ANNUAL REPORT 2021

AMCESFI | Autoridad Macroprudencial Consejo de Estabilidad Financiera

GOBIERNO DE ESPAÑA
VICEPRESIDENCIA PRIMERA DEL GOBIERNO
MINISTERIO DE ASUNTOS ECONÓMICOS Y TRANSFORMACIÓN DIGITAL
BANCO DE ESPAÑA Eurosistema
CNMV Comisión Nacional del Mercado de Valores

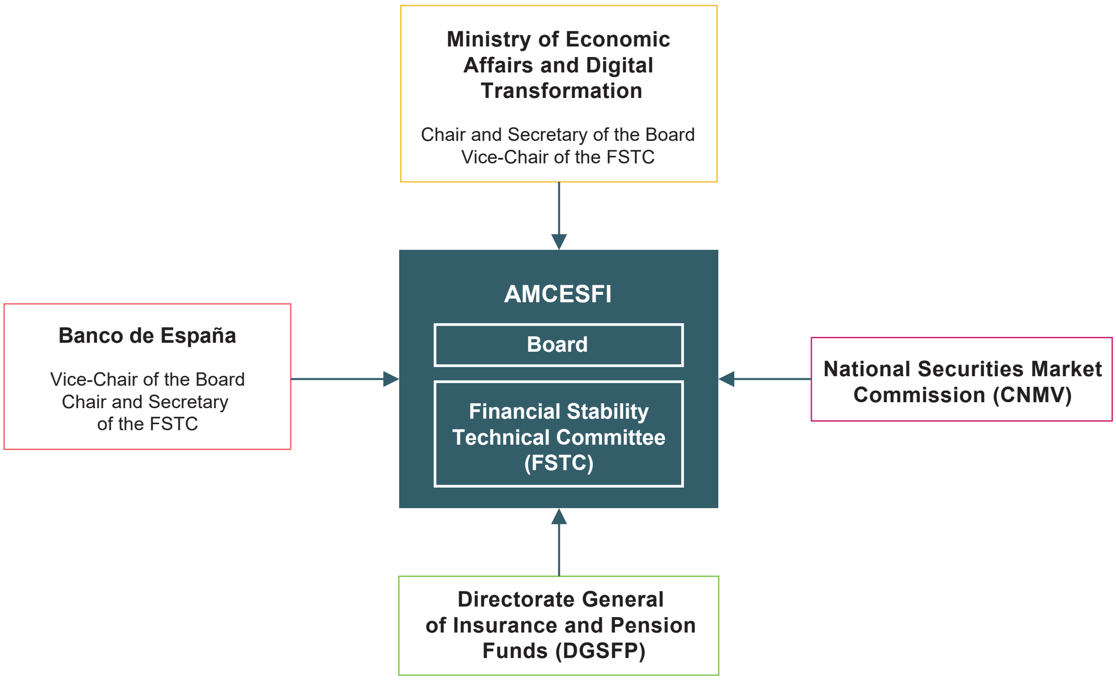
About AMCESFI

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 affect financial stability.

AMCESFI is organised as an operationally independent collegiate body attached to the Minister for Economic Affairs and Digital Transformation. 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 Board and a Financial Stability Technical Committee (FSTC). By its very nature, it has no human, material or financial resources of its own; its activity is underpinned by the support it receives from its member institutions.

Figure 1 Structure of AMCESFI



SOURCE: AMCESFI.

This Annual Report is published pursuant to the accountability criteria envisaged in Article 19 of Royal Decree 102/2019 of 1 March 2019 creating the Spanish macroprudential authority (AMCESFI), establishing its legal regime and implementing certain aspects relating to macroprudential tools.

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

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Introductory letter from the First Deputy Prime Minister and Minister for Economic Affairs and Digital Transformation

Dear reader:

Nadia Calviño, Chair of the AMCESFI Board.

It is my pleasure to present AMCESFI's *Annual Report* for the third time. Since its creation in 2019, AMCESFI has gradually established itself as an essential institution for the smooth functioning of the Spanish financial system. The added value provided by a joint and integrated vision of the different sectors comprising our financial system (broadly speaking, banking, securities markets and insurance) is very significant in a setting of strong interconnections. Specifically, AMCESFI has proved to be an extremely useful body for identifying, assessing and mitigating systemic risks with the potential to generate spillovers and imbalances in the financial system.

2020 was marked by the health crisis and its economic, financial and social fallout. 2021 has been the year of recovery and growth. Although the Delta and Omicron variants remained a serious health concern, the Spanish economy learnt to live with the virus and the new waves of infections did not cause significant economic and financial disruptions. This, together with an economic policy that has focused on supporting those households, firms and economic sectors rendered more vulnerable by the pandemic, has allowed the Spanish economy to close 2021 with strong GDP growth (5.1%), a rapid recovery of the labour market and a historical reduction in the public deficit.

The financial measures adopted in Spain during 2020 and 2021 helped to mitigate the risks for the financial system arising from the economic crisis triggered by the pandemic. Thus, for example, the €140 billion in guarantees provided by the Official Credit Institute (ICO) prevented a contraction in the supply of credit, while the measures adopted in Royal Decree-Law 5/2021 helped to alleviate the financing needs of viable firms with temporary solvency difficulties.

From the macroprudential policy standpoint, the analysis of the financial system's different sectors conducted by the Banco de España, the CNMV and the DGSFP does not suggest that situations of financial instability have arisen, despite the risks stemming from the pandemic. Unsurprisingly, AMCESFI's activity was very intense during 2021. Of note were the publication of a document analysing the public support measures adopted in Spain against COVID-19 from the standpoint of financial stability and the issuance of the first Opinion on a macroprudential measure by the Banco de España on other systemically important institutions (O-SIIs) for 2022, motivated by the merger of two Spanish credit institutions.

The invasion of Ukraine by Russia has further disrupted the world economy, with serious humanitarian, geopolitical, economic and financial consequences. Once again, as in 2020, AMCESFI's activity is particularly important in situations that could trigger financial instability. Although the Spanish financial sector's direct exposures to the Russian economy are very limited, it is essential that a continuous assessment be made of the potential channels through which the geopolitical crisis could be transmitted to our financial system.

As Spanish regulators and supervisors customarily do, we will work together to ensure financial stability in the current setting. This is evidenced by the coordination between the Ministry of Economic Affairs and Digital Transformation, the Banco de España, the Executive Service of the Commission for the Prevention of Money Laundering and Monetary Offences (SEPBLAC) and, beyond the public sphere, all Spanish financial intermediaries, in implementing the financial sanctions imposed on Russia and Belarus. Another essential pillar is the national response plan to the economic and social fallout of the war in Ukraine, approved in March 2022. The plan aims to mitigate the impact of high energy prices by, among other measures, decoupling wholesale electricity prices from the price of natural gas, and to maintain the solvency of viable firms using tools that have proved very successful during the pandemic: State guarantees managed by the ICO and direct grants to the most affected firms and sole proprietors.

From a long-term standpoint, I would like to emphasise the idea that the determinants of financial stability not only consist of cyclical factors. Structural factors, such as digitalisation, environmental protection or financial inclusion, are essential to the fulfilment of AMCESFI's mandate. Notable in this regard are the contribution of the Spanish authorities to the investigation phase of the digital euro project, the negotiation of the European crypto-asset (MiCA) and cyber security (DORA) regulations and the new powers of the CNMV to oversee the advertising of crypto-assets. Mitigating the risks created by financial innovation is a necessary condition for building an attractive, robust and dynamic FinTech sector, capable of providing high levels of financial stability and investor protection.

As for environmental protection, we are all aware of the impact that climate change has on economic activity and, more specifically, on the financial system through physical and transition risks. The task of combating climate change is the responsibility of all economic agents: governments, firms, households and also our macroprudential authority. In this regard, the financial repercussions of the green transition have prompted Law 7/2021 on climate change and energy transition to provide for the preparation, coordinated by AMCESFI, of a report on the degree of alignment of the Spanish financial system with the Paris Agreement and climate regulations. AMCESFI has been working on this since 2021 and its conclusions are expected to be submitted to Parliament in the first half of 2023.

Lastly, it must be recognised that financial inclusion is a very significant dimension of the functioning of our financial system. Innovation and digitalisation are necessary and beneficial processes that must be compatible with access to financial services by the population groups that find this more difficult. The authorities should therefore make sure that all people have access to personal, people-oriented, quality financial services. The signing of the financial institution protocol in February 2022 to ensure financial inclusion and the provision of personalised services for the elderly is an important step in this direction.

In conclusion, despite the major challenges we are facing, financial regulators and supervisors are making the necessary decisions to guarantee financial stability and ensure that the financial system contributes positively to sustainable and sustained economic growth. By mitigating short-term risks and anticipating long-term determinants, AMCESFI and its member institutions are contributing to the well-being of all Spaniards and moving towards a greener, more digital and fairer future, in line with the priorities of the Recovery, Transformation and Resilience Plan.

1 AMCESFI activities in 2021

In its third year, AMCESFI has cemented its role as a national macroprudential authority. In the relatively short time since its creation in early 2019, AMCESFI has become a platform for coordinating and analysing issues affecting financial stability in Spain against a backdrop not without challenges of various kinds arising from or accelerated by the global COVID-19 pandemic since March 2020 and, more recently, the Russian invasion of Ukraine in 2022. In retrospect, 2021 was a relatively transitional year between two recent events of unprecedented macro-financial severity.

The AMCESFI Board and its supporting body, the FSTC, met on a regular basis in 2021. They held seven meetings, which addressed, on the basis of the latest data available at that time, the main systemic risks and vulnerabilities identified, market and economic activity developments, profitability and solvency by financial system sector, and recent crypto-asset and digitalisation developments. The AMCESFI meetings were an opportunity to share information and assessments relating to several initiatives that are key to financial stability, driven by European Union (EU) and global supranational bodies and committees in which AMCESFI member institutions participate.

AMCESFI was informed of various proposed macroprudential policy measures in 2021. As required by Article 16 of Royal Decree 102/2019 of 1 March 2019,[1] the Banco de España notified AMCESFI's FSTC of six proposed measures relating to the credit institutions sector: four quarterly decisions on the countercyclical capital buffer (CCyB) applicable to credit exposures in Spain, and two annual decisions on identifying and setting capital buffers for global and domestic systemically important institutions (see Section 3.1). The CNMV and the DGSFP did not submit to AMCESFI any proposal for macroprudential action.

AMCESFI issued its first advisory opinion on a proposed macroprudential measure in 2021. Pursuant to Article 11 of Royal Decree 102/2019, in July 2021 AMCESFI resolved to issue an opinion[2] on the Banco de España's proposal to revise the list of other systemically important institutions (O-SIIs) for 2022 and their associated capital buffers. AMCESFI took a favourable view of the measure, which included a gradual increase in 2022 and 2023 of CaixaBank, S.A.'s capital buffer requirement as a result of its greater importance for the Spanish banking system following the completion of its merger with Bankia, S.A. in March 2021 (see Section 3.1).

1 Royal Decree 102/2019 of 1 March 2019 creating the Spanish macroprudential authority (AMCESFI), establishing its legal regime and implementing certain aspects relating to macroprudential tools.

2 "Opinion on the macroprudential measure by the Banco de España on other systemically important institutions (O-SIIs) for 2022" of 29 July 2021.

In 2021 AMCESFI did not consider it necessary to issue alerts on factors of systemic risk to financial stability in Spain. The progressive economic recovery after the COVID-19 pandemic has not led to the build-up of systemic imbalances that are commonly at the root of financial crises. In the context of its 2021 assessment exercise on EU countries' residential real estate market, the European Systemic Risk Board (ESRB) did not warn of any specific vulnerabilities for Spain either.[3]

AMCESFI continued to adhere to the relevant ESRB recommendations. The ESRB issues recommendations on a wide range of macroprudential matters addressed to EU Member State national authorities. With the technical support of its member institutions, AMCESFI took the necessary steps to comply with the recommendations addressed to it. Chapter 5 and Annex 2 of this report provide further information on this aspect of AMCESFI's regular work.

AMCESFI's temporary COVID-19 Measures Subcommittee, created in 2020, concluded its work with the publication of an occasional paper.[4] Under the coordination of Judith Arnal Martínez,[5] AMCESFI analysed the public measures to support the real economy (which include debt moratoria, public guarantee schemes and fiscal measures) introduced in Spain in response to the pandemic. This AMCESFI work stream complies with Recommendation ESRB/2020/8, which the ESRB addressed to all the national macroprudential authorities at the onset of the health crisis with the aim of strengthening oversight.

AMCESFI continued to encourage its members to share their reports and publications on financial stability and macroprudential policy. AMCESFI was regularly informed of key publications, such as the Banco de España's half-yearly Financial Stability Report and the CNMV's quarterly Financial Stability Notes. AMCESFI's FSTC had access to the report that the Banco de España submits every year to the Spanish Parliament on the stress-test exercise conducted on Spanish deposit-taking institutions under its direct supervision.[6] Annex 3 provides a detailed list of the main publications by AMCESFI member institutions over the past year.

AMCESFI started preparing its first climate change report in 2021. Law 7/2021 of 20 May 2021 on climate change and energy transition stipulates that AMCESFI will coordinate the preparation of a biennial report 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, based on future scenarios. To

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3 ESRB (2022), *Vulnerabilities in the residential real estate sectors of the EEA countries*, 11 February.

4 AMCESFI (2021), "Análisis de las medidas públicas de apoyo adoptadas en España frente al Covid-19 desde el punto de vista de la estabilidad financiera", Documento Ocasional, 28 July.

5 Until July 2021, director of the Technical and Financial Analysis Office of the General Secretariat of the Treasury and International Financing.

6 Report prepared and submitted pursuant to Article 79 of Law 10/2014 of 26 June 2014 on the regulation, supervision and solvency of credit institutions.

this end, AMCESFI created a temporary group to begin preparing this new report, which is set to become one of AMCESFI's flagship publications (see Box 1.A).

A recent regulatory development has conferred on AMCESFI an additional responsibility in the area of securities markets. Article 15(2) of Royal Decree-Law 24/2021[7] stipulates that AMCESFI may play a significant role in triggering the extension of the maturity of covered bond issues in Spain under certain circumstances. To do this, in the event of serious shocks affecting the domestic financial markets, AMCESFI must have previously issued a non-confidential statement in the form of a warning or recommendation.

In the short and medium term, AMCESFI will prioritise monitoring the implications for financial stability of the situation following Russia's invasion of Ukraine. As in 2020 during the early stages of the pandemic, in 2022 the FSTC has been meeting notably more frequently to strengthen coordination and information-sharing among its members and to analyse the latest available information on macro-financial developments and the impact of the sanctions on Russia and Belarus adopted by the EU authorities. From a financial stability and supervisory standpoint, since February 2022 the war has been a major focal point for the public authorities at the national, European and global level.

In 2021 there were three changes in AMCESFI's membership as a result of appointments made at the Ministry of Economy and Digital Transformation and the CNMV. In August 2021, Carlos Cuerpo Caballero,[8] until then Director General Macroeconomic Analysis, was appointed Secretary General of the Treasury and International Financing, thus becoming secretary to the Board and vice-chair of AMCESFI's FSTC, replacing Carlos San Basilio Pardo. Meanwhile, the new Secretary of State for Economic Affairs and Support to Enterprise, Gonzalo García Andrés,[9] took over from Ana de la Cueva Fernández as member of the AMCESFI Board in May. At the same time, the appointment of Ángel Benito Benito[10] as Director General of Markets at the CNMV, made him an ex officio member of the FSTC, alternating with the CNMV's Director General of Institutions.

In 2021 AMCESFI published its Annual Report referring to 2020. AMCESFI presented its *Annual Report 2020* on 6 October 2021, during the appearance of the Chair of the AMCESFI Board before the Parliamentary Economic Affairs and

7 Royal Decree Law 24/2021 of 2 November 2021 transposing European Union directives on covered bonds, cross-border distribution of collective investment undertakings, open data and the re-use of public sector information, the exercise of copyright and related rights applicable to certain online transmissions and retransmissions of television and radio programmes, temporary exemptions on importations and on certain supplies, consumers and the promotion of clean and energy-efficient road transport vehicles.

8 Royal Decree 757/2021 of 24 August 2021 appointing Carlos Cuerpo Caballero Secretary General of the Treasury and International Financing.

9 Royal Decree 332/2021 of 11 May 2021 appointing Gonzalo García Andrés Secretary of State for Economic Affairs and Support to Enterprise.

10 "The CNMV appoints Ángel Benito Markets Director-General", CNMV press release of 26 March 2021.

BOX 1.A Work on assessing the risks to the Spanish financial system posed by climate change

Over the course of 2021 and 2022, AMCESFI has been preparing its first biennial report to assess the risks to the Spanish financial sector posed by climate change. The preparation of this report responds to an obligation set out in Law 7/2021 of 20 May 2021 on climate change and energy transition (LCCET). Article 33(1) of the LCCET entrusts AMCESFI with the coordination of a report to be prepared jointly every two years by the financial system's three sectoral supervisory authorities (the Banco de España, the CNMV and the DGSFP). The report should include, among other matters, an assessment of the degree of alignment with the climate goals of the Paris Agreement and EU regulations, based on future scenarios, and address the risk to the Spanish financial system stemming from climate change and the policies and proposals needed to combat and mitigate it.[1]

A working group made up of expert staff from AMCESFI member institutions has been set up to plan and prepare the report, which must be published and submitted to Parliament and the Senate no later than 21 May 2023. Specifically, in response to the mandate received from AMCESFI, the working group is studying the impact of both physical and energy transition risks on the banking sector, insurance companies and pension funds, investment funds and other financial institutions. Thus, the assessment will cover risks arising from the possible impact on the financial system of extreme climate events (such as droughts or floods), broadly referred to as "physical risks", the severity and frequency of which would increase should climate change materialise. It will also analyse the risks posed by policies to promote a transition of the economy towards a more sustainable model, which will entail significant, sometimes negative, changes for certain sectors' economic activity in the short term.

In this fist biennial report, work within AMCESFI is being carried out along three lines. First, the available data needed to assess climate risks are being classified. Second, analytical exercises are being conducted to assess the materiality of the risks described, using the above-mentioned data and various methodological frameworks. The exercises for analysing the transition towards a sustainable economy include an exercise for assessing resilience to an early and rapid transition, and the impact of a delayed transition, also concentrated in a few years. Exercises analysing physical risks will focus mainly on the impact of droughts and heat waves (the main physical risk factors in Spain). Lastly, factors perceived as constraining the systematic monitoring of climate risks, international best practices and recommendations on measures that can improve the ability to assess the resilience of the financial system to climate change are being identified.

1 In this regard, see Chapter 4 of the Banco de España *Annual Report 2021*, "The Spanish economy and the climate challenge".

Digital Transformation Committee, in accordance with Article 20 on parliamentary control of Royal Decree 102/2019. The English-language version is available on AMCESFI's website (www.amcesfi.es)[11].

11 *Annual Report 2020*.

Table 1.1 Composition of AMCESFI's Board at 31 December 2021

Organisation	Position	Name	Position on the Board
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	Deputy Governor	Margarita Delgado Tejero	Member
CNMV	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	Member

SOURCE: AMCESFI.

Table 1.2 Composition of AMCESFI's FSTC at 31 December 2021

Organisation	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
National Securities Market Commission	Vice-Chair	Montserrat Martínez Parera	Member
Ministry of Economic Affairs and Digital Transformation	Director General of the Treasury and Financial Policy	Pablo de Ramón-Laca Clausen	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	Miembro
CNMV	Director General of Institutions	José María Marcos Bermejo	Member

FUENTE: AMCESFI.

2 Macro-financial environment

Main macro-aggregates

The Spanish economy entered a period of GDP growth in 2021 which was particularly strong in the second half of the year. GDP growth in the year was 5.1% vis-à-vis 2020 (GDP expressed in current prices stood at €1,205 billion, after growing by 7.4%). Following the sharp contraction in 2020 (-10.8%), growth was underpinned by job creation, investment in capital goods and tourism, with activity picking up particularly sharply from spring onwards. This recovery took place amid the spread of new COVID-19 variants (Delta and Omicron),[12] an increase in energy prices and the emergence of bottlenecks in global value chains.

