2

RISKS TO THE FINANCIAL SECTOR AND ITS RESILIENCE

This chapter analyses the situation and outlook for the banking sector and other financial intermediaries after the first few months have passed since the outbreak of the pandemic. The initial financial impact has been cushioned by the economic policy response, in particular, credit support programmes and expansionary monetary policy. In this context, bank lending has grown since the end of March and the volume of non-performing loans (NPLs) has, to date, increased moderately. However, the provisions already made anticipate poorer behaviour in the future and have contributed to the fall observed in bank profitability in the first half of 2020. The sector's solvency has increased slightly, supported by the changes in European regulation of capital requirements. The results of the stress tests performed show that Spanish banks have a high capacity to absorb losses under the central scenario, which has been significantly boosted by the support measures implemented. Nonetheless, capital depletion can be expected to be significantly higher than in recent years, given the severity of the macroeconomic scenarios posed by the health crisis, both in Spain and at global level. As regards the non-bank financial sector, there were also some tensions at the start of the crisis that prompted significant withdrawals from investment funds, although the situation subsequently returned to normal.

2.1 Deposit institutions

2.1.1 Balance sheet structure, risks and vulnerabilities

Credit risk

Lending in Spain increased in 2020 for the first time since the 2008 financial crisis, with a notable flow of new lending to productive activity, supported by the measures taken to mitigate the effect of the pandemic. The outstanding balance of lending by deposit institutions in Spain grew by 2.5% year-on-year in June (see Chart 2.1). At the end of March, following the confinement measures, the pick-up largely occurred as a result of the use of credit facilities by large companies. In Q2, the main factor behind the rise in lending was the progressive activation of public guarantee facilities, which especially favoured SMEs. Indeed, of the €174 billion of new business loans to non-financial corporations (NFCs) and sole proprietors between December 2019 and June 2020, €71.5 billion (41%) was guaranteed by this programme[1]. This

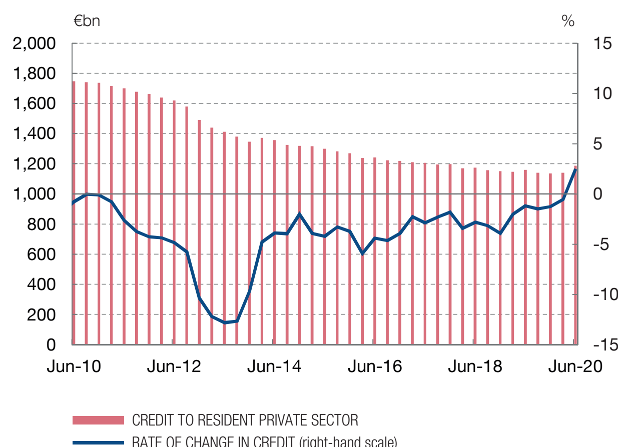
1 According to the updated information at the cut-off date of this FSR, the volume of financing with ICO guarantees amounted to €87 billion in June 2020, of which €71.5 billion corresponded to drawn down amounts, the remaining balance being available to draw down. The incorporation of more complete information on this financing facility has raised the amount drawn down to the current figure from the previously estimated amount of €62 billion, which was published in the Analytical Article "Recent developments in financing and bank lending to the non-financial private sector" (Economic Bulletin, 4/2020, Banco de España).

Chart 2.1

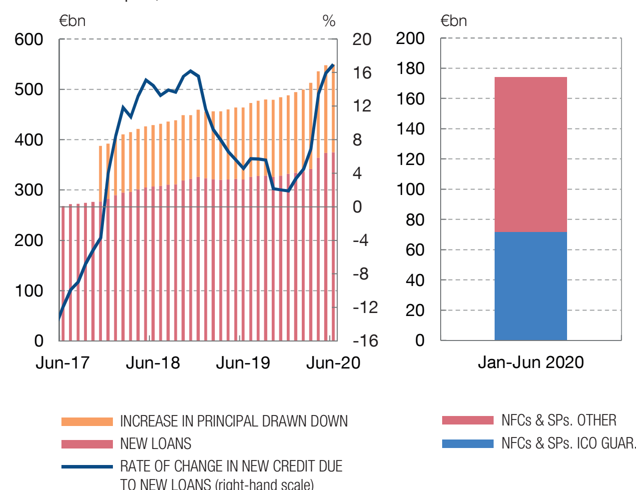
OWING TO THE IMPLICATIONS OF THE COVID-19 CRISIS, CREDIT HAS INCREASED IN YEAR-ON-YEAR TERMS FOR THE FIRST TIME SINCE THE END OF THE FINANCIAL CRISIS

