 2023

National Securities Market Commission (CNMV)

Financial Stability Note No 24, June 2023

Financial Stability Note No 23, December 2022

Financial Stability Note No 22, June 2022

Non-banking financial intermediation in Spain. 2021

Annual Report 2021

“Using growth-at-risk to assess the stance of macroprudential policy”
Stephen G. Cecchetti and Javier Suárez
CNMV Bulletin, Quarter IV 2022

“Resolution instruments of central counterparties. Effectiveness and possible systemic impact”
María José Gómez Yubero
CNMV Bulletin, Quarter IV 2022

“Comparative analysis of performance and costs between Spanish CISs and foreign CISs marketed in Spain”
Gema Pedrón
CNMV Bulletin, Quarter III 2022

"Results of the survey on crypto-currencies and effectiveness of the measures promoted by the CNMV"
David de Miguel Rato and María José Palomar Bueno
CNMV Bulletin, Quarter III 2022

"Analysis of the implementation of the Spanish Financial Transaction Tax in equity markets"
Ramiro Losada and Albert Martínez Pastor
Working Paper No. 83

"Spanish securities issuers and their relationship with climate change"
Ramiro Losada and Albert Martínez Pastor
Working Paper No. 82

"Measuring Transition Risk in Investment Funds"
Ricardo Crisóstomo
Working Paper No. 81

Ministry of Economic Affairs and Digital Transformation

Directorate General of Insurance and Pension Funds

Informe de Seguros y Fondos de Pensiones 2021

Glossary

AIFMD	Alternative Investment Fund Managers Directive
AMCESFI	*Autoridad Macroprudencial Consejo de Estabilidad Financiera (Spanish macroprudential authority)*
APP	Asset purchase programme
AT1	Additional tier 1
ATA	Average total assets
BCBS	Basel Committee on Banking Supervision
BdE	Banco de España
bn	Billion
BOE	*Boletín Oficial del Estado* (Official State Gazette)
bp	Basis points
CCoB	Capital conservation buffer
CCyB	Countercyclical capital buffer
CET1	Common equity tier 1
CIU	Collective investment undertaking
CNMV	*Comisión Nacional del Mercado de Valores* (National Securities Markets Commission)
COVID-19	Coronavirus disease 2019
CPI	Consumer price index
CRD	Capital Requirements Directive
CRE	Commercial real estate
CRR	Capital Requirements Regulation
CSPP	Corporate sector purchase programme
DeFi	Decentralised finance
DFR	Deposit facility rate
DGSFP	*Dirección General de Seguros y Fondos de Pensiones* (Directorate General of Insurance and Pension Funds)
EBA	European Banking Authority
EBITDA	Earnings before interest, depreciation and amortisation
EC	European Commission
ECB	European Central Bank
EF	Economic function
EIOPA	European Insurance and Occupational Pensions Authority
ESG	Environmental, social, and governance
ESMA	European Securities and Markets Authority
ESRB	European Systemic Risk Board
EU	European Union
EUR	Euro
FROB	*Fondo de Reestructuración Ordenada Bancaria* (Fund for the Orderly Restructuring of the Banking Sector)
FSB	Financial Stability Board
FSR	Financial Stability Report

FSTC	*Financial Stability Technical Committee* (AMCESFI)
GDP	Gross domestic product
G-SII	Global systemically important institution
HICP	Harmonised Index of Consumer Prices
HQLA	High-quality liquid assets
ICO	*Instituto de Crédito Oficial* (Official Credit Institute)
IMF	International Monetary Fund
INE	*Instituto Nacional de Estadística* (National Statistics Institute)
LCCTE	*Ley 7/2021, de 20 de mayo, de cambio climático y transición energética* (Climate Change and Energy Transition Law 7/2021 of 20 May 2021)
LEI	Legal Entity Identifier
LFS	Labour Force Survey
LGD	Loss given default
LTI	Loan-to-income
LTP	Loan-to-price
LTROs	Longer-term refinancing operations
LTV	Loan-to-value
MiCA	Markets in Cryptoassets Regulation
MMFs	Money market funds
NBFI	Non-bank financial intermediation
NFCs	Non-financial corporations
NIIP	Net international investment position
OIS	Overnight index swap
O-SII	Other systemically important institution
PD	Probability of default
PEPP	Pandemic emergency purchase programme
PER	Price earnings ratio
PMI	Purchasing Managers' Index
pp	Percentage points
Q	Quarter
ROA	Return on assets
ROE	Return on equity
RWAs	Risk-weighted assets
SCCyB	Sectoral countercyclical capital buffer
SHS	Securities Holdings Statistics
SHSS	Securities Holdings Statistics by Sector
SICAV	Open-end investment company
SLI	Specialised lending institution
SOCIMI	Real estate investment company
SRI	Systemic risk indicator
SRB	Single Resolution Board (JUR)
SSM	Single Supervisory Mechanism
SyRB	Systemic risk buffer
T2	Tier 2

TLTROs	Targeted longer-term refinancing operations
UCITS	Undertakings for collective investment in transferable securities
USD	United States dollar

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