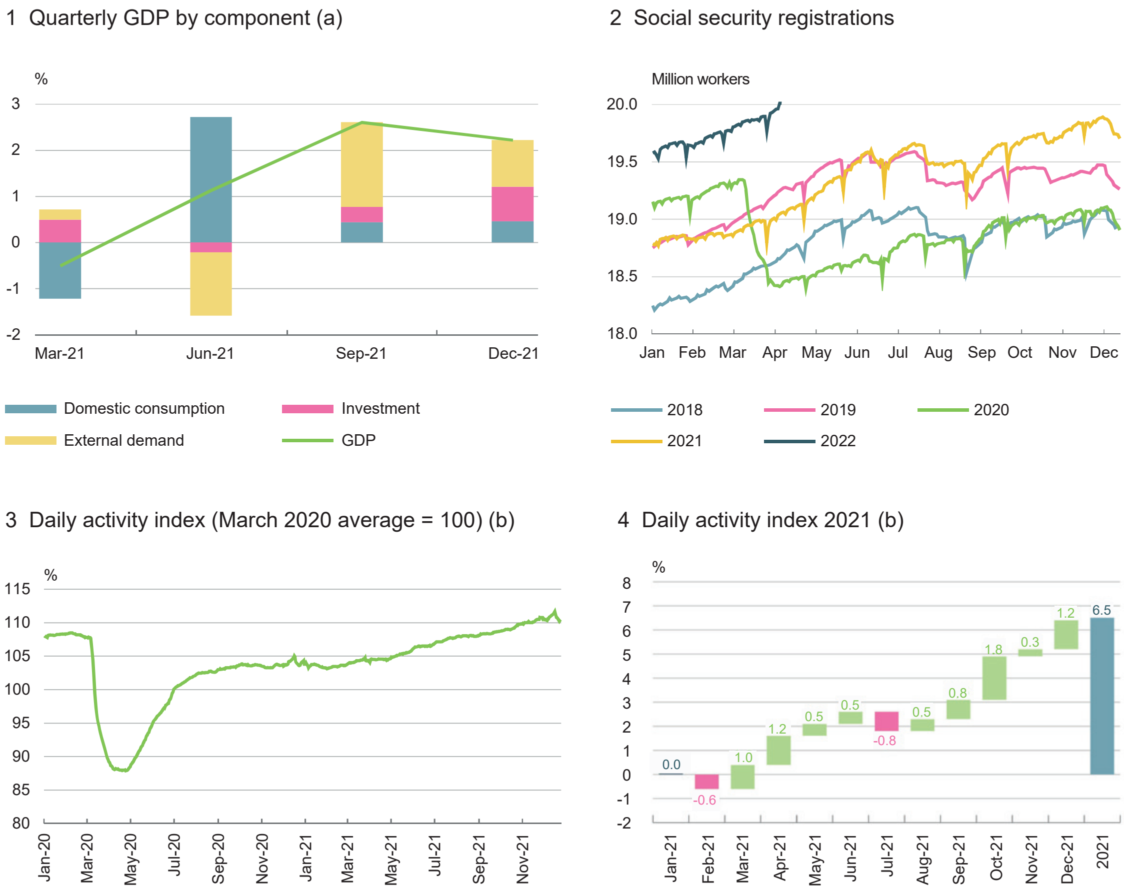
The recovery in employment has been substantial, reaching record highs. Following the significant fall in the number of social security registrations in 2020 H1, this variable resumed its rising trend. Specifically, its level in July 2021 exceeded that of the same month in 2019, and the year closed with 19.7 million registrations. As a result, the Spanish unemployment rate at end-2021 was 13.3%, below pre-pandemic levels (see Chart A1.2).

Support measures in response to the pandemic shock effectively prevented hysteresis and the protraction of the impact of the crisis on the Spanish economy. Although at end-2021 GDP was still 3.8 percentage points (pp) below its pre-pandemic level, the various economic policy measures have helped to sustain household income and boost the recovery of income through job creation. The reduced uncertainty has also allowed the saving rate to gradually approach its historical average (6.8% on average between 2015 and 2019), from a peak of 22% relative to gross disposable income in 2020 Q2 to 10% at end-2021. In cumulative terms, households have built up surplus saving over the entire period, which could help smooth the consumption pattern against a background of high inflation.

The recovery in activity in 2021, along with the financial support measures, has mitigated the risks to firms' solvency and largely prevented damage to the productive system. Although the recovery in sectoral gross value added is uneven, NPL ratios have continued their downward trend. Moreover, the number of insolvency proceedings by non-financial corporations (NFCs) has held at around the average of the last four years, although with some sectoral heterogeneity, bearing in mind that a moratorium on insolvency proceedings was in force, which exempts debtors in a situation of current or imminent insolvency from the obligation of filing for insolvency (although it does not prevent them from doing so voluntarily).

12 Headway made in the vaccination campaign meant that the effect of the successive waves of the pandemic on activity was increasingly limited.

Chart 2.1 Main macro-aggregates



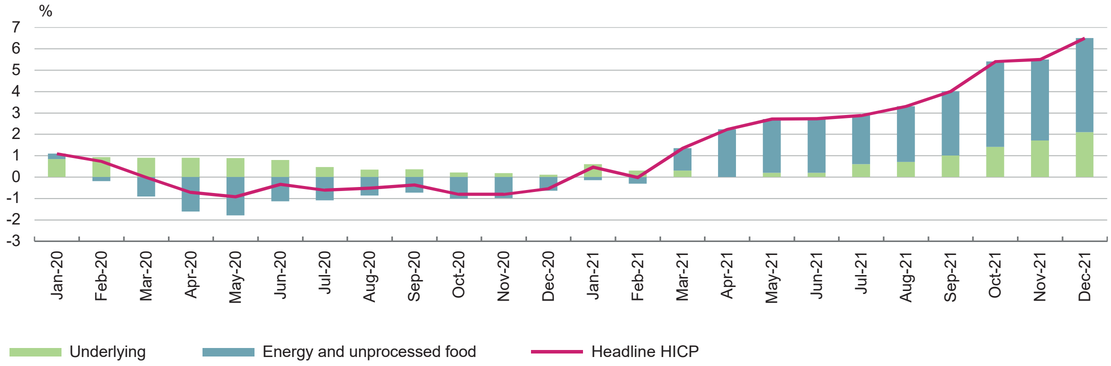
SOURCES: INE, Ministerio de Inclusión, Seguridad Social y Migraciones, and Ministerio de Asuntos Económicos y Transformación Digital.

a Quarter-on-quarter rate of change.
b 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 daily high-frequency data observed up to the most recent possible date (daily sales, electricity consumption, card expenditure, registrations, etc.).

Despite the pandemic, the Spanish economy's internal and external fundamentals have continued to improve. First, in terms of external equilibrium, the current account surplus continued (0.7% of GDP in 2021 Q4), but was substantially lower than before the health crisis, basically owing to a drastic reduction in tourism receipts that, nevertheless, tended to revert over the year. This allowed the net international investment position to continue to decline (-70.1% of GDP). Second, as regards internal equilibrium, there was a correction in the level of private leverage over the course of 2021 after the shift in 2020 (private debt amounted to 140.9% of GDP at year-end). Lastly, there is less dependence on the construction sector, which contributed 5.2% of total gross value added.

The increase in energy prices from the second half of the year pushed inflation in 2021 to a three-decade high. The year-on-year change in the consumer price index (CPI) in the last month of the year was +6.5%, with positive month-on-month rates from August onwards. The contribution of energy and, to a

Chart 2.2 Breakdown of the inflation rate (a)



SOURCE: INE.

a Year-on-year rate of change.

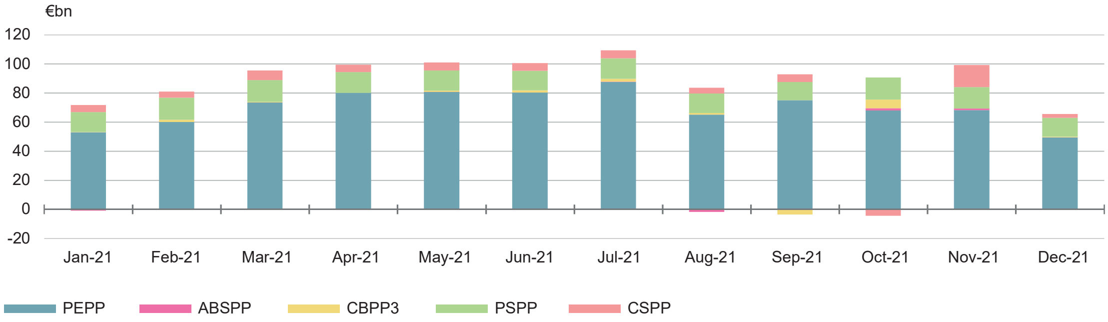
lesser extent, unprocessed food to this increase was 4.4 pp, leading to a rise in underlying inflation over the course of the year, albeit more moderate, to +2.1%.

The upturn in economic activity and its ensuing impact on tax collection caused the public deficit ratio to decline significantly in 2021. The gradual withdrawal of the support measures led to the fastest reversal of the recent historical series in the general government balance excluding financial assistance (a fall in net borrowing of 3.3 pp between 2020 and 2021, to 6.8%) and a less negative level of this balance than was expected at the beginning of the year (-8.4%). The recovery in activity and the exceptional performance of revenue, driven by the strong recovery in employment, have played an important role in the progressive normalisation of this indicator and the government debt-to-GDP ratio. This has made it possible to start to reduce the deficit and debt levels reached in the aftermath of the pandemic (see Chart A1.4). Net sovereign debt issuance amounted to €75.1 billion. The weighted average rate was negative for the first time ever (-0.02%) and the average life of the outstanding balance increased to eight years; accordingly, the sensitivity of government liabilities to future interest rate rises has decreased.

Money markets and central banks

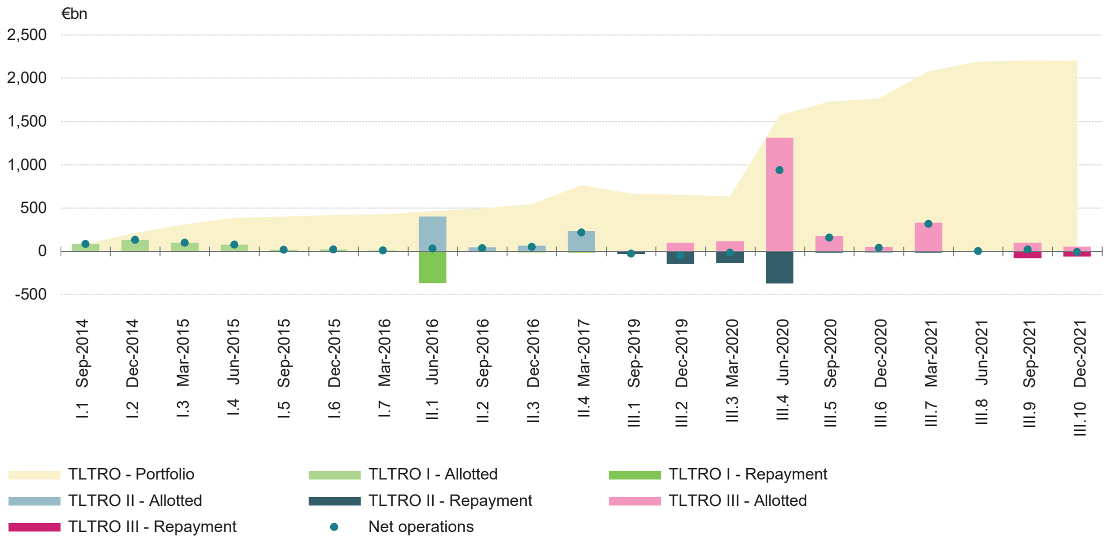
In response to the economic crisis triggered by the pandemic, the Eurosystem's balance sheet increased by €1,589 billion in 2021, to €8,566 billion. As in 2020, the bulk of the purchases took place under the pandemic emergency purchase programme (PEPP), totalling €840,399 million in 2021, with a higher pace of purchases between April and July, owing to the greater economic impact of the pandemic. In September 2021 the Governing Council of the European Central Bank (ECB) decided that the pace of PEPP purchases during 2021 Q4 should be moderately lower than in Q2 and Q3. Total asset purchases in 2021

Chart 2.3 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).

Chart 2.4 Targeted longer-term refinancing operations



SOURCES: ECB and own calculations.

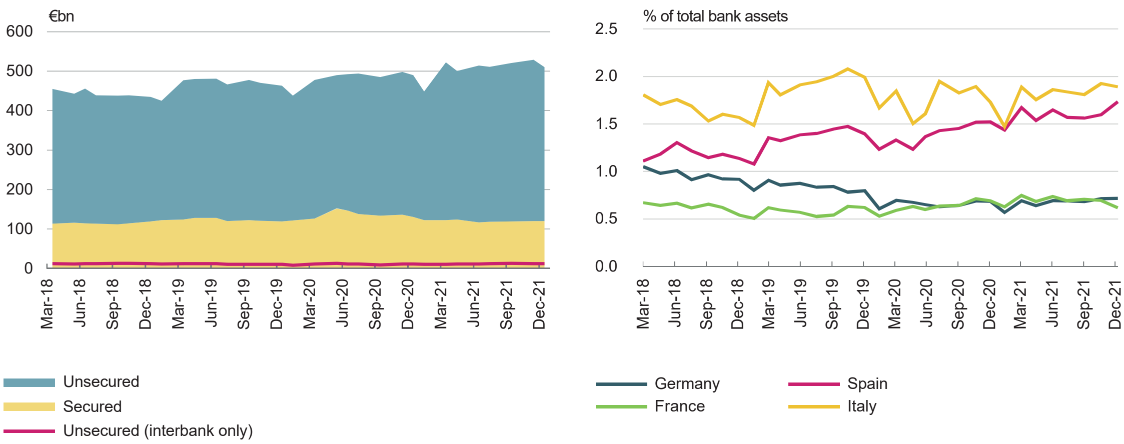
under the regular asset purchase programme (APP) amounted to €239.8 billion, in line with the €20 billion per month approved by the ECB Governing Council in September 2019. With regard to Spanish government debt, Eurosystem purchases amounted to €105,631 million in 2021, i.e. 140% of net issuance by the Treasury and 40% of gross issuance. Spanish government debt holdings in the Eurosystem totalled €475,639 million (34% of outstanding debt) in December 2021.

The third round of targeted longer-term refinancing operations (TLTROs), which helped to alleviate banks' liquidity needs and to foster lending to the

Chart 2.5 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

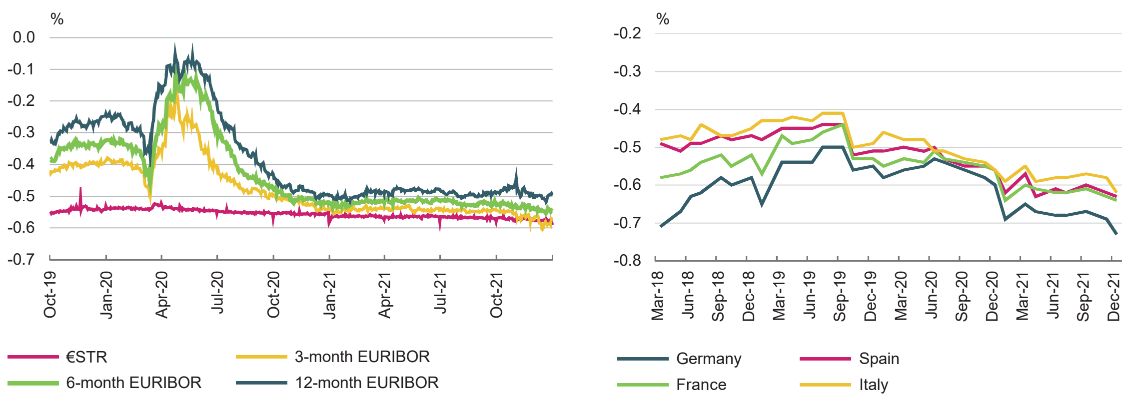


SOURCE: ECB (Money Market Statistical Reporting).

Chart 2.6 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)

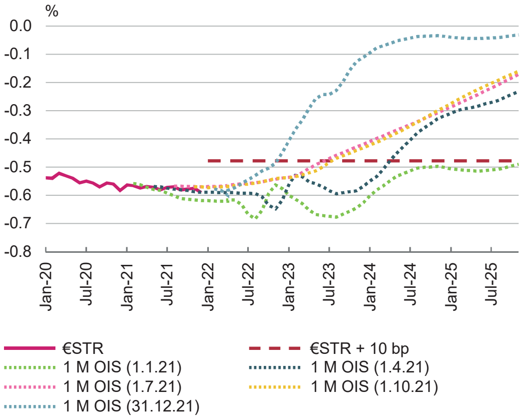


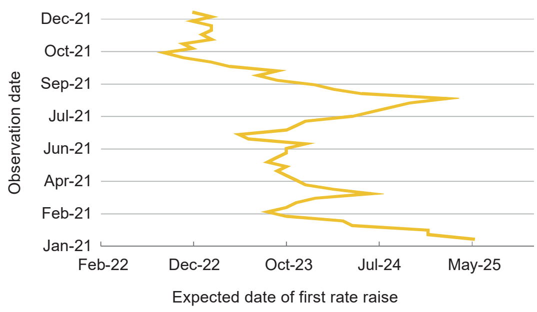
SOURCES: ECB (Money Market Statistical Reporting) and Refinitiv.

a For overnight transactions.

real economy, also explains the increase in the size of the Eurosystem's balance sheet. The last four operations of the third round of the TLTROs took place in 2021. Credit institutions could qualify for a concessional interest rate of -1% until June 2022, if they fulfilled the lending requirements. In total, demand from the euro area banking sector amounted to €589.9 billion and €139 billion were repaid voluntarily. The total volume outstanding under refinancing operations

Chart 2.7 Expected date of the first interest rate raise by the ECB





SOURCES: Refinitiv and own calculations.

a The red line indicates the level that the €STR would reach after a first hypothetical 10 bp rise in the ECB's standing deposit facility rate. The different dotted lines show the implied future rates in a €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 -0.5% to -0.4%).

is more than €2 trillion. The use of these operations by Spanish banks amounted to €289.5 billion in December 2021.

The volume of money market transactions has remained on a steady trend at the levels of previous years. Since the onset of the global financial crisis in 2008, unsecured transactions (such as certificates of deposits) have become less important in the money market than secured transactions (such as repurchase agreements). This trend is particularly noticeable in interbank transactions, owing to excess liquidity in the euro area, the increased risk perception after the 2008 crisis and prudential banking regulation. Money market financing for credit institutions has remained proportionally higher in Spain and Italy than, for example, in Germany and France.

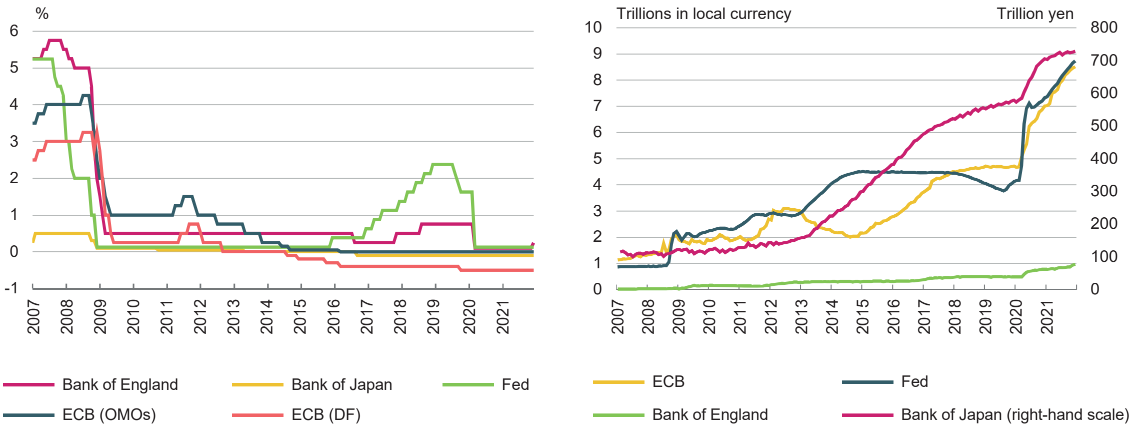
Money market interest rates were at record-low levels during 2021. With regard to those determined in the unsecured segment of the money market, the overnight interest rate (€STR) has remained below the marginal deposit facility rate (-0.5%). EURIBOR rates at different time horizons were also in this range, albeit with small premia depending on their different maturities. All repo rates were below the €STR in 2021, with differences based on the perceived risk by geographical origin of the collateral.

The date expected by the market for the first ECB rate hike has fluctuated greatly during 2021. The money market segment of swaps where one of the

Chart 2.8 Central banks

1 Main central banks' policy interest rates

2 Size of main central banks' balance sheets



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

components is the overnight rate (€STR in the euro area) is mainly used for both risk hedging (via spot contracts) and speculation about the path of policy interest rates (via forward contracts). As illustrated by Chart 2.7, the different forward curves reflect volatility in the date of the first expected rate rise (which varies between September 2022 and June 2025) and the pace of the rises (as shown by the different slopes). However, not all movements in the forward curves can be associated with changes in policy rate expectations, since they also incorporate other elements such as term premia.

The other central banks also adopted an expansionary monetary policy stance in response to the pandemic. Asset purchase and concessional lending programmes significantly increased the balance sheet size of the Bank of England, the US Federal Reserve and the Bank of Japan during 2020 and 2021. The Bank of England was the first to raise rates, with its policy rate increasing from 0.1% to 0.25% in December 2021, in the face of rising inflation expectations.

3 Financial system developments by sector

3.1 Banking sector

In 2021 lending to the resident private sector in Spain fell slightly in nominal terms, although the effect of inflation meant that the reduction in real terms was significant. Non-performing assets and the NPL ratio continued to decline, albeit in both cases at a slower pace than before the pandemic. However, other signs of deterioration, such as significant growth in Stage 2 loans, performed unfavourably, particularly in the sectors most affected by the pandemic. After the losses in 2020, last year the whole of the banking sector returned to profitability, largely as a result of reduced provisioning. Solvency levels held relatively stable for Spanish banks in 2021 after the broad-based increase observed in 2020.