Credit has increased over the past year, by 2.5%, for the first time since the end of the 2008 financial crisis. The use of credit lines in Q1 and the public guarantee programme managed by the ICO in Q2 have helped to sustain credit in this period, mitigating the adverse effect of the COVID-19 crisis on the real economy. A significant part of the new credit granted to productive activities in the first half of the year (approximately 41%) was guaranteed by the State.

1 CREDIT VOLUME AND YEAR-ON-YEAR RATE OF CHANGE
BUSINESS IN SPAIN, ID



2 VOLUME OF NEW CREDIT IN THE PAST 12 MONTHS AND YEAR-ON-YEAR RATE OF CHANGE. HOUSEHOLDS AND NON-FINANCIAL CORPORATIONS (a) (b)
Business in Spain, ID



SOURCE: Banco de España.

a Prior to 2017 information was not available on the increase in the principal drawn down against existing loans. Consequently, the first data item for this series, accumulated over twelve months, is represented in December 2017. The rate of change shown only refers to new loans.

b The ancillary right-hand panel shows drawn down credit corresponding to new business (excluding increases in the amount of principal drawn down) with non-financial corporations and sole proprietors between January and June, distinguishing the portion covered by the ICO guarantee programme.

measure has played a key role in mitigating the effects of the pandemic on firms and, therefore, on economic activity in Spain. It should be noted that part of this credit is being held as liquidity buffers which, while unused, entail lower growth in net indebtedness (see sub-section 1.3.1 and the discussion of financing and liquidity conditions later on in this chapter). The deposits of the NFC sector at DIs increased by close to €32 billion between March and June 2020, with quarter-on-quarter growth of 12.1%. Conversely, the downward trend in lending to households intensified to some extent, with a significant fall in consumer credit.[2] As indicated in Chapter 1, households also increased their deposits with DIs, but not necessarily homogeneously.

The COVID-19 pandemic is having a very adverse impact on economic activity, although, so far, the pass-through to growth in NPLs has only been moderate.

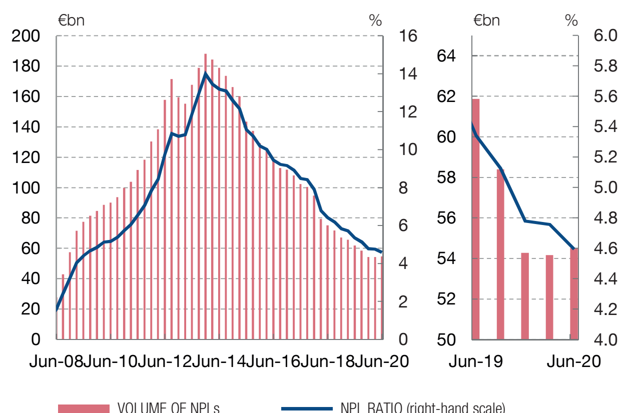
2 For a detailed analysis of credit developments by sector, see *Recent developments in financing and bank lending to the non-financial private sector,* Analytical Article, Economic Bulletin 4/2020, Banco de España.

Chart 2.2

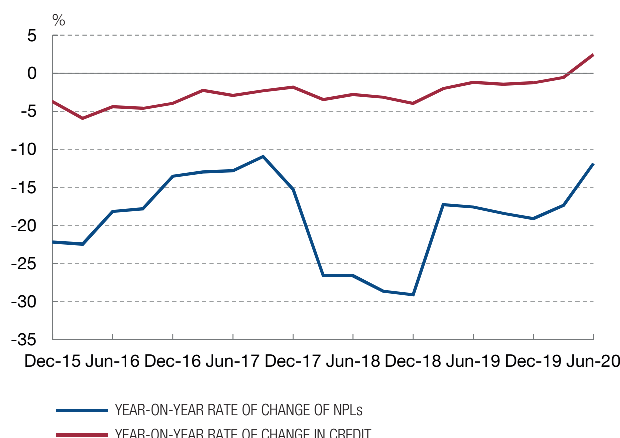
THE NPL RATIO CONTINUED TO DECLINE, OWING TO THE EXPANSION OF TOTAL BANK CREDIT, WHILE THE FALL IN FORBEARANCE SLOWED