Changes in lending in Spain and abroad

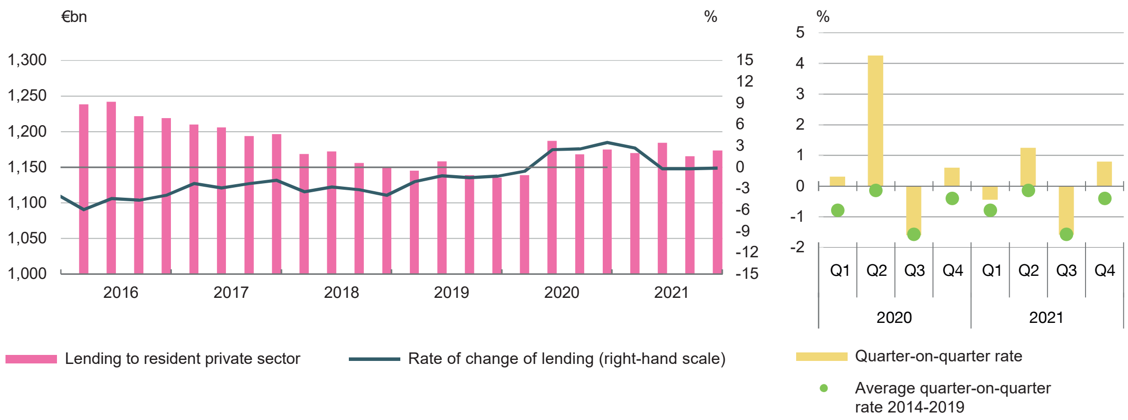
In Spain lending declined slightly in 2021, with the reduction in new lending to firms offsetting the increase in loans to households. The nominal stock of credit fell by 0.1% in 2021, in contrast to the strong growth recorded in 2020 (see Chart 3.1.1), when the policies for mitigating the effects of the pandemic played a very important role in maintaining economic activity. The reduction in 2021 was driven by the sharp slowdown in the performance of the stock of credit to NFCs and sole proprietors, owing largely to the decline in new lending to these institutional sectors (down 20%), particularly in ICO-guaranteed loans, due to these support programmes tapering off. The stock of credit to households grew slightly in 2021, in contrast to the decline observed in 2020, as a result of the pick-up in new lending (13.7%), particularly for house purchase. Higher inflation led the stock of credit to the resident private sector[13] to decline by 4% year-on-year in real terms.

In 2021 non-performing assets remained on the downward trend of recent years. NPLs (-5.4%) and the NPL ratio (-24 pp) declined in 2021, albeit more moderately than in the years prior to the COVID-19 pandemic. This reduction was widespread across institutional sectors and confirms that these troubled assets performed differently than in previous crises (see Chart 3.1.1.2), largely because of the economic policy measures taken to improve households' and firms' debt repayment capacity. The year-on-year decline in NPLs was similar for households and NFCs and sole proprietors (see Chart 3.1.2.1). The reduction in NPL ratios

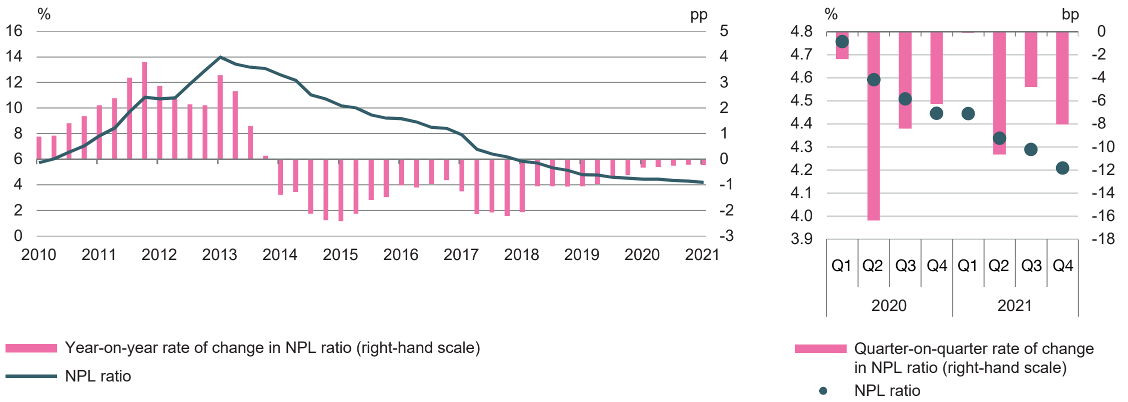
13 The resident private sector includes households, NFCs, sole proprietors and other financial corporations.

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



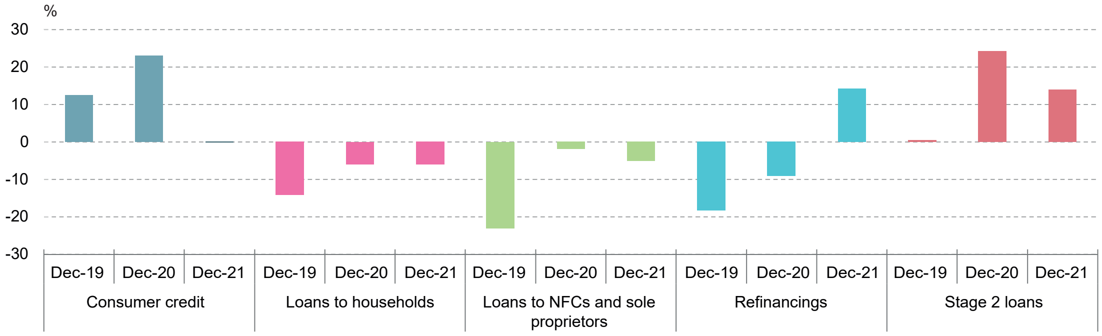
SOURCE: Banco de España.

in these sectors was sharper for NFCs and sole proprietors than for households, where consumer credit performed less positively.

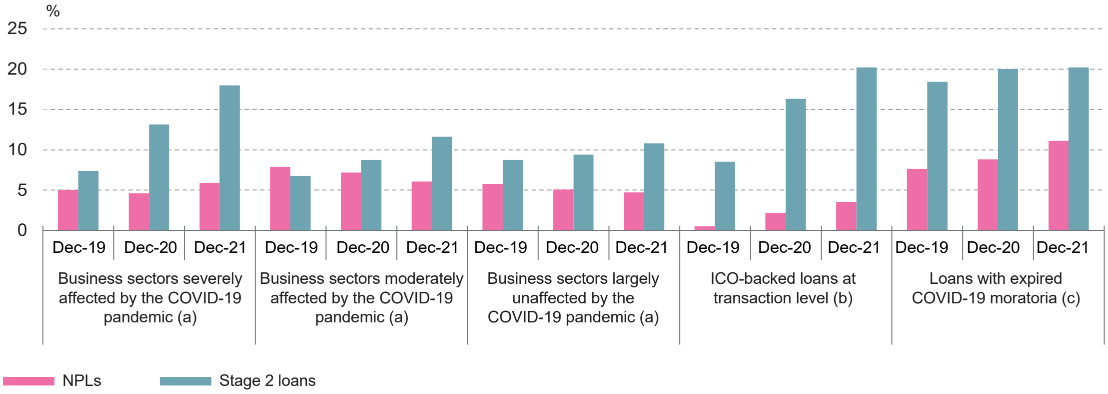
However, there are some signs of deterioration, such as a notable increase in both Stage 2 loans (which have a higher probability of default than other performing loans) and refinancings (see Chart 3.1.2.1). These signs of deterioration are most visible in the sectors most affected by the pandemic (see Chart 3.1.2.2). In the case of refinancings, they increased only for NFCs and sole proprietors. The credit quality of loans linked to expired moratoria and ICO-guaranteed loans also worsened (see Chart 3.1.2.2), with an increase in the share of Stage 2 and non-performing loans. The deterioration in State-backed loans was observed particularly in the sectors most affected by the pandemic that are also sensitive to higher energy and food prices, such as hospitality and transportation. It is important to pay special attention to the effect that the war in Ukraine could have on these loans, particularly as the end of the payment holiday, when borrowers have to start repaying the principal of the loan, approaches. However, some of the measures adopted to mitigate the adverse economic effects of the war in

Chart 3.1.2 Troubled assets

1 Year-on-year rate of change in NPLs. 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 the 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.

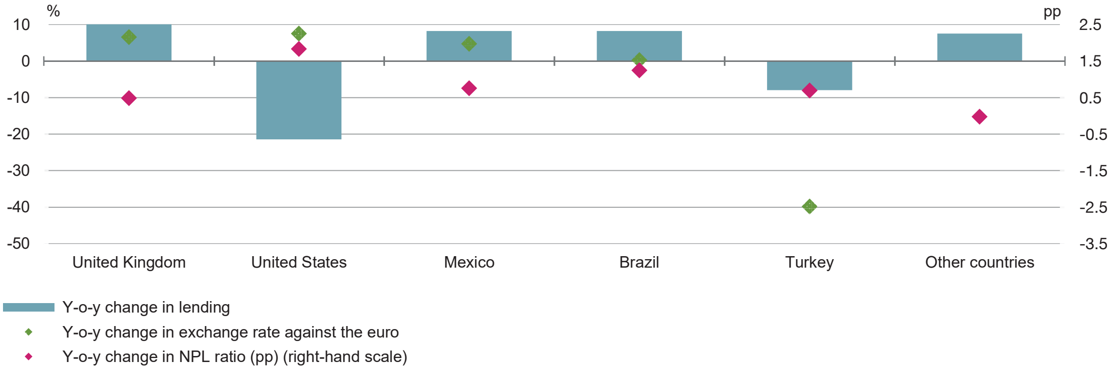
c Loans with expired moratoria relating to the different schemes implemented since April 2020 to mitigate the effect of the COVID-19 pandemic are considered at each date. Stage 2 loans are loans that show a significant increase in credit risk since origination, without having defaulted or without any 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.

Ukraine, such as those included in the Resolution of the Council of Ministers of 29 March 2022, amending the framework of good practices of Royal Decree-Law 5/2021, could alleviate the financial pressure on firms, particularly those with ICO-guaranteed financing.

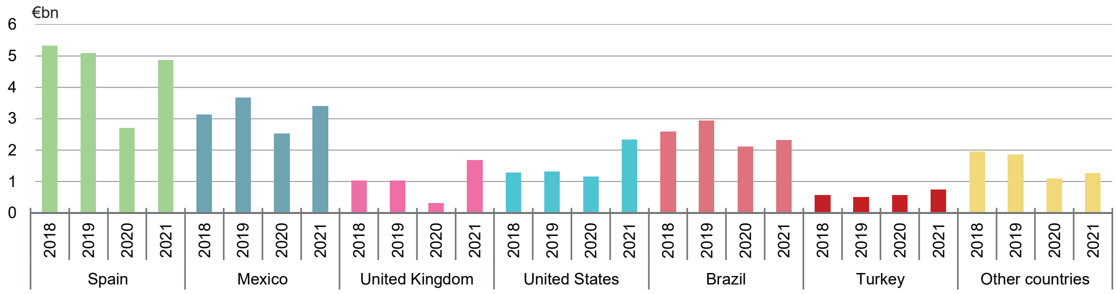
The increase in Stage 2 loans over the past year owes primarily to greater inflows, while the performance of NPLs is more driven by the slowdown in outflows. The increase in the volume of Stage 2 loans is explained by the higher number of reclassifications from performing loans, as reclassifications from NPLs declined during the pandemic and reclassifications to other risk situations have remained unchanged in recent years. Meanwhile, the slower pace of the reduction in NPLs following the pandemic owed to the slowdown in outflows, with

Chart 3.1.3 Bank lending and profitability by country

1 Lending and NPL ratio abroad
Year-on-year rate of change. Consolidated data. December 2021



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



SOURCE: Banco de España.

a Four banks with significant international activity are included in this chart and the measurement of profit excludes non-recurring items in 2018-2021.

reclassifications to non-performance holding at similar levels. This slowdown was marked by the deceleration in asset foreclosures, portfolio sales and securitisations.

In 2021, foreign lending by Spanish institutions increased compared with 2020 (with growth of 4.5% vs a decline of 1.5% in 2020). Of note in this part of the business was the decline in lending to the United States as a result of a significant institution's divestment in this country and to Turkey and Brazil owing to the negative performance of these countries' currencies against the euro (see Chart 3.1.3.1). The non-local currency-denominated net position in the emerging economies is generally small, thus mitigating the risk arising from exchange rate depreciations, such as those observed during the pandemic. NPL ratios moderated in 2021 in all countries relevant to Spanish institutions' business, with the exception of the United States.

Financing conditions and liquidity

The liquidity provided to European banks by the Eurosystem increased during 2021, as the volume of purchase programmes increased more than

the amount of refinancing operations declined. This took place in a setting of very low interest rates in the money markets, particularly in the secured segment, which also extended to transactions using Spanish sovereign debt as collateral. The expected tightening of monetary policy in 2022 will foreseeably lead to an upward interest rate revision in this segment, which would also extend to other bank funding markets.

The cost and volume of new debt issues by Spanish institutions in 2021 performed differently depending on the type of instrument, with a notable increase in the volume of unsecured debt issuance. Institutions increased issues of certain types of debt, Tier 2 bonds and contingent convertible bonds (CoCos), to comply with prudential and resolution requirements. The increase in Tier 2 issuance by smaller banks is partly behind the higher average cost of this type of instrument. There was also a widespread increase in unsecured debt issuances, at a slightly higher cost than in 2020.

On the retail funding side, in Spain deposits increased in 2021 (by 4.1%), a lower rate than that observed last year (8.9%). This was partly due to a reduction in precautionary savings compared with 2020, as uncertainty about the pandemic diminished. NFCs increased deposits to a greater extent than households, although in both cases the increase was smaller than in 2020. The loan-to-deposit (LTD) ratio stood at 82.6% after falling by 3.5 pp last year, continuing the downward trend that began after the global financial crisis. In consolidated terms, deposits increased by 5.9% in 2021.

Overall, the average cost of liabilities for Spanish institutions declined further in 2021, as did the estimated cost of capital for the subset of listed banks. The cost of consolidated liabilities at end-2021 (0.5%) was clearly lower than in 2019, prior to the onset of the pandemic (just over 1%). Despite the reduction in the latter months of the year, in December 2021 Spanish institutions' cost of capital (8.1%) stood above the level observed a year earlier (6.4%). The tightening of monetary policy and the heightened uncertainty due to the war in Ukraine suggest that financing costs will increase in 2022.

Profitability

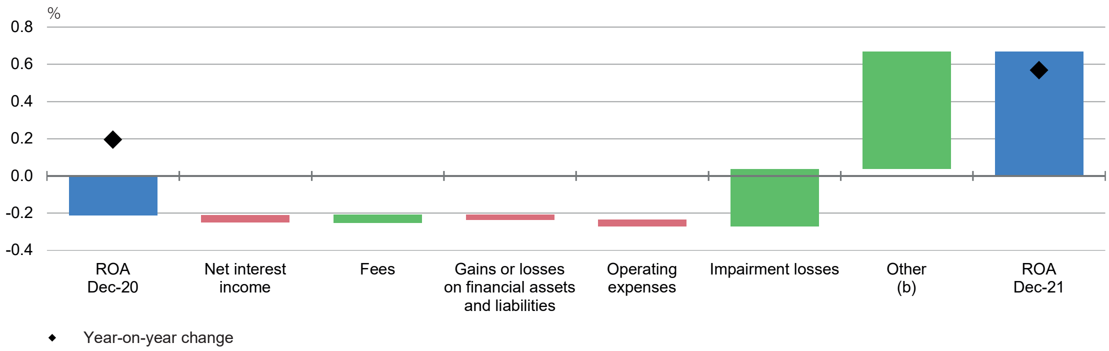
The Spanish banking system as a whole posted an ROA of 0.67% in 2021, as opposed to the losses in 2020, when ROA was -0.21%. In particular, there was an improvement in ordinary profit, with an ROA excluding extraordinary items of 0.57% in 2021 compared to 0.20% in 2020. This improvement in ordinary profit owed mainly to the reduction in impairment losses on financial assets (both in operations in Spain and abroad). At consolidated level, these losses fell from €25.3 billion in 2020 to €14.3 billion in 2021. The increase in total profitability was also made possible by favourable developments in extraordinary items (such as merger adjustments and goodwill amortisation).

Profitability improved across the board in operations in the main countries where Spanish institutions have significant international activity (see Chart 3.1.3.2). In these markets, profitability returned to pre-pandemic levels, with Mexico, Brazil and the United States contributing the most to Spanish institutions' profit abroad. Other European institutions' profitability also improved to near pre-pandemic levels, owing mainly to a reduction in provisions for financial impairment. The efficiency ratio, which did not change significantly during the pandemic, is lower (i.e. better) in Spain than in other European countries.

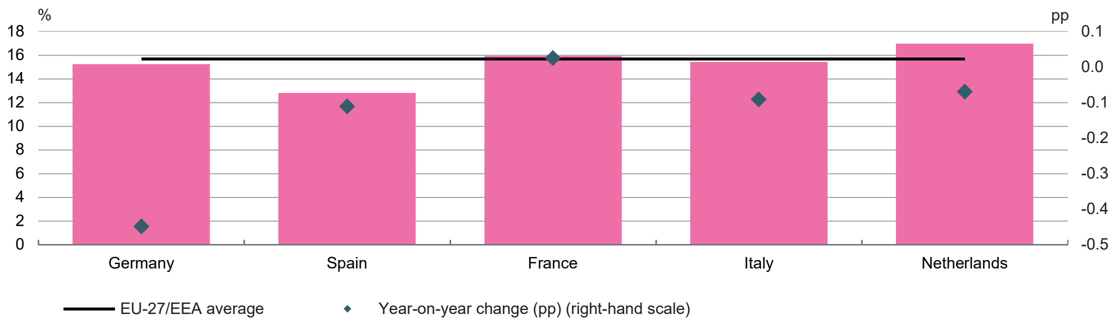
At the top of the income statement, gross income grew by 3%. This increase was driven by the timid improvement in net interest income and, above all, by the increase in net fees and commissions, which more than offset the marked drop in gains and losses on financial assets and liabilities (see Chart 3.1.4.1). It should be noted that fee and commission income has increased in recent years, approaching average European levels, alongside a capacity adjustment process involving a significant reduction in the number of branches and employees.

Chart 3.1.4 Bank profitability and solvency

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



2 European comparison of the CET1 ratio. Consolidated data (c). December 2021



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 2021 compared with December 2020. The black diamonds show the ROA excluding extraordinary profit. In particular, at December 2020: adjustments to goodwill (-€12.2 billion), deferred tax adjustment (-€2.5 billion), restructuring costs (-€1.2 billion) and gains on sales of businesses (€0.6 billion); and at December 2021: extraordinary profit as a result of two mergers (€4.2 billion), spinoff of an insurance company (€0.9 billion) and extraordinary restructuring costs (-€1.2 billion).
b Includes, among other items, the extraordinary profit referred to in note a above.
c Data for the samples of the main banks of each country as reported in the EBA Risk Dashboard.

Solvency

The solvency of Spanish institutions in terms of CET1 ratio remained relatively stable in 2021 (12.8% for the largest banks)[14] after the increase recorded in 2020. This was in line with developments at the main European banks (see Chart 3.1.4.2). Both the numerator and the denominator of this CET1 ratio declined by a similar amount over this period, thereby contributing to the stability of the ratio. By institution, the dispersion in the CET1 ratio has fallen in 2021 compared with the previous year.

Spanish institutions' voluntary buffers (including P2G) account for a small share of CET1 compared with institutions in the main European countries. Indeed, in Spain the voluntary buffer represents 33.5% of the CET1 ratio, only higher than that of German institutions (32.5%). This relatively small buffer could pose some risk for maintaining the flow of credit in the event of severe adverse shocks entailing capital consumption, since, ceteris paribus, banks with capital ratios close to the regulatory minimum tend to hold back from lending in such scenarios.

Macroprudential analysis and measures

The Banco de España held the CCyB rate applicable to credit exposures in Spain at the minimum level of 0% in 2021. In 2021 the economic recovery following the COVID-19 pandemic was slower and more uneven than was initially expected. To avoid undesired effects on economic growth, the Banco de España reiterated its intention (which it had already expressed after the outbreak of the COVID-19 pandemic in March 2020) not to increase the percentage of this instrument, at least while the indicators monitoring economic activity continue to point to an incomplete recovery.[15] This CCyB guidance sought to sustain the flow of credit by providing banks with more certainty about the easing of capital requirements, and thus support economic growth,[16] avoiding procyclical effects.[17]

Last year's recovery in economic activity helped to correct some of the imbalances that originated during the pandemic in the set of indicators commonly analysed for setting the CCyB, such as the credit-to-GDP gap. The credit-to-GDP gap measures the distance between the economy's aggregate indebtedness (credit-to-GDP ratio) and its long-term equilibrium trend.[18] This is the

14 For Spanish deposit institutions overall, the total capital ratio stood at 17.2%, the Tier 1 ratio at 15% and the CET1 ratio at 13.3%.

15 See the file with important methodological information for setting the CCyB buffer (available on the Banco de España's website) which supports the announcements of measures relating to this instrument.

16 This guidance is in line with ESRB indications in supporting the use of macroprudential tools to underpin banks' provision of credit to the real economy (see, for example, press release of 2 April 2020).

17 In particular, a tightening of macroprudential policy could have procyclical effects in uncertain environments like the present one: by hampering the provision of financing to the economy, it could worsen economic conditions.

18 This trend is calculated using statistical procedures (specifically, a one-sided Hodrick-Prescott filter).

main benchmark indicator used for revising the CCyB under normal conditions. However, during the pandemic this indicator has lost some its information value as it was not intended to be used in situations such as the one arising from the pandemic, caused by shocks outside the financial system. Therefore, the increase in this indicator to positive levels would not reflect an increase in cyclical systemic vulnerabilities which could require the CCyB to be activated, but rather the rapid and steep fall in GDP during the pandemic and the increase in lending, particularly in 2020, as a result of the public support measures.[19] The economic recovery that began in 2021 has led to a partial downward correction of the credit-to-GDP gap (see Chart 3.1.5), but it remains high. In 2022 the expected recovery in economic activity to pre-pandemic levels will have to be monitored to verify whether it results in an additional reduction in this indicator to equilibrium levels.

Against this background, complementary indicators other than the credit-to-GDP gap have had to be considered to analyse the cyclical position of the Spanish economy. In particular, the fact that the output gap, which measures the distance between actual growth and the level that could be achieved without an increase in inflation, is in negative territory suggests that the recovery initiated in 2021 has not yet fully corrected the deterioration built up during the pandemic (see Chart 3.1.5). Other indicators of credit and real estate sector price imbalances which, despite increasing in 2021, remain close to equilibrium levels, confirmed the absence of warnings.[20]

The Banco de España identifies systemically important Spanish institutions and sets their macroprudential capital buffers annually. 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.[21] 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 a more prudent assumption of risks.

One G-SII and four O-SIIs were identified in 2021. In July 2021 the Banco de España announced the designation of four O-SIIs with their associated capital

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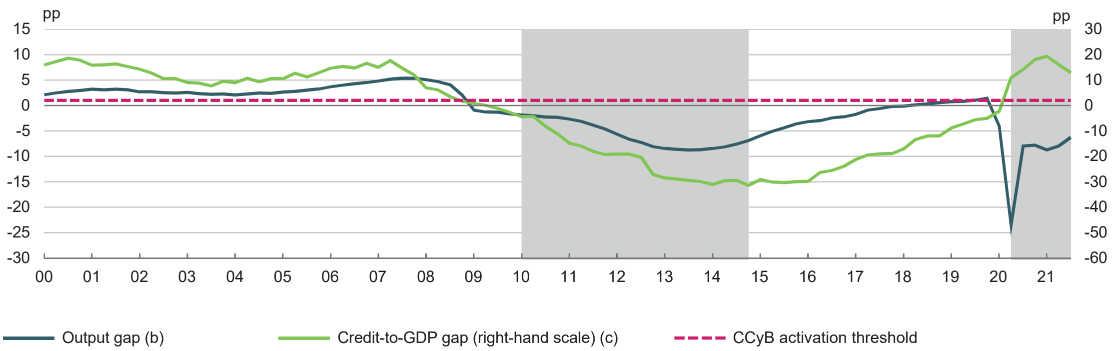
19 The absence of warnings is also backed by the changes in the Basel credit-to-GDP gap, which uses a smoothing parameter of 400,000 instead of 25,000 and has remained at negative levels.

20 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 C. Castro, A. Estrada and J. Martínez (2016), "The Countercyclical Capital Buffer in Spain: An Analysis of Key Guiding Indicators", *Working Paper* No 1601, Banco de España. For a historical perspective on the cyclical performance of bank lending in Spain, see M. Bedayo, Á. Estrada and J. Saurina (2018), "Bank Capital, Lending Booms and Busts. Evidence from Spain in the last 150 years", *Working Paper* No 1847, Banco de España.

21 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. The indicators used in the methodologies for identifying G-SIIs and O-SIIs are similar.

Chart 3.1.5 Output gap and credit-to-GDP gap, 2000-2021 (a)



SOURCES: 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. 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 P. Cuadrado and E. Moral-Benito (2016), "Potential growth of the Spanish economy", Occasional Paper No 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 calculation method aims to fit the financial cycles historically observed in Spain (for more details, see J. E. Galán (2019), "Measuring credit-to-GDP gaps. The Hodrick-Prescott filter revisited", Occasional Paper No 1906, Banco de España).

buffers for 2022,[22] while in December 2021 it announced the identification of one G-SII with its corresponding requirement for 2023.[23] The buffers applicable to systemic institutions in 2021 (see Table 3.1.1) had been announced in 2019 (G-SIIs) and 2020 (O-SIIs). Compared with the previous year, in 2022 the list of O-SIIs has changed because BFA Tenedora de Acciones, S.A.U. (Bankia, S.A.'s parent company) is no longer classified as an O-SII on account of Bankia, S.A.'s merger into CaixaBank, S.A. As a result of this operation, the systemic importance of CaixaBank has increased, leading to an increase in its O-SII buffer from 0.25% to 0.5% of its risk-weighted assets (RWAs). This increase will be applied gradually (0.375% in 2022 and 0.5% from 1 January 2023), assuming that the bank's systemic score does not change or increases. This Banco de España's macroprudential O-SII measure was endorsed by the ECB and by AMCESFI, which issued a favourable advisory opinion (see Chapter 1).

In December 2021 the Banco de España approved Circular 5/2021 implementing new macroprudential tools.[24] This new toolkit[25] available to the Banco de España comprises: (i) a sectoral component of the countercyclical

22 See "The Banco de España updates the list of other systemically important institutions and sets their macroprudential capital buffer rates for 2022", press release of 29 July 2021.

23 See "The Banco de España designates a Global Systemically Important Institution and establishes its macroprudential capital buffer rate for 2023", press release of 20 December 2021.

24 See the full text of Circular 5/2021 and the Banco de España press release and presentation by the Director General Financial Stability, Regulation and Resolution "El marco de política macroprudencial del Banco de España" (only available in Spanish), dated 23 December 2021.

25 These tools were granted pursuant to Royal Decree-Law 22/2018 and Royal Decree 102/2019.

Table 3.1.1 Capital buffers for systemically important institutions in 2021

Legal Entity Identifier (LEI)	Institution	Designation	Capital buffer requirement in 2021 (%)	Capital buffer requirement in 2022 (%)
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	0.25	0.375
SI5RG2M0WQQLZCXKRM20	Banco de Sabadell, SA	O-SII	0.25	0.25
549300GT0XFTFHGOIS94	BFA Tenedora de Acciones, SAU (Bankia, SA)	O-SII	0.25 (*)	—

SOURCE: Banco de España.
NOTE: (*) The requirement for BFA Tenedora de Acciones, SAU was effective up to 26 March 2021, after which Bankia, SA, was merged into CaixaBank, SA.

capital buffer (SCCyB); (ii) limits on the credit concentration in economic sectors; and (iii) limits and conditions on loan origination and other transactions. The draft circular (amending Circular 2/2016 of 2 February 2016 to credit institutions on supervision and solvency) had previously been submitted to public consultation in February 2021. With this important legislative development, the Banco de España is on a par with those EU national banking authorities (NBAs) that have a more comprehensive macroprudential toolkit.

3.2 Securities, commodities and foreign exchange markets

Securities markets

Overall, financial market developments[26] in 2021 were shaped by the recovery in economic growth, the pandemic-related fiscal expansion programmes and expectations of monetary policy normalisation, amid progress in the vaccination campaign and growing fears over rising prices. Although the pandemic was brought more under control, this period was not devoid of episodes of uncertainty associated with new COVID-19 variants. Against this backdrop, growth in the Spanish stock exchange market (the IBEX 35 rose by 7.9%) was more moderate than in other European markets, most of which ended the year with gains of more than 20%. This weaker growth stemmed from the slower recovery of the Spanish economy compared with the other large euro area economies. However, it also resulted from the different structures of the stock market indices, with technology, consumer and industrial stocks playing a lesser role in the case

26 The main international stock market indices experienced rises of between 16% and 21% which continued the increases observed in the latter stretch of 2020, amid a notable decline in volatility.

of Spain and stocks in sectors such as recreation and tourism, which were particularly affected by the Delta variant, playing a larger one. The banking sector performed particularly well in Spain, with the main banks accumulating gains of around 20% and even more than 40% in some cases. Equity price volatility, both in the Spanish stock market and in the main international markets, barely changed over the course of the year. Although significant rises were observed in the last stretch of 2021, the stock market indices' various historical volatility indicators ended the year below 18%.[27]

In Europe, the rises were also driven by the ECB's ongoing expansionary monetary policy. The EURO STOXX 50, an indicator grouping the euro area countries' main listed securities, rose by 21%. The broader STOXX Europe 600 benchmark performed even better, with a 22.3% rise, showing that the favourable performance of European markets was not limited to the leading listed stocks. The EURO STOXX 50 was outperformed by the indices of Austria (38.9%), France (28.9%), the Netherlands (27.8%) and Norway (24.4%), while the indices of countries such as Belgium (19%), Germany (15.8%), the United Kingdom (14.3%) and Portugal (13.7%) increased slightly less.

On the international front, US stock markets ended 2021 with their main indices at all-time highs while developments in Asian stock markets, although positive, were more subdued. The economic recovery and fiscal support programmes weighed more than the uncertainty generated by the pick-up in inflation and the start of the withdrawal of the Federal Reserve's debt asset purchase programmes. As a result, the S&P 500 was up 26.9% and the Nasdaq 26.6% (both more than the global average), with the latter posting gains for the twelfth consecutive year. The Dow Jones saw a smaller rise, albeit still significant and in line with the world average, than the other two US indices (18.7%). Asian indices lagged further behind, with the Nikkei index in Japan and the Shanghai index in China rising by less than 5%.

Issuance activity grew again last year and new stocks were listed on the markets. The volume of share issuance in Spain grew to almost €15 billion (up 37.6%), the highest amount since 2017. In addition, three new companies debuted on the stock market.[28]

Trading of Spanish equities in 2021 fell by 11.6% to €690 billion, the lowest amount since 2003. The trend observed for several years, whereby trading of Spanish equities tends to shift away from the Spanish regulated market towards other trading venues and competing markets, stabilised somewhat in 2021. Thus, trading on the Spanish regulated market decreased by 12.7% to €365 billion and trading on other trading venues and competing markets decreased by 10.2%

27 In the case of the IBEX 35, the annual average of this indicator was 15.9%, almost half its level in 2020 (28.4%).

28 Acciona Energía (public offering), Grupo Ecoener (subscription offering) and Línea Directa (listing).

to €325 billion. As a result, the latter's share in total trading increased slightly, to 46.7% (46.1% in 2021).

In the domestic bond markets, sovereign bond yields remained low throughout the year across the entire curve (as in all European economies), on the back of the ECB's monetary policy actions. However, the longer end of the curve showed an upward trend[29] both in the spring months and in the latter part of the year in response to rising inflation and the prospect of a monetary tightening. Ten-year government bond yields stood at 0.6% at year-end[30] (54 basis points (bp) more than at end-2020), while negative yields were confined to bonds with a term of five years or less, with sovereign yields moving away from the historical lows they reached in 2020. The ten-year German and Italian bonds ended the year at -0.18% (+40 bp in 2021) and 1.19% (+67 bp in 2021), respectively.

The risk premium on the Spanish ten-year bond changed little, rising from 63 bp at the beginning of the year to 77 bp at the end. Despite the reduction in the pace of the ECB's purchases, the spread on Spanish bonds remained stable at relatively low levels.

In 2021 corporate bond yields followed a similar path to sovereign bond yields, as they were affected by the same factors. The yield on the iBoxx euro-denominated corporate bond index ended 2021 at 0.74% (+38 bp in the year), its annual high. Premia in the private sub-sectors fell slightly, driven by the economic recovery and the effects of the ECB's debt asset purchase programmes.[31]

In 2021 activity in the primary private debt markets remained at levels similar to those of the previous year as Spanish companies continued to take advantage of the good market conditions to refinance themselves at a lower cost. The total volume of fixed-income issues registered with the CNMV declined by 23.4% to €101.2 billion (a level similar to that in the years prior to the outbreak of the pandemic) owing to the lower amount of plain vanilla and securitisation issues. However, this decline was offset by the increase in issues abroad, which stood at €121.8 billion, 35% more than in 2020. ESG bond issuance (incorporating environmental, social and governance standards) also grew markedly to just over €13 billion.[32] Of this amount, over €10 billion were green bonds.

The financial infrastructures for trading and post-trading securities domiciled in Spain carried out their activities in 2021 without significant incidents. Of note was the integration of the infrastructures of SIX Group AG and the BME Group, as a result of the acquisition of the latter by the former.

29 The emergence of new COVID-19 variants (Delta and Omicron) over the course of 2021 curbed the rise in yields owing to fears that additional health restrictions would negatively affect economic growth.

30 The bond yield reached an annual high of 0.64%.

31 It should be noted that the latter effects only affect the investment grade segment, as it is the only one included in the ECB's asset purchase programmes.

32 This figure represents close to 10% of Spanish issuers' long-term debt issues.

In 2021 the CNMV also 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. In 2021, the energy segment multiplied the size of the default fund by eight and the collateral requirements for participants in that segment by six.

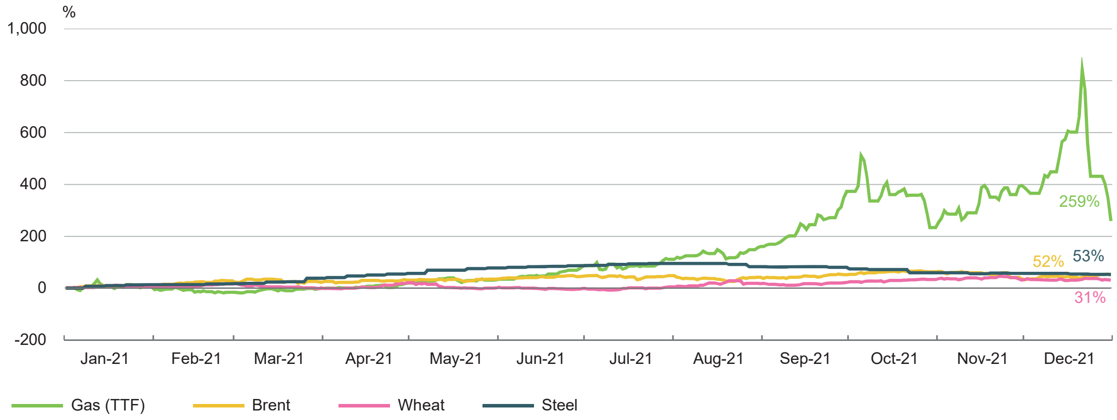
The central depository Iberclear continued to implement in 2021 the necessary measures ahead of the entry into force in February 2022 of the settlement discipline regime. Its aims include mitigating systemic risk by improving settlement efficiency and reducing failed settlement instruction rates. This work involved preparing its participating institutions, implementing internal procedures at Iberclear and participating alongside the other depositories integrated in T2S and the Eurosystem in the development of the common penalty mechanism. The settlement discipline regime entered into force in February 2022 with no significant incidents arising.

A certain change in the profile of the most relevant risks identified in the markets was seen at end-2021, with interest rate risk gaining importance given the expectation that monetary policy would be tightened. Moreover, investors' desire to preserve the value of money when faced with the threat of inflation increases their incentive to acquire assets with higher return expectations and, therefore, higher risk levels. These types of assets are associated with a significant increase in volatility (equity securities, securities from emerging market economies or cryptoassets) and credit risk (they have lower credit ratings, as is the case for subordinated debt and high-yield bonds), and a lower liquidity level (subordinated debt and high-yield bonds, private equity funds and real estate assets). Against this backdrop, any market turmoil could affect the valuation of the different assets and give rise to significant price corrections. These price declines would be sharper in assets with higher risk levels and could lead to contagion spirals.

Commodities and foreign exchange markets

Commodity prices trended upwards throughout 2021, as demand for such products recovered faster than supply, causing bottlenecks in certain supply chains. Prices have risen across the board in the different commodity sub-sectors, including energy products, metals, minerals and food. The rise in the price of natural gas since July 2021 was particularly noteworthy and was driven by a combination of economic, climate and, above all, geopolitical factors. Given the impact that the price of natural gas has on the price of electricity in a marginal wholesale market, in September the Government approved Royal Decree-Law 7/2021 with the aim of alleviating the effect of the rise in the price of gas on electricity bills. Specifically, measures were adopted to (i) reduce (VAT) and eliminate (tax on electricity generation) the taxes affecting the price of energy; (ii) remove the extraordinary remuneration paid to electricity generating companies (hydroelectric and nuclear) as a result of the increase in the price of

Chart 3.2.1 Changes in the prices of the main commodities (a) (b)



SOURCE: Refinitiv.
NOTE: TTF: Title Transfer Facility.

a Change shown as a % from 1 January 2021.
b The values of each series at 31 December 2021 are marked.

gas; (iii) protect the most vulnerable consumers; and (iv) promote cleaner and cheaper energy sources.

After several years of little change, the euro depreciated against all major currencies in 2021, with the exception of the Japanese yen. In particular, the euro weakened by 6.91% against the US dollar during 2021, with the exchange rate falling from 1.2212 USD/EUR to 1.1368 USD/EUR at year-end, owing mainly to higher interest rate expectations in the United States than in the euro area. By contrast, the euro appreciated 3.74% against the yen, given the more accommodative actions taken by the Bank of Japan.

The currencies of the main emerging market economies appreciated against the euro, supported by higher commodity prices and a tighter monetary policy. The central banks of the emerging market economies raised interest rates across the board, with the aim of containing inflation and anchoring economic agents' expectations. In an exceptional development, the Turkish lira depreciated around 70% against the euro, influenced by its central bank's monetary policy decisions.

3.3 Non-bank financial intermediation

The volume of assets comprising the so-called "narrow" measure[33] of activities related to non-bank financial intermediation (NBFI) in Spain

33 The broad measure of NBFI is defined as all the institutions which perform one of the economic functions described by the Financial Stability Board (FSB), while the narrow measure is obtained by discounting those institutions that are consolidated in a banking group.

amounted to €329 billion in 2021, 8.4% more than in 2020.[34] Despite this growth, the share of NBFI in the financial system as a whole remained modest, barely increasing by 0.1 pp, from 5.8% to 5.9%, since other segments posted considerable growth in 2021. Central bank and credit institutions' assets increased notably (by 16.2% and 4.7%, respectively). The significance of NBFI in Spain is somewhat lower than that observed in most EU countries, where its share in the total financial system ranges between 8% and 12%.[35]

The NBFI measure is obtained from the asset volume that is not related to the banking sector and which fits into one of the five economic functions defined by the FSB.[36] 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 dependent on short-term funding (EF3),[37] 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 €519 billion in 2021, 1.9% more than in 2020. 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). 32% of the assets belong to EF5 entities, the second most significant function, which comprises securitisations. The remaining 11% is distributed among EF2 entities (specialised lending institutions (LSIs)), accounting for 10%, with the EF3 and EF4 functions representing a meagre 1%.

To obtain the narrow measure of NBFI, the assets of the entities that are consolidated in banking groups must be deducted. Under this process, an asset amount in excess of €190 billion is deducted from the broad measure, resulting in the aforementioned amount of €329 billion. 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 decline by 88% after this procedure. The proportion of assets deducted from EF2 entities (SLIs) is also substantial (84%). As a result of these differences the share of EF1 (CIUs) in the narrow measure of NBFI increases from 57% to 91%, while that of securitisations declines to 6%. The remaining 3% is distributed among the other functions. Notably, the significance of EF1 in NBFI has risen progressively, from 60% of the total in 2010 to 91% in 2021, its historical high.

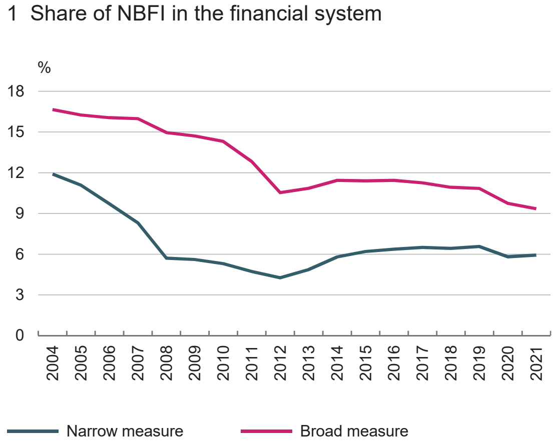
34 The CNMV publishes a detailed report in this connection on an annual basis ("Non-banking financial intermediation monitor").

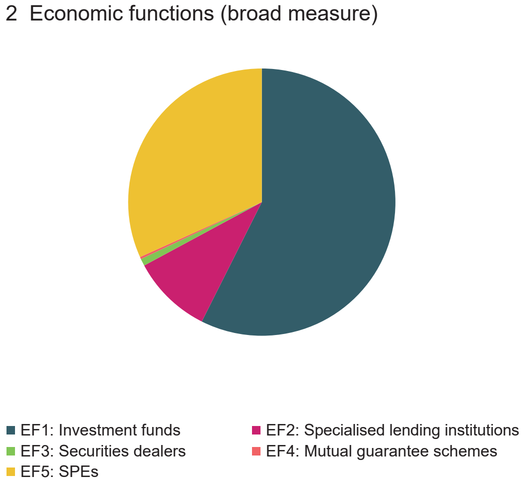
35 According to the latest report published by the FSB on data for 2020, the narrow measure of NBFI in the countries analysed stood, in aggregate terms, at 13.7% of the total financial system. In the advanced economies, this percentage was around 15%. See FSB (2021), "Global Monitoring Report on Non-Bank Financial Intermediation 2021" of 16 December and ESRB (2021), "EU Non-bank Financial Intermediation Risk Monitor", published in August 2021.

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

37 Or secured funding.

Chart 3.3.1 Non-bank financial intermediation (2021)





SOURCES: CNMV and Banco de España.

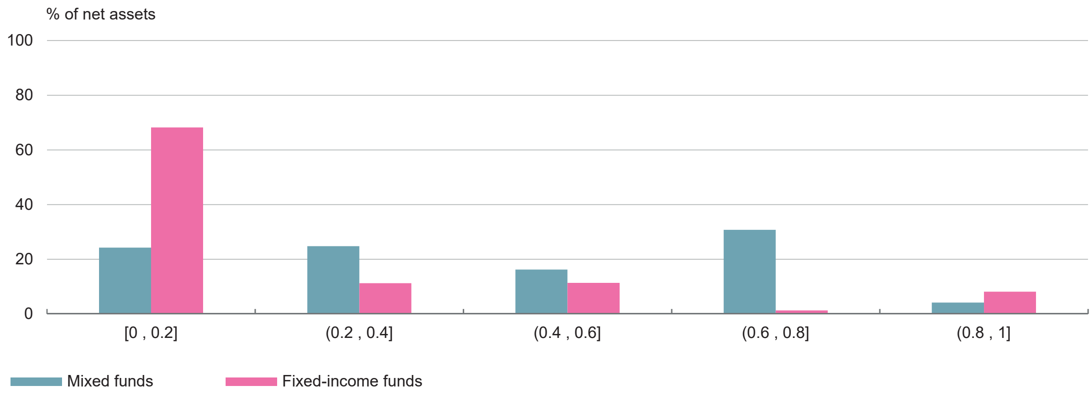
Delimiting the entities comprising the narrow measure of NBFI helps identify and monitor the potential risks they may pose to financial stability. As investment funds may pose a higher risk to financial stability on account of their size, it is especially important to monitor their portfolio's liquidity conditions, degree of leveraging[38] and credit risk exposure. It is also important to analyse securitisation special purpose entities, on account not only of their size, but also of their high level of interconnectedness with other parts of the financial system, with the most important risk being maturity transformation. However, in Spain this risk is not high, since most securitised assets and securities issued (liabilities) stem from long-term – mainly mortgage – loans or credits with a lower maturity transformation risk. Thus, in 2021 short-term assets and liabilities only accounted for 22.7% and 15.5%, respectively, of the balance sheet, slightly above the figures for 2020 (21.8% and 14.3%, respectively).