Although the NPL ratio has continued to decline over the past year, a change has been observed in the dynamics of the numerator and denominator since the outbreak of the pandemic. While the fall in the ratio was previously based on a strong decline in NPLs and a more moderate fall in credit, it is now based on a significant rise in credit, which more than offsets the slowing of the year-on-year decline in NPLs and its slight quarter-on-quarter uptick. The rate of decline of forbearance slowed and this will foreseeably continue owing to the effects of the pandemic.

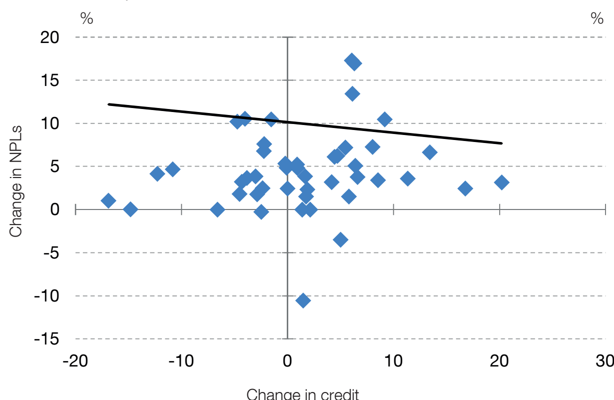
1 RESIDENT PRIVATE SECTOR'S NPLs AND NPL RATIO
Business in Spain, ID



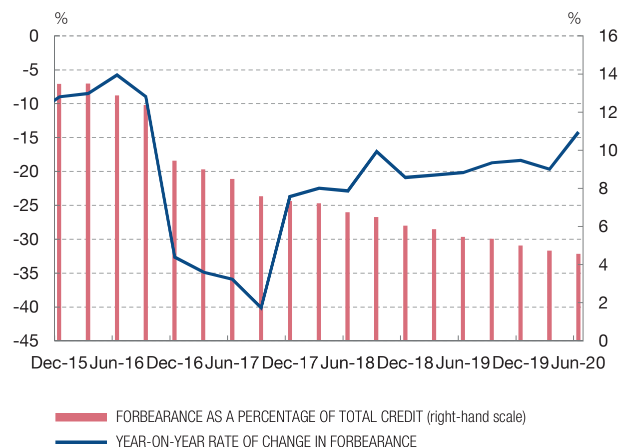
2 BEHAVIOUR OF NUMERATOR AND DENOMINATOR OF NPL RATIO
Business in Spain, ID



3 DISPERSION IN CHANGES IN CREDIT AND NPLs BETWEEN DECEMBER 2019 AND JUNE 2020
Business in Spain, ID



4 RESIDENT PRIVATE SECTOR FORBEARANCE
Business in Spain, ID



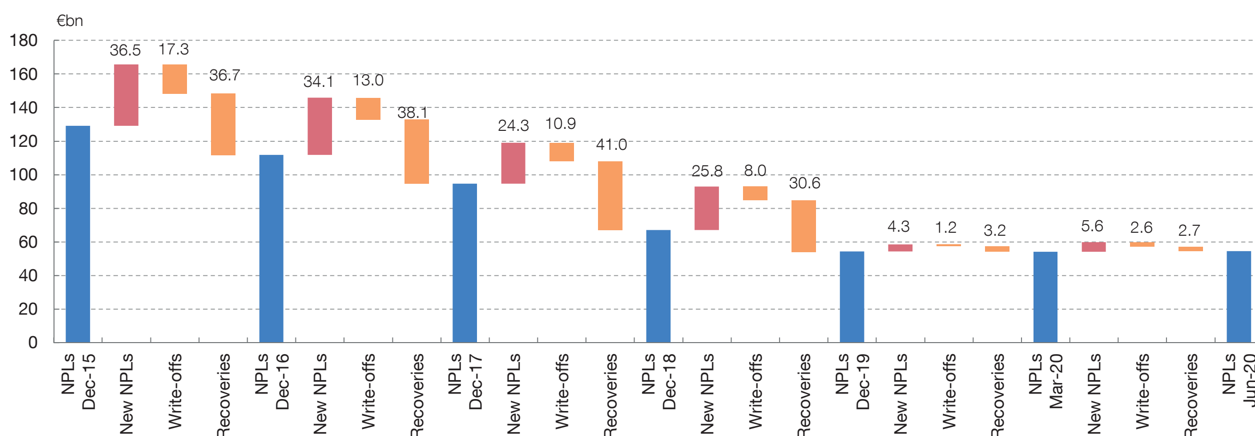
SOURCE: Banco de España.