Exposure to market risk remains well below the maximum permitted by legislation. Indirect leverage, i.e. via derivatives, is calculated, since borrowing (direct leverage) is highly restricted by regulations.[39] Thus, an assessment of the CIUs belonging to the NBFI sector that satisfy the requirements established in Directive 2009/65/EC, and that perform their calculations using the commitment

38 The importance of monitoring leverage as a source of risk in the field of investment funds has even been regulated at European level in Article 25 of the Alternative Investment Fund Managers Directive (AIFMD). Under this article, national competent authorities (NCAs) are required to periodically monitor the level of leverage employed by alternative investment funds (AIFs) in order to assess its possible effect on financial stability.

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

Chart 3.3.2 Leverage of fixed-income and mixed funds (2021) (a)



SOURCE: CNMV.

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

approach (95.6% of the total in terms of net assets),[40] shows that market risk exposure amounted to 35% of their net assets at end-2021, still well below the maximum permitted by current legislation (100% of net assets), despite the increase vis-à-vis 2020 (28.6%). As Chart 3.3.2 shows, an individualised analysis of mixed and fixed-income funds[41] reveals that market risk exposure was below 40% in nearly 80% of fixed-income funds and in 50% of mixed funds (in terms of net assets), while only 8.1% and 4.1% of their net assets corresponded to funds with relatively high levels of exposure to market risk (between 80% and 100% of net assets).

The CNMV estimates different liquidity metrics which do not point to a noteworthy deterioration of liquidity conditions in investment funds. Liquidity risk assessment is particularly important in the case of these funds, given that the majority permit daily redemptions. One of the metrics calculated reveals a slightly higher proportion of less liquid assets in mixed funds (see Chart 3.3.3.1). This is explained by the increase in the relative weight of the asset categories deemed riskier,[42] such as shares, which, according to this metric, are considered 50% less liquid. In addition, this metric does not include the liquidity assessment of investments in other CIUs, which it assumes are 100% illiquid. It can therefore be considered a very conservative measure of liquidity. Other liquidity metrics used solely for the corporate bond portfolio[43] show that there has been a substantial decline in less liquid

40 The other 4.4% relates to CIUs: (i) which do not operate with derivatives (1%), (ii) whose credit risk exposure is calculated using the VaR approach (1.9%), or (iii) which, albeit subject to UCITS regulations, are able to use derivatives in certain areas, affording them greater flexibility, and may exceed the 100% limit for exposure to market risk (1.5%).

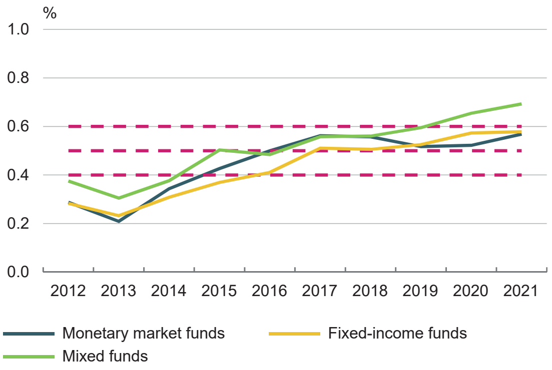
41 Mixed funds and fixed-income funds account for a large proportion of EF1, specifically 58.5% and 29%, respectively, of the total. Their share in total CIUs that perform their calculations using the commitment approach was similar (58.7% and 29.6%, respectively).

42 Thus, while global funds increased their relative significance from 27.4% in 2020 to 28.8% in 2021, thanks to the high number of subscriptions during the year (around €23 billion in net terms), mixed funds or guaranteed equity funds posted net worth decreases which prompted a decline in their share in the mixed fund category.

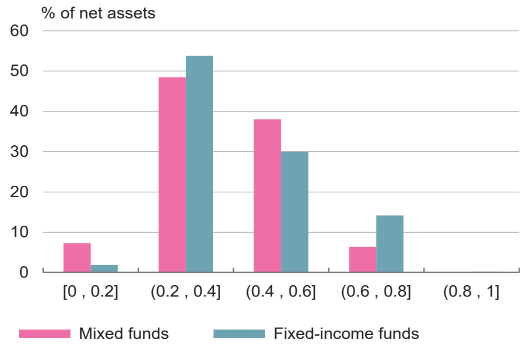
43 According to the aforementioned metric all of these assets are deemed less liquid.

Chart 3.3.3 Liquidity risk by investment fund type

1 Liquidity risk (a)



2 Distribution (%) of HQLAs. 2021 (b) (c)



SOURCE: CNMV.
NOTE: The broken lines denote the thresholds that determine the shift from low to moderate risk (0.4%), from moderate to medium risk (0.5%), and from medium to high risk (0.6%).

- **a** Measured in terms of less liquid assets as a proportion of total assets, considering liquid assets to be deposits, government bonds, guaranteed issues, repos and 50% of equity portfolio value.
- **b** Considering HQLAs to be all cash and deposits, 50% of equity portfolio value and variable percentages of government bonds, corporate bonds and asset-backed securities according to their credit rating. Thus, the percentage considered liquid ranges between 0% and 100% for government bonds, between 0% and 85% for corporate bonds, and between 0% and 65% for asset-backed securities.
- **c** This analysis does not include all EF1 investment funds, as those that have restrictions on redemptions (such as guaranteed funds) and those that invest mostly in other investment funds have been excluded.

assets[44] in the last two years. Thus, while they accounted for 7.6% of the corporate bond portfolio at end-2019, this percentage had fallen to 3.8% at end-2021.

A case-by-case liquidity assessment of mixed funds and fixed-income funds reveals that they hold a high proportion of high-quality liquid assets (HQLAs). This analysis, which uses an alternative liquidity metric that incorporates the credit rating of their HQLAs, reveals that, in terms of net assets, at end-2021 in around 50% of the fixed-income funds and in 63% of the mixed funds liquid assets accounted for over 40% of the total portfolio. However, there are investment funds, albeit a small proportion, where liquid assets account for less than 20%: specifically, 1.9% of fixed-income funds and 7.3% of mixed funds (in terms of net assets).

The stress tests conducted generally show 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 degree of resilience of investment funds. They are performed on UCITS and non-harmonised UCITS, in line with the methodology proposed by the European Securities and Markets Authority (ESMA) (STRESI framework)[45] and

44 This metric assesses liquidity by considering as liquid assets those maturing in under one year or with Bloomberg CBBT prices (firm prices offered by various contributors to this provider).

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

subsequently broadened by the CNMV.[46] The results of the latest stress tests, with data at December 2021, 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 is 19 times more severe than that recorded in the worst week of March 2020, a total of 16 funds are identified as having potential liquidity problems for meeting the simulated increase in redemptions (1.3% of net assets in the sample). These funds are distributed as follows: 15 high-yield corporate bond funds (11.37% of net assets in the category) and one fund in the global and absolute return fund category (1.1% of net assets).

Managing and monitoring the liquidity of CIUs remains a priority for securities supervisors. In this connection, in September 2021 the CNMV submitted a Technical Guide on the management and control of the liquidity of CIUs to public consultation, which was approved in January 2022.[47] This Guide aims to unify all significant supervisory criteria that have been transmitted in recent years and incorporate the results of recent supervisory actions carried out at domestic and European level.[48] Institutions departing from the criteria set out in the Guide must justify their decision. Among other aspects, the Technical Guide details the analyses to be conducted in the design phase of each CIU, the checks to be carried out prior to any investment, the controls required to ensure an adequate alignment of the liquidity profile of each CIU's assets and liabilities, and the different tools available to manage the liquidity of CIUs appropriately. The management of liquidity is attracting increasing attention in the European Union, with the proposal, published at end-November 2021, to amend the AIFMD and UCITS directives, which incorporates at EU level elements similar to those contained in this Guide for Spain.

It is considered particularly important for managers to have adequate tools to manage liquidity. In this connection, the CNMV Guide indicates that CIU managers should consider in their procedures the circumstances under which the different tools set out in the regulations are applicable (such as notice periods, temporary borrowing, subscriptions and partial redemptions and side-pockets), also ensuring that they are properly implemented. They should also consider the use of anti-dilution mechanisms included in prospectuses (including most notably portfolio valuation at bid/ask prices and swing pricing) to avoid conflicts of interest between subscribing or redeeming unitholders and those who remain. As regards the swing pricing mechanism, which was one of the most used during the COVID-19 crisis, the CNMV has compiled information on the institutions that have

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

47 See CNMV (2022), "Technical Guide 1/2022 on the Management and Control of the Liquidity of Collective Investment Schemes (CISs)".

48 Of note is the Common Supervisory Action carried out by ESMA in 2020. See ESMA (2021), "ESMA presents the results of the 2020 Common Supervisory Action (CSA) on UCITS liquidity risk management", communiqué of 24 March 2021.

the possibility of putting it into practice. It identified around 500 institutions, with assets amounting to nearly €122 billion (one-third of total net assets) which had developed internal procedures enabling them to use it.

3.4 Insurance undertakings and pension funds

2021 has shown the robustness of the insurance sector, in an environment of return to normality, albeit still subject to high uncertainty, while pension funds reached a historical record in terms of net assets. Last year's data reflect a resilient and adaptable insurance sector with sufficient financial resources to face extreme scenarios. The insurance sector did not need government support to deal with the fallout from the health crisis, but did benefit from that provided to other sectors and to households, which helped to sustain insurance activity. The economic recovery plan, which is mentioned below, was a great opportunity for the insurance and pensions sector. The return to normality in the insurance sector differed from that in other sectors, where the starting point for such return was the decline in income caused by the pandemic. In the insurance sector, however, this return started at high profitability levels owing to the impact of the pandemic on the technical income of branches with a significant sectoral effect (e.g. car insurance and health care). The favourable performance of pension funds in 2021 was mainly attributable to portfolio revaluations due to good market performance.

Main aggregates

The Solvency II European regulatory framework has ensured the resilience of insurance undertakings to the crisis in terms of technical, financial and operational risks. However, the management of material emerging risks, such as cyber risks and environmental risks, needs to be strengthened. The solvency ratio (see Chart A1.6.7) improved slightly in 2021. The management strategies and market discipline regarding containment and prudence in the distribution of dividends have contributed to bolstering solvency. Lessons have been drawn from the health crisis on the management of capital in complex economic settings. Notable in this connection is the European Commission's proposal to amend the Solvency II Directive,[49] reinforcing the macroprudential perspective and providing tools for assessing and monitoring systemic risk. These tools include the possibility of restricting dividend distribution with the aim of preserving financial stability and solvency and adequately protecting policyholders' rights.[50]

49 See the Proposal to amend the Solvency II Directive, adopted by the European Commission on 21 September 2021.

50 For further details on the macroprudential elements considered in the review of Solvency II, see ESRB "Letter to Members of the European Parliament on the Solvency II Review" of 2 February 2022.

In 2021, turnover, measured through the change in premiums, fell below the pre-pandemic level, despite the recovery in the volume of activity in 2021. This decrease was, however, uneven in life and non-life insurance. The fall in the last two years in the volume of premiums in the sector as a whole was driven by the significant decrease posted in 2020 in the life-savings insurance business, as a result of the prolonged effects of the low-interest rate scenario, combined with the effects of the pandemic. Despite this, in 2021 the volume of activity increased by 3.1%, with life insurance recovering (posting growth of 2.3%), mainly owing to the positive performance of unit-linked insurance (investment products based on insurance in which the policyholder assumes the investment risk) and life insurance, on which the insurance industry is currently focusing its business strategy. The growth capacity of the general insurance branches (other than life insurance) took root, with an increase in turnover of 3.6% in 2021. This growth potential had already become apparent in 2020 (the year the pandemic started), when turnover increased by around 0.7%.

The profitability of the insurance sector remained close to pre-pandemic levels. Profit from premiums decreased in 2021 (see Chart A1.6) compared with 2020, but stood at levels above those of 2019 (before the pandemic). Income in 2020 was marked by an exceptional atypical decline in claims in the general insurance branches, particularly car and health insurance, deriving from the restrictions on mobility and the effects of lockdown. In 2021 a slight return to the 2019 claim rates was observed as a result of the return to normality, although they remain at a lower level. The events determining the changes in claims in general insurance were the lifting of restrictions on mobility, the transfer of claims not realised in 2020 to 2021, the recovery of general assistance activity in branches such as healthcare and the impact of extreme weather events, the most remarkable being snowstorm Filomena in January 2021. These events have become more frequent in recent years, evidencing the importance of raising awareness of the impact of environmental risk. The technical financial income from life insurance activities (which considers the changes in investments and provisions jointly) as a percentage of the volume of provisions was 0.2% higher than in 2020. This stems from a positive market performance in 2021 in terms of profitability.

In a macroeconomic environment beset by high uncertainty, the adequate management of inflationary effects is a challenge. General insurance branches are more exposed, owing to the potential impacts on claims arising from their coverage in real terms. Thus, inflation introduces additional tension, especially in branches where there is strong competition and margins are tight. The definitive impact will depend on firms' negotiating capacity and on the existence of agreements already closed with service providers. Inflation does not seem to be as significant in the case of life insurance, since claims are covered in nominal terms. However, the low-interest rate environment continues to exert significant pressure on life insurance and pension plans. This is without prejudice to the fact that the crystallisation of a scenario of rising interest rates would have favourable effects on life insurance. Economic agents' greater risk aversion as a result of the pandemic is a stimulus for demand for insurance. Against this backdrop, the effects of the macroeconomic environment on policyholders' purchasing power and, accordingly, on business volume, warrant monitoring.

European insurance stress tests

In 2021 the European Insurance and Occupational Pensions Authority (EIOPA) carried out its fifth stress test based on a prolonged COVID-19 scenario in a "lower for longer" interest rate environment.[51] The exercise covers a sample of 44 participants from 20 countries, representing 75% of the European market. In the case of Spain there were two groups of participants. There were several important changes in the 2021 stress test, including most notably a broader scope (aside from resilience in terms of capital, effects on liquidity were included) and an enhanced microprudential and macroprudential dimension, by considering reactive measures with which to address potential secondary effects on the market.

The structure of the stress test is twofold and aims to assess participants' capital and liquidity position. As regards capital, own funds and the solvency capital requirement ratio were assessed, as in 2018. On the liquidity side, the exercise takes into account the experience gained from the liquidity assessment during the COVID-19 crisis. The stress test consists of a set of market and insurance-specific shocks identifying the so-called double-hit scenario (lowering of risk-free interest rates and increase in spreads), where, simultaneously, assets are adversely affected by the reduction in prices and liabilities increase owing to lower interest rates and potentially to prescribed insurance shocks.[52] It was also possible to request, at the discretion of each national supervisory authority, the long-term impact of the scenario, taking into account the change in significant parameters in calculating the interest rate curve, in this case the implied rate, at long term. Making use of this possibility, the DGSFP requested participants to assess this impact also. This additional calculation gives a view of the interest rate structure and its ensuing effects on solvency that is more consistent with the market.

In general, the European insurance industry showed adequate resilience during the pandemic crisis despite its dire economic consequences. The sector approached the exercise with a strong level of capitalisation, reflected in a solvency ratio of 217.9% reported at end-2020. This level was a buffer that allowed participants to adequately absorb the impact of the adverse double-hit scenario, which proved to be a tough challenge for the sector, as summarised

51 See the section Insurance stress test 2021 on the EIOPA website.

52 The impacts of the shocks are presented under the two approaches tested: with management actions that may be adopted by insurance companies in the event that the prescribed scenario were to materialise and as a reaction to it, and without taking such actions into account.

below. None of the participants reported a liabilities-to-assets ratio below 100%, which indicates that, even under a severe scenario, the sector is able to meet its commitments to policyholders in the event that the adverse situation forecast in the exercise were to materialise.

Overall, when no management actions are applied, the post-stress solvency ratio[53] decreases by 92.1 pp (from 217.9% to 125.7%). Nine groups (20.4% of the sample) stood below the regulatory threshold of 100%. Among the nine participants reporting a post-stress solvency ratio below 100% without management actions, seven, which took into account the reactive management actions, reported solvency ratios above the regulatory threshold. The liquidity component of the stress test showed that the liquidity risk appears to be a less significant concern than solvency, given the industry's significant holdings of liquid assets.

Spanish insurance companies evidenced a strong liquidity and capital position. Indeed, the two insurance companies participating in the EIOPA exercise reported a decrease in their solvency ratios under both scenarios, with and without management actions, which stood below the median fall for the European sector as a whole.

The stress test aims to identify the European insurance industry's vulnerabilities and to make recommendations and request that corrective measures enhancing its resilience be applied. After analysing the results of the stress tests, EIOPA recommended a series of actions, including most notably: (i) reducing reliance on the transitional measures that had been adopted to aid in the transition to Solvency II; (ii) reviewing the risk management processes and ensuring their adequacy when the results evidence a significant impact; (iii) having sufficient resources to adequately assess the risks not reported under Solvency II; and (iv) recommendations relating to the reactive management actions. Particularly important for the DGSFP is the recommendation to reduce reliance on the transitional measures that were introduced to carry out a smooth transition from Solvency I to Solvency II. Reducing their use improves management of insurance risks, helps reflect solvency needs appropriately and contributes to making headway in complying with European legislation.

The insurance and pensions sector within the Recovery, Transformation and Resilience Plan framework

The insurance and pensions sector has an important role to play in developing the four pillars of the Recovery Plan with the aim of achieving a greener, more digital Spain, with greater social and territorial cohesion and gender

53 The EIOPA stress test requires a re-calculation of capital requirements and, consequently, of the solvency ratio, taking into account the new own funds that the situation arising from the adverse scenario (known as the post-stress solvency ratio) would give rise to.

equality. In the insurance and pension fund sector, the impact of component 30 of the Plan, which pursues the long-term sustainability of the pensions system within the framework of the Toledo Pact, is particularly noteworthy. The launch of a package of six complementary measures has been proposed to fulfil the general goal of preserving the pension system's long-term sustainability. The last of these measures affects the supplementary welfare model. In this setting, the need to reform and promote complementary pension systems is established, resulting in the approval of a new legal framework that will boost occupational pension schemes and the public promotion of pensions funds, providing coverage to groups of workers lacking occupational schemes in their firms and to the self-employed. The private pensions sector may contribute to strengthening society's response and promote resilience through pension plans that take into account sustainability issues.

The proper functioning of the financial system in general and the insurance sector in particular will be key to successfully transitioning towards a more sustainable economy through an adequate financing stance. The action lines proposed – to finance corporate growth and innovation, bolster citizens' protection, modernise supervision to bring it into line with the best international practices and boost the adaptation of the financial sector to combat climate change, improve competition and redirect capital flows towards a more sustainable economy – will directly affect the insurance and pensions sector. The insurance and pensions sector also contributes to reducing the sizeable environmental, social and inequality risks faced by society through environmental insurance, fostering the resilience of economically vulnerable businesses, self-employed persons and households or promoting financial education programmes.

Sustainability in the insurance sector

Insurers and reinsurers have started the process of adapting management and the business model to the new sustainability requirements. These requirements have been included in European legislation as a result of the 2015 Paris Agreement. These requirements within the financial sector framework have two key purposes: (i) improving the contribution of finance to sustainable and inclusive growth by financing society's long-term needs; and (ii) reinforcing financial stability through the incorporation of environmental, social and governance factors into decision-making.

Strategic changes in the insurance sector:

- *Integration of sustainability.* This entails changes in the policies adopted by insurers and reinsurers to incorporate the identification and assessment of sustainability risks into risk management, to calculate technical provisions, and to evaluate the global solvency needs included in the Own Risk and Solvency Assessment (ORSA) report and in their remuneration policy.

- *Disclosure of information on integration of sustainability*. The disclosure of information on the integration of sustainability risks, on the analysis of adverse incidents regarding sustainability in these companies' processes and on the necessary alignment of their investment policy, is required. Additional disclosure requirements are established for marketing "sustainable"-labelled products.

- *Ensuring that there is sufficient public corporate information regarding sustainability.*

- *Consideration of sustainability preferences.* Applicable in relationships with policyholders and in the necessary adaptation of products marketed to respond to the growing demand for sustainability.

BOX 3.A Recent developments in crypto-assets

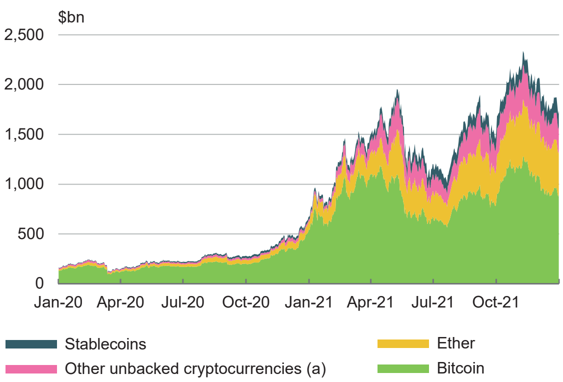
Global crypto-asset market capitalisation grew significantly[1] in 2021 (see Chart 3.A.1). It grew from around $400 billion at end-2020 to $2.2 trillion at December 2021, having peaked at nearly $3 trillion in November 2021. This increase was the result of a combination of two factors: (i) an increase in the number of crypto-assets and (ii) a strong appreciation of unbacked crypto-assets, such as Bitcoin.

As regards the increase in the number of crypto-assets, although Bitcoin remains the leading crypto-asset, its share in total market capitalisation declined from 70% to 40% in 2021. In this connection, a considerable increase has been observed in the share of crypto-assets developed using blockchain networks that enable smart contracts to be run (such as Ether, which has become the second crypto-asset in terms of market share). Stablecoins have also gained importance in the past year. Their daily trading volume has far exceeded that of unbacked crypto-assets and their market capitalisation has grown by approximately 300% in 2021. Particularly noteworthy among stablecoins are those backed by the dollar, such as Tether. Although it is still the main stablecoin, its market share has been in decline since some of the main centralised exchange platforms introduced their own stablecoins (mainly USD Coin and Binance USD).

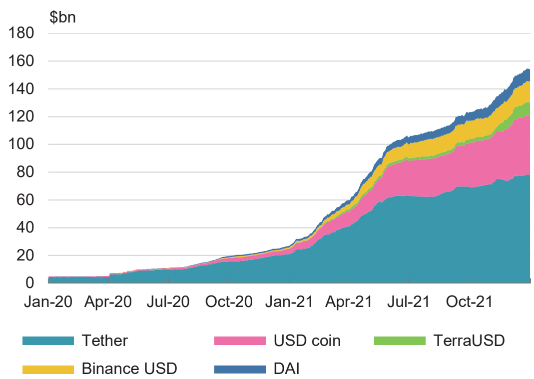
Another phenomenon that has gained importance in 2021 has been the increase in decentralised finance (DeFi) in the crypto-asset ecosystem. The automation opportunities provided by smart contracts, together with stablecoins' potential stability, have made it possible to provide financial services (such as loans, insurance and portfolio management) using crypto-assets, through decentralised platforms. In barely two years, the total value of assets locked in DeFi contracts went from practically zero to more than $200 billion at end-2021. Despite their recent upsurge, their market share continues

Chart 3.A.1 Crypto-asset capitalisation in 2020 and 2021

1 Global crypto-asset market capitalisation



2 Global market capitalisation of main stablecoins



SOURCE: CoinGecko.
NOTE: As with other similar websites, GoinGecko is not an official or verifiable data source.

a "Other unbacked cryptocurrencies" includes capitalisation of the ten main cryptocurrencies, excluding stablecoins, bitcoin and ether.

1 These figures may have changed significantly owing to the sharp adjustment faced by crypto-assets in 2022 H1.

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

to be small in comparison with centralised platforms (below 10% at end-2021).

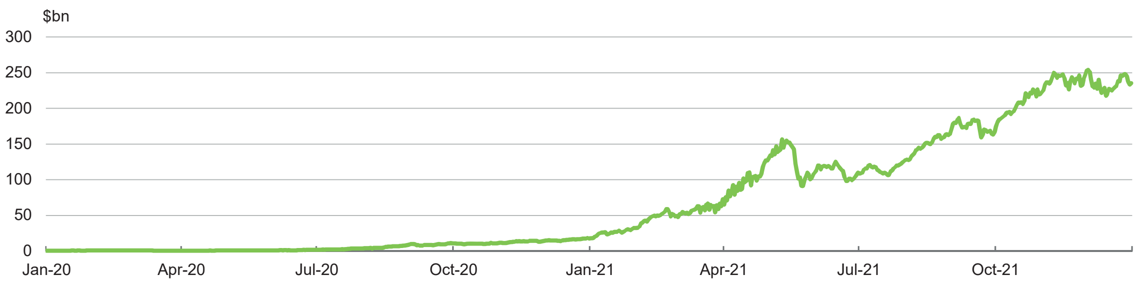
Risks linked to the crypto-asset market and regulatory response

The rising importance of crypto-assets has led regulators around the world to step up the identification of their attendant risks and develop an adequate regulatory response. First, the lack of fundamental value of most crypto-assets, especially those without a centralised issuing institution, means that their price does not have a reference value and, therefore, is subject to strong bouts of volatility. This highlights the existence of a market and liquidity risk that could cause a partial or total loss of the investments made, particularly in the case of less informed agents. Second, crypto-assets are increasingly interrelated with the traditional financial system. In the case of stablecoins, interconnections are established, on the one hand, through the financial assets which comprise the stablecoin reserve guaranteeing its value and, on the other, by depositing such reserves at credit institutions. Also, in recent years institutional investors have shown considerably more interest in crypto-assets, and have included them in their portfolios, especially in the case of hedge funds and high net worth wealth management firms.

Lastly, the existence of other highly significant sources of risk in the crypto-assets market, such as the following, must be noted: (i) operational risks deriving from the scant cyber resilience of certain crypto-asset issuers and providers of services; (ii) the risk of criminal and unlawful activities, given their decentralised and cross-border nature; and (iii) environmental risk, since some crypto-asset mining protocols are highly energy-intensive.[2]

European and domestic regulation is making headway in mitigating the risks arising from crypto-assets. At EU level, the application of the future Regulation on Markets in Crypto-assets (MiCA) will help bring crypto-asset issuers and service providers within the scope of the regulatory and supervisory perimeter. The obligations relating to means and performance that will be introduced by the Regulation will help enhance transparency in the crypto-asset market, prevent market abuse, guarantee the stability of stablecoin schemes, introduce a prudential framework for service providers and, in short, combine financial innovation and respect for financial

Chart 3.A.2 Total value of assets locked in DeFi contracts



SOURCE: CoinGecko.

2 Such as the proof-of-work algorithm.

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

stability, monetary sovereignty and investor protection.

In Spain, the CNMV's new power to control advertising and marketing campaigns involving crypto-assets places Spain at the forefront of the global regulatory response to crypto-asset information abuse and will ensure an adequate level of understanding of crypto-assets by investors. For its part, the obligation to register with the Banco de España all intermediaries providing services such as custodian services or the exchange of crypto-assets for legal tender is increasing visibility of these agents as regards compliance with prevention of money laundering requirements.

There are other legislation proposals at European level that also aim to respond to the additional sources of risk identified. The EU's Digital Operational Resilience Act (DORA), which introduces obligations relating to prevention, reaction to cyber incidents and hiring of IT service providers, will help mitigate the cyber resilience risks of crypto-asset issuers and service providers, as they fall within its scope. Also, one of the goals of the new anti-money laundering and counter terrorist financing (AML/CTF) legislative package is to prevent crypto-assets from being used for unlawful purposes. To this end, it will include all crypto-asset service providers in the list of entities that are obliged to comply with prevention requirements (up to now only the platforms engaging in the exchange of crypto-assets for legal tender and custodian services were required to do so). It will also prohibit the existence of anonymous crypto-asset wallets and will require all transactions with crypto-assets that include a service provider to be fully identifiable.

4 Interconnectedness in the financial system

Financial system institutions are interconnected through a series of channels that allow financial institutions to diversify and specialise, but also to pass through systemic shocks. One of these channels relates to direct financial interconnections between institutions through holdings of financial assets issued by other financial institutions. Indirect interconnections are another possible risk transmission channel, both through holdings of financial assets issued by the same issuers, and through non-common exposures to assets whose prices are correlated. Financial institutions' business model itself generates synergies that interconnect their activities, as regards both the income they generate and the risks to which they are subject.[54] Cyber risks are an additional source of interconnections, both owing to the risk of coordinated attacks on different financial institutions and to the possibility of disruptions to some financial institutions' business affecting other parts of the system.[55]

The structure of the Spanish resident financial system's direct interconnections remained relatively stable in 2021 relative to 2020. Banking is the most significant sector in terms of size[56] and one of the most interconnected (see Figure 4.1). On data at end-2020, the most significant direct links consisted of the exposures of insurers and CIUs to systemic banks.[57] As regards other direct exposures, it should be noted that CIUs had significant exposures to non-systemic significant institutions and to other less significant institutions.

Following the increase in 2020, in 2021 the correlations between financial assets decreased across the board, although the assets of the sectors most vulnerable to COVID-19 continued to show much higher correlations than before the pandemic. The price correlation between equities and debt securities issued by Spanish financial institutions provides a first estimation of the changes in indirect interconnections between financial institutions. This indicator continued to decline in 2021, in line with the recovery of economic activity and the stabilisation of financial markets (see Chart 4.1.1). This downward trend was

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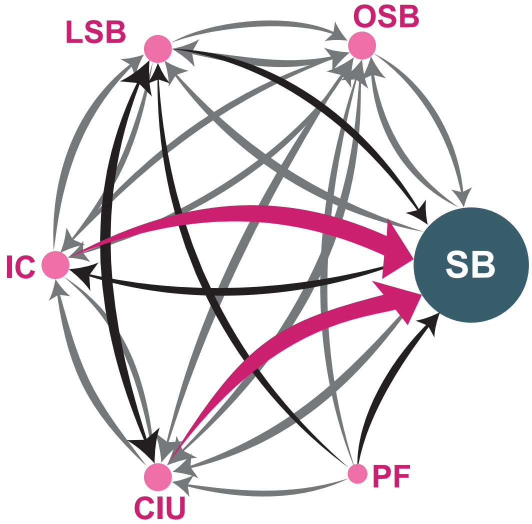
54 For instance, the banking business of extending mortgage loans is strongly linked to the life insurance activity; accordingly, any shock affecting one of these activities will simultaneously affect the other one.

55 In this connection, in March 2021 the Banco de España approved the adoption of the Framework for Threat Intelligence-based Ethical Red Teaming (TIBER-EU), published by the ECB, for the Spanish financial sector (TIBER-ES) in close collaboration with the CNMV and the DGSFP. This is an advanced cyber security testing framework for financial institutions, with the ultimate aim of shoring up the cyber resilience of Spain's financial sector.

56 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.

57 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 2021



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.

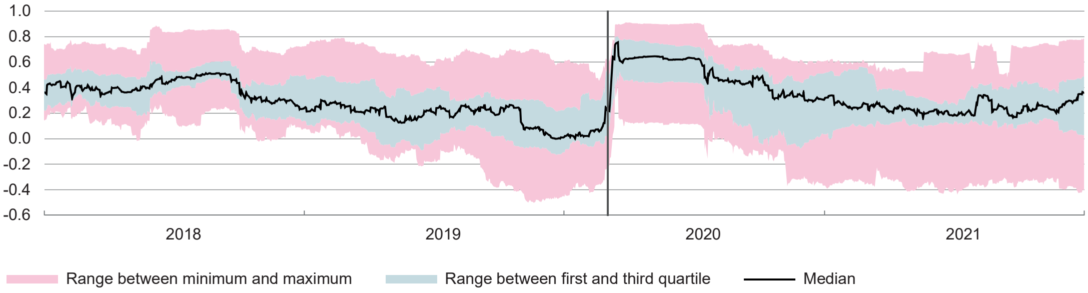
interrupted in 2021 Q4, when tensions first arose in the energy markets and the COVID-19 Omicron variant emerged. The breakdown of financial assets by the issuer's economic sector makes it possible to analyse differential effects on the sectors most vulnerable to COVID-19.[58] This analysis shows very similar changes in the correlations between the financial and non-financial sectors, although the correlation with the most vulnerable sectors remained higher during the first half of 2021 (see Chart 4.1.2). In 2021 H2 the two types of correlations were very similar. This lower correlation between financial sector assets and vulnerable sector assets shows that the tensions deriving from COVID-19 have tended to decline in 2021. However, the correlation with vulnerable sector assets remains at levels well above those observed prior to 2020, evidencing that a return to the pre-pandemic situation has yet to come.

Indirect interconnections through common holdings of financial assets remained high, largely owing to common holdings of sovereign debt. By analysing the marketable securities portfolios of the different financial sectors, issuers whose securities have been acquired by more than one sector and their share of all common holdings in each sector's portfolios can be identified. By volume, the banking sector has the most common holdings with other sectors,

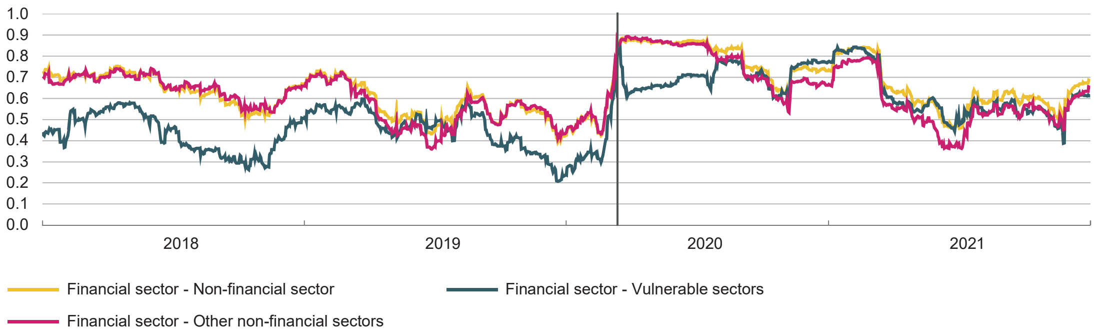
58 The economic sectors identified as the most vulnerable to the pandemic are the following: (i) accommodation and food services (hospitality); ii) arts, entertainment and recreation services; and iii) transportation and storage. See Chapter 4 of the AMCESFI *Annual Report 2020*.

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.

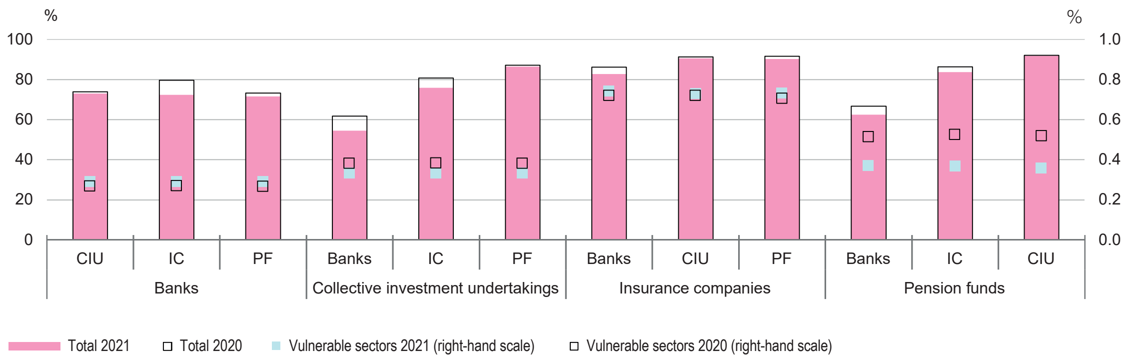
a The indicator of correlation between asset classes takes correlation pairs calculated drawing on daily data in 3-month windows. The asset classes are sovereign debt, corporate bonds of financial and non-financial institutions and equity securities of financial institutions, utilities and all other 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 March.

as it is also the sector with the largest securities portfolio. However, in relative terms, the percentages are similar to the common holdings of the other sectors (see Chart 4.2).[59] Holdings of government debt (especially that issued by Spanish public sector entities) account for a large part of the common holdings. In the case of banks, around 45% of all common holdings with the other financial sectors are government debt holdings, while for insurance companies this percentage is around 60%. In the case of CIUs and pension funds, between 16% and 35% of their common holdings with the other financial sectors are also government debt securities. The declines observed, particularly for CIUs and pension funds, are to a greater extent due to the increase in the denominator (total portfolio of asset holdings), rather than to decreases in the numerator (common holdings).

59 At December 2021, the banking sector portfolio amounted to some €640 billion at market price, while the non-bank financial sector portfolios were much smaller: €271 billion for insurance companies, €306 billion for investment funds and €128 billion for pension funds.

Chart 4.2 Common holdings of marketable securities as a % of the total marketable securities portfolio. December 2021



SOURCE: ECB (Securities Holdings Statistics by Sector).
NOTE: The abbreviations IC, CIU and PF denote insurance companies, collective investment undertakings and pension funds. The chart depicts common holdings of marketable securities, i.e. holdings of securities issued by the same issuer. For example, taking their market value, the common holdings between banks and collective investment undertakings account for 73% of bank portfolios and for 55% of collective investment undertaking portfolios. The market value of the holdings is considered.

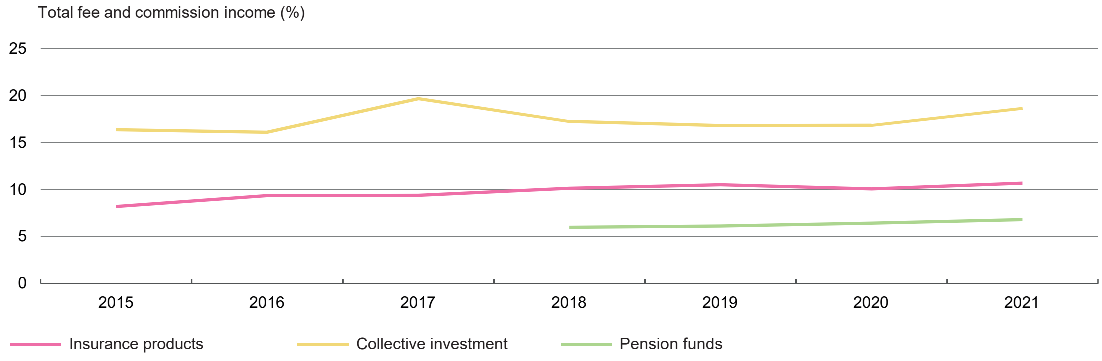
In particular, the market value of the banking and insurance sectors' portfolios decreased slightly (around 3% in the case of banks and 2% in that of insurance companies), while that of CIUs' and pension funds' portfolios increased substantially (around 16% and 7%, respectively). Common holdings of securities issued by firms classified into vulnerable sectors are relatively small for all financial sectors. There were minor changes in the share of these holdings relative to 2020, but in 2021 it was still below 1% of the marketable securities portfolio across all sectors.

Fee and commission income in the banking sector has increased in recent years, as has the proportion associated with the marketing of insurance and collective investment products. As noted earlier, the link between financial sectors also materialises through the business model. Fee and commission income linked to the banking sector's business in Spain increased between December 2015 and December 2021 by around 25%, standing near €16.9 billion at end-2021. The factors behind this increase include fees and commissions for marketing insurance and collective investment products, whose share in total fee and commission income has increased. Specifically, they have grown from accounting for 16% and 8%, respectively, in 2015 to nearly 19% and 11%, respectively, at end-2021 (see Chart 4.3).

Investing in derivatives leads to better risk management within the financial system, but is also an additional source of interconnection between the banks comprising it. Swaps are a key element in life insurance companies' joint management of assets and liabilities,[60] but they also entail a significant exposure

60 Insurance companies use swap transactions to exchange a bond portfolio's flows for fixed flows, which relate to the probable flows of a set of liabilities at the time a derivative is taken out, with the aim of replicating expected cash flows from insurance obligations with those of the bank's asset portfolio.

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 ECB (Securities Holdings Statistics by Sector).
NOTE: For fees and commissions relating to the marketing of pension funds no data are available before 2018.

to banks' counterparty risk. The market value of these exposures is not significant relative to insurance companies' assets, but their importance stems from their key role in the management of long-term life insurance portfolios and from the increase in technical provisions deriving from the existence of mismatches. There are very few interconnections through derivatives with CIUs because the regulations to which they are subject limit these types of operations for them.[61] Thus, at end-2021 CIUs' counterparty risk to credit institutions amounted to 0.1% of the total net assets invested. This figure is equal to credit institutions' counterparty risk to CIUs.

61 See Law 35/2003 of 4 November 2003 on Collective Investment Undertakings.

5 European Systemic Risk Board Recommendations relevant to AMCESFI

The ESRB regularly issues recommendations aimed at preventing or mitigating systemic risks and vulnerabilities, which are addressed to AMCESFI or its member institutions. The ESRB, which brings together EU central banks and regulatory and supervisory authorities for banks, securities and insurance, makes recommendations to the national macroprudential authorities (AMCESFI in the case of Spain), designated supervisory and resolution authorities, and Member States' governments (Banco de España, CNMV, DGSFP, the Spanish executive resolution authority (FROB) and the Government), as well as to European authorities, such as the European commission, the European Banking Authority (EBA), ESMA, EIOPA, ECB Banking Supervision and the Single Resolution Board. Table 5.1 describes the recommendations issued by the ESRB in 2021.

In 2021 the ESRB issued three recommendations relevant to the Banco de España on voluntary reciprocity for the macroprudential policy measures implemented in France, Luxembourg and Norway. 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. Luxembourg (ESRB/2021/2) implemented a measure consisting of loan-to-value (LTV) limits for new mortgage loans on residential immovable property located in Luxembourg. Norway (ESRB/2021/3) introduced (i) a systemic risk buffer rate for exposures in Norway, and (ii) average risk weight floors for residential and commercial real estate exposures in Norway to calculate the capital requirements of credit institutions using advanced IRB models. France (ESRB/2021/6) tightened the large exposure limit for systemically important institutions' exposures to highly indebted large NFCs having their registered office in France to 5% of their Tier 1 capital. Based on the relative importance thresholds set by each of the recommendations, and considering the low materiality of the Spanish banking system's exposures to each of these countries, the Banco de España resolved not to reciprocate any of these measures.[62]

The ESRB also published a recommendation on the establishment of a pan-European systemic cyber incident coordination framework.[63] The pandemic highlighted the key role technology plays in the operation of the financial system. Major cyber incidents may pose a systemic risk to the financial system given their potential to disrupt critical financial services and operations and, accordingly, the

62 See the section on reciprocity for macroprudential measures in the EU on the Banco de España website.

63 See the press release "ESRB recommends establishing a systemic cyber incident coordination framework" of 27 January 2022.

Table 5.1 Recommendations issued by the ESRB in 2021

ESRB recommendation	AMCESFI	Banco de España	CNMV	DGSFP	FROB	Government	European Commission	ECB	EBA	ESMA	EIOPA
Recommendation ESRB/2021/17 of 2 December 2021 on a pan-European systemic cyber incident coordination framework for relevant authorities						■	■	■	■	■	■
Recommendation ESRB/2021/9 of 2 December 2021 on reform of money market funds							■				
Recommendation ESRB/2021/2 of 24 March 2021 amending Recommendation ESRB/2015/2 on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures - Luxembourg		■									
Recommendation ESRB/2021/3 of 30 April 2021 amending Recommendation ESRB/2015/2 on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures - Norway		■									
Recommendation ESRB/2021/6 of 26 July 2021 amending Recommendation ESRB/2015/2 on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures - France		■									

SOURCE: Devised by AMCESFI.
NOTE: The shaded cells denote the authorities to which each recommendation is addressed.

financial authorities need to be prepared and coordinated in the event that they materialise. Recommendation ESRB/2021/17 proposes a framework that aims to strengthen coordination between authorities within the EU and with other key actors at international level. Its adressees include the governments of the Member States which should designate – from among their relevant national authorities and by 30 June 2023 – a main point of contact which should be communicated to the EBA, EIOPA and ESMA.

The ESRB also issued a recommendation on the reform of money market funds (MMFs).[64] Recommendation ESRB/2021/9 is part of the preparatory work for the European Commission's 2022 review of the European MMF regulation. The crisis triggered by COVID-19 highlighted certain persisting systemic vulnerabilities in connection with MMF private debt segments. Among other proposals, the ESRB recommends introducing new requirements regarding public debt asset holdings and enhancing stress test frameworks.

64 See the press release "ESRB recommends increasing the resilience of money market funds" of 25 January 2022.

In 2021 the ESRB decided not to extend its recommendation on restrictions of capital distributions in the financial system owing to the pandemic. The improved economic outlook in September 2021 and the encouraging results of the stress tests conducted in 2021 on the banking sector by the EBA and ECB Banking Supervision led the General Board of the ESRB[65] to allow Recommendation ESRB/2020/7[66] on the distribution of dividends and variable remuneration affecting various sectors of the EU financial system to expire as of 1 October 2021. However, the ESRB reconfirmed the need for EU financial institutions to remain prudent when deciding on capital distributions.

Lastly, the ESRB periodically assesses addressees' compliance with its recommendations. Recommendations issued by the ESRB are not binding, but they are subject to a general "act or explain" principle. The ESRB conducts periodic assessment exercises to determine the degree of addressee compliance with its recommendations. Annex 2 describes the ESRB recommendations that have been addressed to all Member States since 2011, specifying the Spanish addressee authority or authorities, as well as the degree of compliance where the ESRB compliance assessment report is available.

65 See ESRB press release "The General Board of the European Systemic Risk Board held its 43rd regular meeting on 23 September 2021" of 24 September 2021.

66 Subsequently amended by Recommendation ESRB/2020/15.

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 3M 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. Consolidated data

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

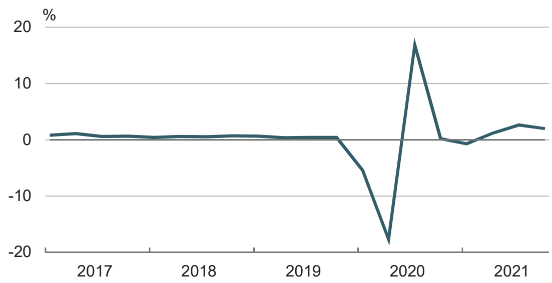
4 Assets of insurers and pension funds

5 Banking sector liabilities, by sector

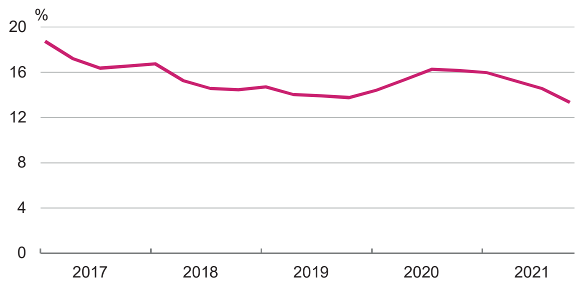
6 Systemic risk indicator

Chart A1.1 Macroeconomic risk

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

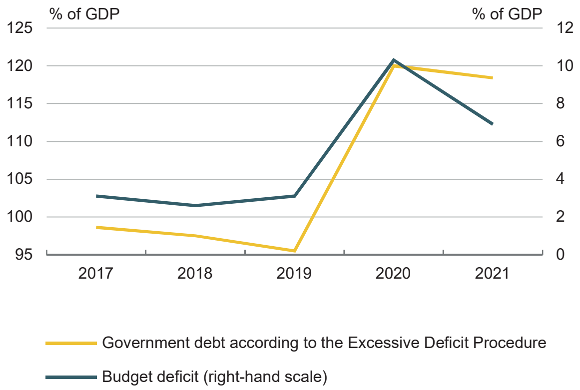


2 Unemployment rate according to the LFS



3 Inflation according to headline HICP (b)

4 Government debt and deficit

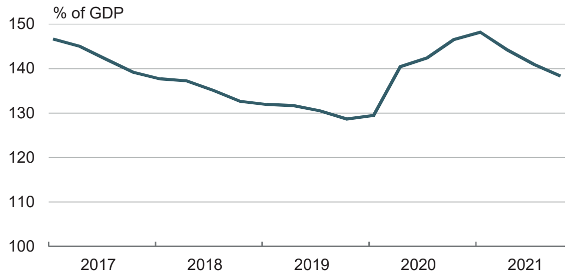


SOURCES: Ministerio de Asuntos Económicos y Transformación Digital.

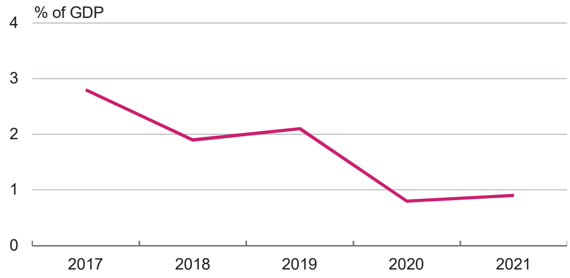
a Quarterly rate of change.
b Annual rate of change.

Chart A1.1 Macroeconomic risk (cont'd)

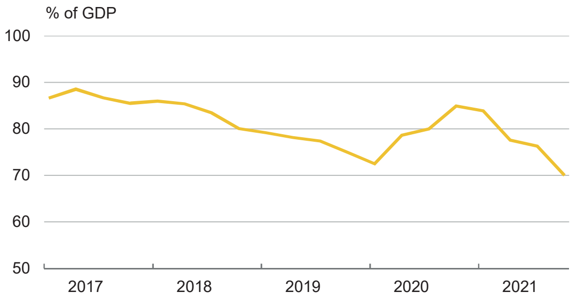
5 Resident private sector debt, consolidated (a)



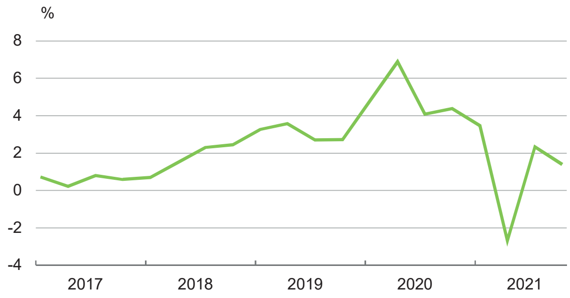
6 Current account balance



7 Negative net international investment position



8 Unit labour costs (b)

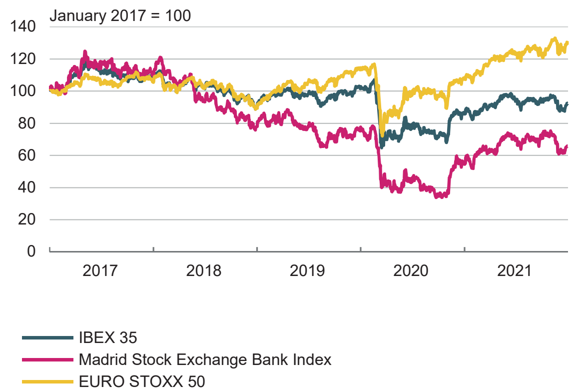


SOURCE: Ministerio de Asuntos Económicos y Transformación Digital.

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

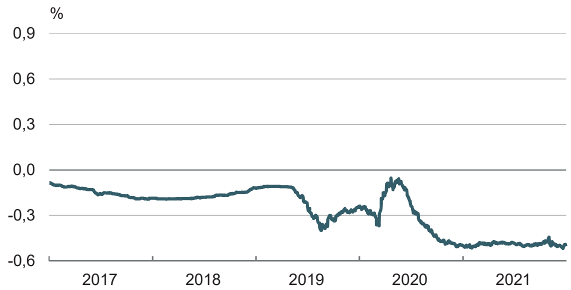
Chart A1.2 Market risk

1 Equity markets

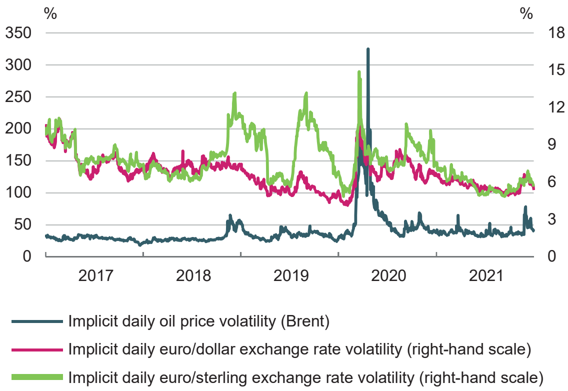


2 10-year government bond yield

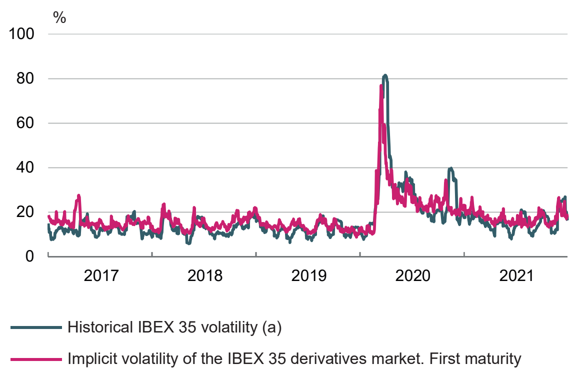
3 1-year EURIBOR



4 International market volatility



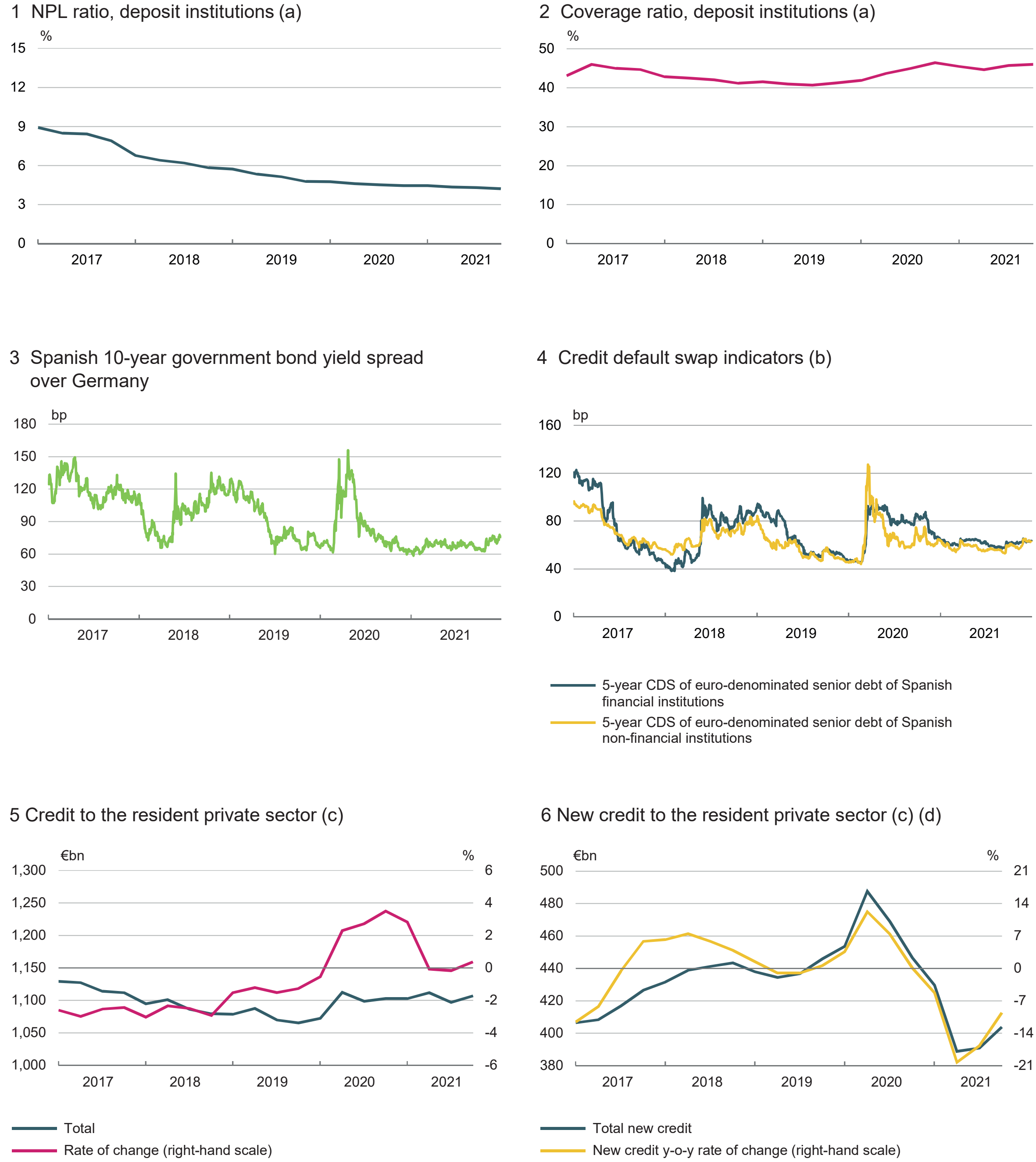
5 IBEX 35 volatility



SOURCE: Datastream.

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

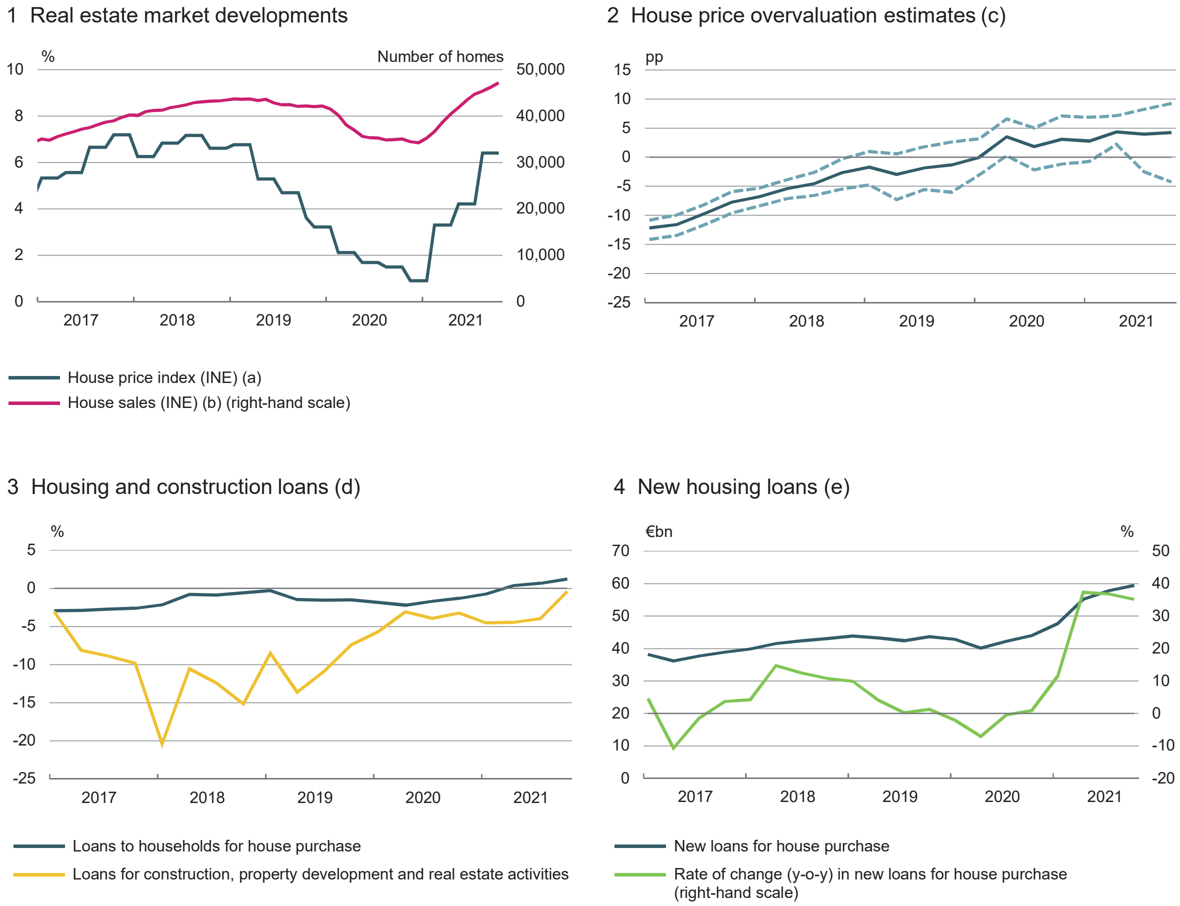
Chart A1.3 Credit risk



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

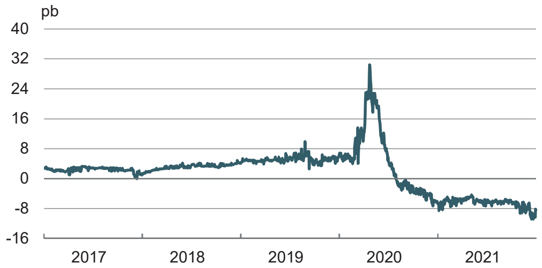


SOURCE: Banco de España.

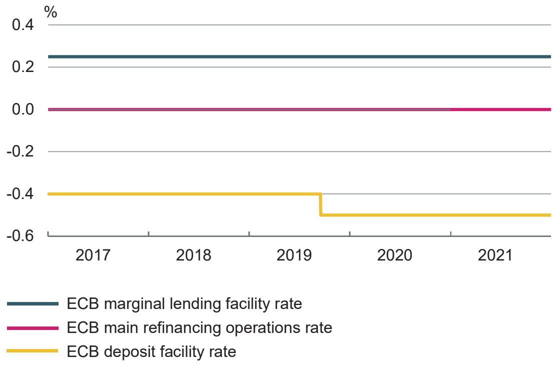
a Year-on-year rate of change.
b 12-month moving average.
c The solid and broken lines denote, respectively, the average, minimum and maximum values of a set of four indicators for changes in real estate sector prices vis-à-vis their long-term trends: (i) house price gap with respect to the long-term 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 a 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.

Chart A1.5 Liquidity and funding risk

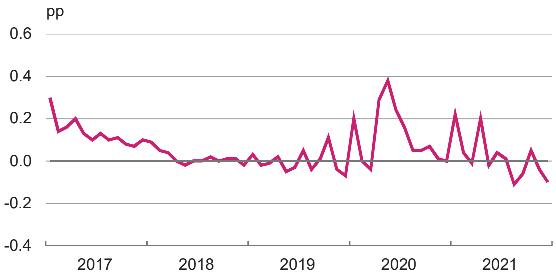
1 3M LIBOR-OIS spread



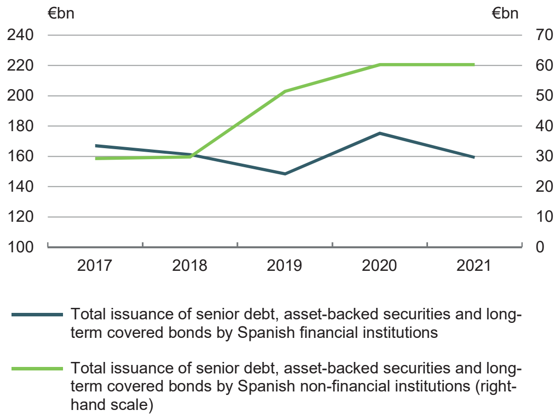
2 Eurosystem monetary policy interest rates



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



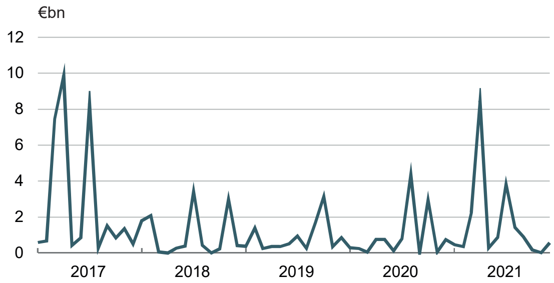
4 Bond issuances



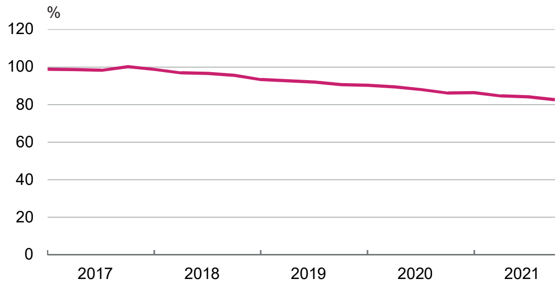
SOURCES: Banco de España, ECB and CNMV.

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

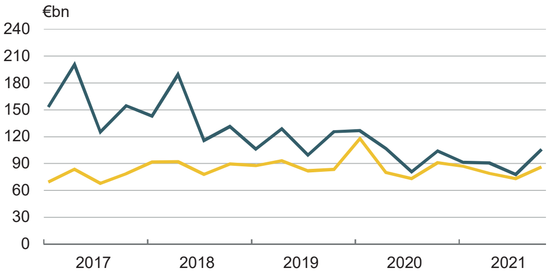
5 Equity issuances by Spanish firms



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



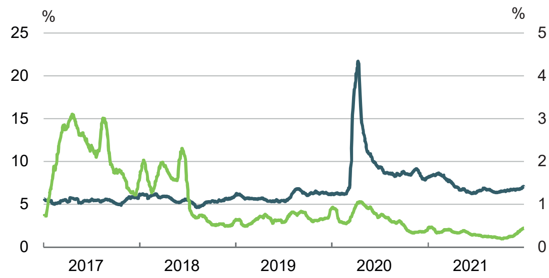
7 Trading of Spanish equities



Spanish equities traded on Spanish stock market

Spanish equities traded on foreign stock markets (Chi-X, Turquoise, BATS and others)

8 Bid-ask spreads



IBEX 35 bid-ask spread

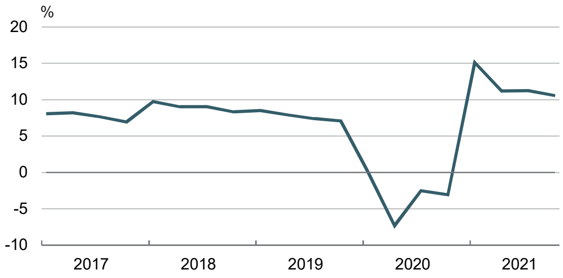
10-year sovereign bond bid-ask spread (right-hand scale)

SOURCES: CNMV and Banco de España.

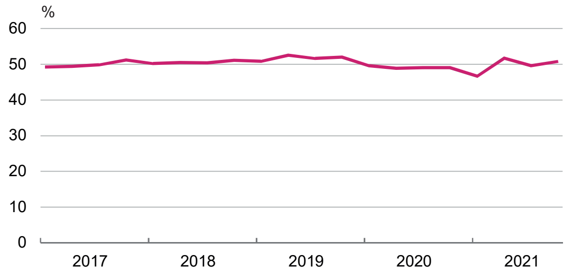
a Households and NFCs.

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

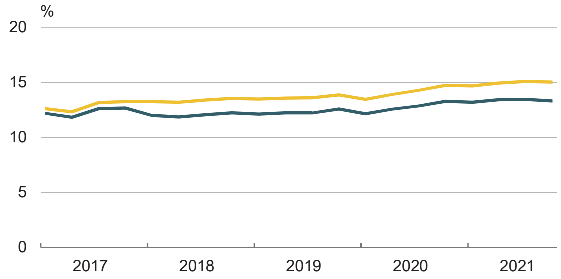
1 Return on equity (ROE) (a)



2 Cost-to-income ratio (b)

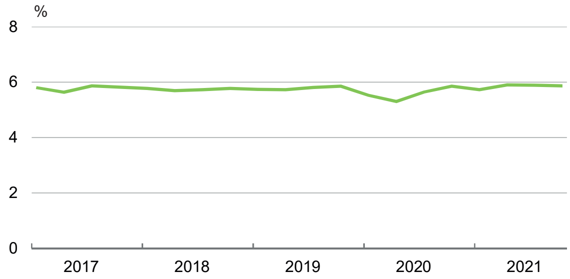


3 Capital ratios



Tier 1 capital ratio (phase-in)
CET1 ratio (phase-in)

4 Leverage ratio (phase-in)

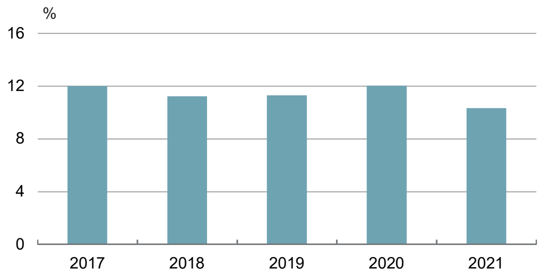


SOURCES: Banco de España.

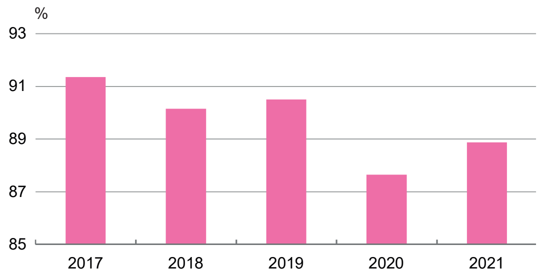
a Net income as a proportion of average equity.
b Operating costs as a proportion of gross income.

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

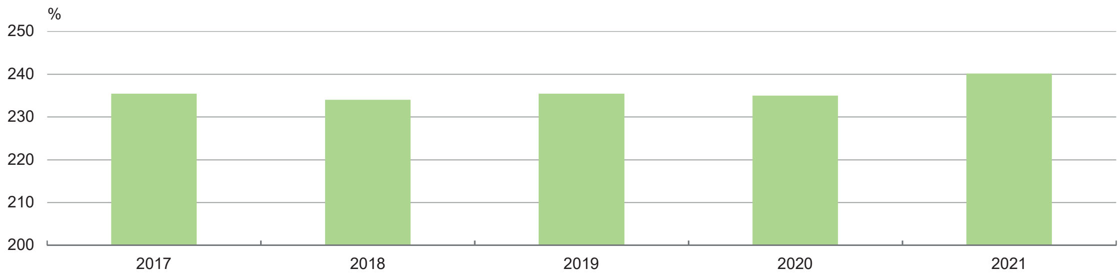
5 Return on equity (ROE)



6 Gross non-life combined ratio



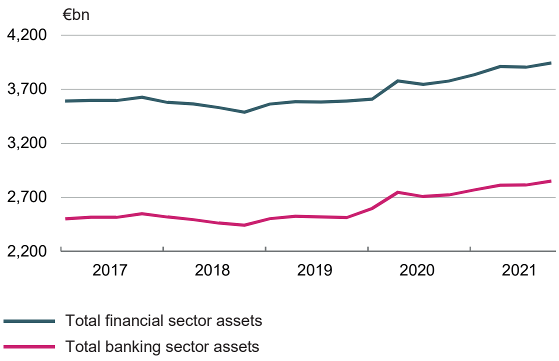
7 Solvency ratio



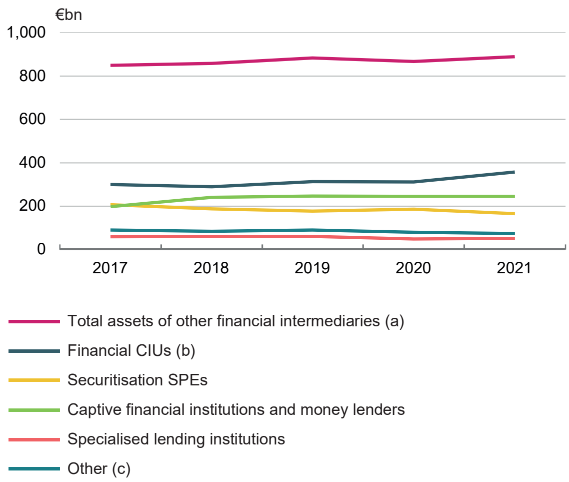
SOURCE: DGSFP.

Chart A1.7 Structural risks and interconnectedness

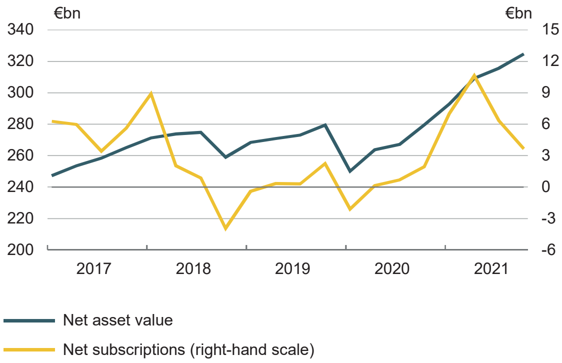
1 Financial sector assets



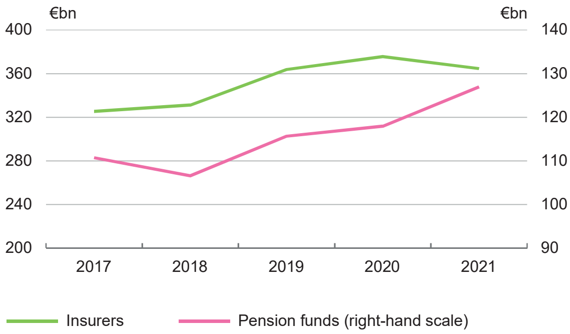
2 Assets of other financial intermediaries



3 Investment funds



4 Assets of insurers and pension funds

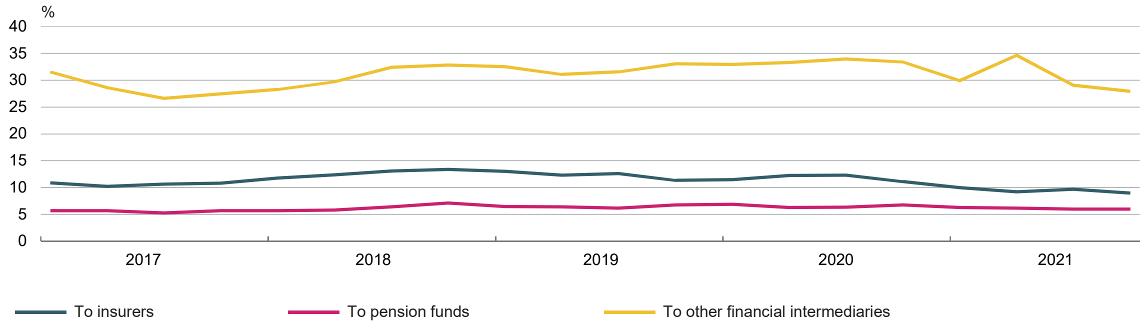


SOURCES: CNMV, DGSFP and Banco de España.

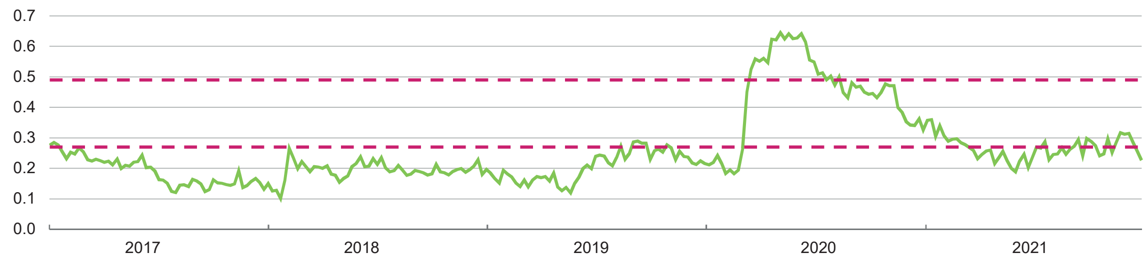
a The 2021 data are provisional.
b Includes investment funds (including money market funds), open-end investment companies and hedge funds.
c From 2020, not including assets belonging to Sareb, which was reclassified in the general goverment sector.

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.

Annex 2 Recommendations issued by the European Systemic Risk Board relevant to AMCESFI member institutions

Table A2.1. Recommendations issued by the ESRB relevant to the authorities

ESRB recommendation	AMCESFI	Banco de España	CNMV	DGSFP	FROB	Government
Recommendation ESRB/2021/17 of 2 December 2021 on a pan-European systemic cyber incident coordination framework for relevant authorities						
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 fisçal 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						
Recommendation ESRB/2020/6 of 25 May 2020 on liquidity risks arising from margin calls		SE	FC/LC	SE		
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/2015/1 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/2013/1 of 4 April 2013 on intermediate objectives and instruments of macro-prudential policy	LC (a)					LC
Recommendation ESRB/2012/2 of 20 December 2012 on funding of credit institutions		FC				
Recommendation ESRB/2011/3 of 22 December 2011 on the macro-prudential mandate of national authorities						PC (b)
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).

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

b At the date of assessment of this Recommendation AMCESFI had not yet been created in Spain and the regulatory development of this issue was still in process. Therefore, this classification does not reflect the current degree of compliance with the Recommendation.

Annex 3 Key publications by AMCESFI member institutions and their staff

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 2021 and June 2022. For publications relating to 2021 H1, see Annex 2 of the AMCESFI Annual Report 2020.

Banco de España

Financial Stability Report, spring 2022

Financial Stability Report, autumn 2021

Supervision Report 2021

Annual Report 2021

"Uncertainty, non-linear contagion and the credit quality channel: an application to the Spanish interbank market"
Adrián Carro and Patricia Stupariu
Working Paper No 2212, Banco de España (2022)

"Roots and Recourse Mortgages: Handing back the keys"
Jorge E. Galán, Matías Lamas and Raquel Vegas
Working Paper No 2203, Banco de España (2022)

"Distressed firms, zombie firms and zombie lending: a taxonomy"
Laura Álvarez, Miguel García-Posada and Sergio Mayordomo
Working Paper No 2219, Banco de España (2022)

"Asset Holdings, Information Aggregation in Secondary Markets and Credit Cycles"
Henrique Basso
Working Paper No 2214, Banco de España (2022)

"Heterogeneous effects and spillovers of macroprudential policy in an agent-based model of the UK housing market"
Adrián Carro, Marc Hinterschweiger, Arzu Uluc and J. Doyne Farmer
Working Paper No 2217, Banco de España (2022)

"Designing a price index for the Spanish commercial real estate market"
Matías Lamas and Sara Romaniega
Occasional Paper No 2203, Banco de España (2022)

"Sectorial holdings and stock prices: the household-bank nexus"
Matías Lamas and David Martínez-Miera
Working Paper No 2130, Banco de España (2021)

"Asset encumbrance and bank risk: theory and first evidence from public disclosures in Europe"
Albert Banal-Estañol, Enrique Benito, Dmitry Khametshin and Jianxing Wei
Working Paper No 2131, Banco de España (2021)

"The impact of COVID-19 on analysts' sentiment about the banking sector"
Alicia Aguilar and Diego Torres
Working Paper No 2124, Banco de España (2021)

"Cyclical dependence in market neutral hedge funds"
Julio A. Crego and Julio Gálvez
Working Paper No 2141, Banco de España (2021)

"How do central banks identify risks? A survey of indicators"
Carmen Broto (coord.)
Occasional Paper No 2125, Banco de España (2021)

"Recent developments in financing and bank lending to the private non-financial sector. First half of 2021"
Pana Alves, Jorge Galán, Luis Fernández Lafuerza and Eduardo Pérez Asenjo
Analytical Articles, *Economic Bulletin* 3/2021, Banco de España

"Developments in business solvency and demographics in Spain since the outbreak of the pandemic"
Roberto Blanco and Marina García
Analytical Articles, *Economic Bulletin* 3/2022, Banco de España

"Risk and control in complex banking groups"
Isabel Argimón and María Rodríguez-Moreno
Journal of banking and finance, Vol. 134, Art. 106038, January 2022

"Reflections on the future business model of European banks and the supervisory approach"
Julio R. Hernáez, Alejandra Bernad, Laura Hierro and Ana M. Gómez-Bezares
Financial Stability Review No 42, spring 2022, Banco de España

“Bank fees and charges: economic analysis, legal framework and relevance for financial stability”
Alejandro Ferrer and Álvaro Pereda
Financial Stability Review No 42, spring 2022, Banco de España

“Wholesale financial markets and digital currencies: making headway in the tokenisation of central bank money”
Sergio Gorjón
Financial Stability Review No 42, spring 2022, Banco de España

“Sectoral indicators for applying the Banco de España’s new macroprudential tools”
Carmen Broto, Esther Cáceres and Mariya Melnychuk
Financial Stability Review No 42, spring 2022, Banco de España

“The first ten years of the European Systemic Risk Board (2011-2021)”
Luis Gutiérrez de Rozas
Financial Stability Review No 42, spring 2022, Banco de España

“An initial analysis of energy transition risks using the Banco de España’s FLESB stress-testing framework”
Alejandro Ferrer, Javier García Villasur, Nadia Lavín, Irene Pablos Nuevo and Carlos Pérez Montes
Financial Stability Review No 41, autumn 2021, Banco de España

“Measuring interconnectedness across institutions and sectors”
Julio Gálvez
Financial Stability Review No 41, autumn 2021, Banco de España

“Strengthening the cyber resilience of the financial sector. Developments and trends”
Silvia Senabre, Iván Soto and José Munera
Financial Stability Review No 41, autumn 2021, Banco de España

“Regulating for competition with BigTechs: banking-as-a-service and “beyond banking”
José Ramón Martínez Resano
Financial Stability Review No 41, autumn 2021, Banco de España

“Regulatory developments in bank solvency, recovery and resolvability”
Ignacio Colomer, Sara González Losantos, María López Pérez and Luis Mohedano Gómez
Financial Stability Review No 41, autumn 2021, Banco de España

"Programme of the third Conference on Financial Stability of the Banco de España and CEMFI"
Financial Stability Review No 41, autumn 2021, Banco de España

Comisión National Securities Market Commission

Financial Stability Note No 21, January 2022

Financial Stability Note No 20, October 2021

Financial Stability Note No 19, July 2021

Non-bank financial intermediation in Spain. Financial year 2020

Annual report 2020

"Requerimientos de garantía, tensiones de liquidez y medidas anticíclicas en el marco del EMIR: recomendaciones del ESRB y reformas en marcha"
Laura del Campo
Boletín Trimestral, I/2022, de la CNMV

"Integración del seguimiento del riesgo climático en la supervisión prudencial, de conducta y macroprudencial de la CNMV"
María José Gómez Yubero
Boletín Trimestral, I/2022, de la CNMV

"Analysis of the behaviour of retail investors in the financial markets during the COVID-19 crisis"
Guillermo Cambronero Pérez and Gloria Ruiz Suárez
Working Paper No 78, CNMV

"How securitisation has evolved since the financial crisis"
Jesús González Redondo
CNMV Bulletin, Quarter IV 2021

"Characteristics of sustainable Spanish CISs in 2020"
Maria Isabel Cambón and Anna Ispierto
Working Paper No 77, CNMV

"Sustainable Development Goals, sustainability indices and corporate governance: an analysis of Spanish listed companies"
Irma Martínez García and Silvia Gómez Ansón
CNMV Bulletin, Quarter III 2021

“Climate and sustainability benchmarks and their contribution to compliance with Sustainable Development Goals”
María José Gómez Yubero and Bárbara Gullón Ojesto
CNMV Bulletin, Quarter III 2021

“Periodic public information on investment funds and how it influences investors’ decisions”
Ramiro Losada
Working Paper No 76, CNMV

Ministry of Economic Affairs and Digital Transformation

“Economic policy response to the pandemic: a comprehensive view”
Gonzalo García Andrés
ICE, Revista de Economía, No 923, December 2021

“The Recovery, Transformation and Resilience Plan: investments and reforms”
Elena Aparici Vázquez de Parga
ICE, Revista de Economía, No 924, February 2022

“The emergence of stablecoins: evolution, risks and regulatory framework”
Diego Villafáñez Sagardoy and Pedro J. Cuadros-Solas
ICE, Revista de Economía, No 926, June 2022

“The introduction of the sandbox in the Spanish fintech ecosystem”
Isabela Delgado Ruíz-Gallardón and Joan Rodríguez i-Salleras
ICE, Revista de Economía, No 926, June 2022

“The development of digitalisation and financial inclusión”
Javier Hernández López, Luis Pascual Hernández and Ángel Rodríguez González
ICE, Revista de Economía, No 926, June 2022

“El primer año de andadura del sandbox en España”
Isabela Delgado Ruiz-Gallardón and Andrés Barragán Urbiola
Dinero digital y sistemas de pago 2022, FIDE

Directorate General of Insurance and Pension Funds

Informe de Seguros y Fondos de Pensiones 2020

Glossary

AIFMD	Alternative Investment Fund Managers Directive
AMCESFI	*Autoridad Macroprudencial Consejo de Estabilidad Financiera* (Spanish macroprudential authority)
APP	Asset purchase programme
ATA	Average total assets
bn	Billion
bp	Basis points
CCyB	Countercyclical capital buffer
CET1	Common Equity Tier 1
CIUs	Collective investment undertakings
CNMV	*Comisión Nacional del Mercado de Valores* (National Securities Market Commission)
COVID-19	Coronavirus disease 2019
CPI	Consumer price index
DeFi	Decentralised finance
DGSFP	*Dirección General de Seguros y Fondos de Pensiones* (Directorate General of Insurance and Pension Funds)
EBA	European Banking Authority
ECB	European Central Bank
EIOPA	European Insurance and Occupational Pensions Authority
ESMA	European Securities and Markets Authority
ESRB	European Systemic Risk Board
EU	European Union
EUR	Euro
FROB	Spanish executive resolution authority
FSB	Financial Stability Board
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)
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)
LFS	Labour force survey
LTV	Loan-to-value
MiCA	Markets in Cryptoassets
MMFs	Money market funds

NBFI	Non-bank financial intermediation
NFCs	Non-financial corporations
OIS	Overnight index swap
O-SII	Other systemically important institution
PEPP	Pandemic Emergency Purchase Programme
PF	Pension funds
pp	Percentage points
Q	Quarter
ROA	Return on assets
ROE	Return on equity
RWAs	Risk-weighted assets
TLTROs	Targeted longer-term refinancing operations
UCITS	Undertakings for collective investment in transferable securities
USD	United States dollar

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