The brake on activity may lead to a significant deterioration in the solvency of households and NFCs, which would affect their ability to meet their commitments to financial institutions. However, the fact that NPLs have only increased moderately so far (see Chart 2.2) would be due, first, to the above-mentioned measures to mitigate the effects of the crisis and, second, to there being some time lag between the deterioration in financial conditions for borrowers and the failure to pay a loan, and its classification as non-performing.

Chart 2.3

OWING TO THE PANDEMIC, LOAN RECOVERIES AND WRITE-OFFS HAVE FAILED TO FULLY OFFSET NEW NPLs, IN CONTRAST TO THE PERIOD SINCE 2013 (a)

In recent years new NPLs have been more than offset by write-offs and recoveries, which had been continuously reducing the outstanding balance of NPLs. In the last two quarters, however, this has not occurred, so that the volume of NPLs has stabilised. Although the inflow of new NPLs has not increased substantially in this period, the outflows of write-offs and recoveries have slowed notably.



SOURCE: Banco de España.

a The bars are presented together with the amount, in billions of euro, of each NPL inflow or outflow. The NPL recoveries include NPLs reclassified as performing, and foreclosed assets or potential sales of NPL portfolios to third parties.

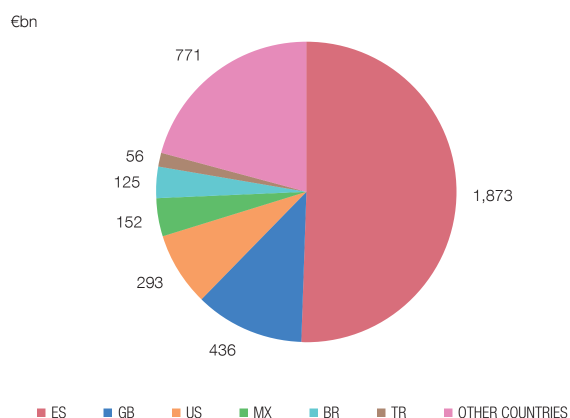
The NPL ratio for loans to the resident private sector, in the case of business in Spain, continued to decline, albeit at a more moderate rate than in recent years. Moreover, the behaviour of the determinants of its growth has changed. In recent years, the downward trend in the NPL ratio was based on sharp declines in the volume of NPLs (the numerator of the ratio), which more than offset the less significant reductions in total lending (the denominator, see Chart 2.2). Since December 2019, the decline in NPLs has been curbed, with a slight increase being recorded in 2020 Q2. However, the growth in lending mentioned above has enabled the ratio to continue to decline. It is possible that lending will be less expansionary in the second half of 2020 and that the deterioration in credit quality will be greater, in which case there would be upward pressure on the NPL ratio. It should be taken into account that both the guarantee programme for business loans and the loan moratoria programmes were launched rapidly in the preceding quarters and the same rate of growth cannot be expected for the rest of the year. Also, forbearance loans continued to decline year-on-year, although at slowing rates. Over the past 12 months, foreclosed assets fell by more than €11.6 billion (–28.9%). Real estate assets can be expected in this crisis to represent a smaller percentage of all problem assets than in the global financial crisis, and they will be concentrated to a greater extent in exposures to SMEs in the sectors most affected by the pandemic.

In the first half of 2020, and especially in Q2, new NPLs were not fully offset by recoveries and write-offs (see Chart 2.3). This contrasts with the developments

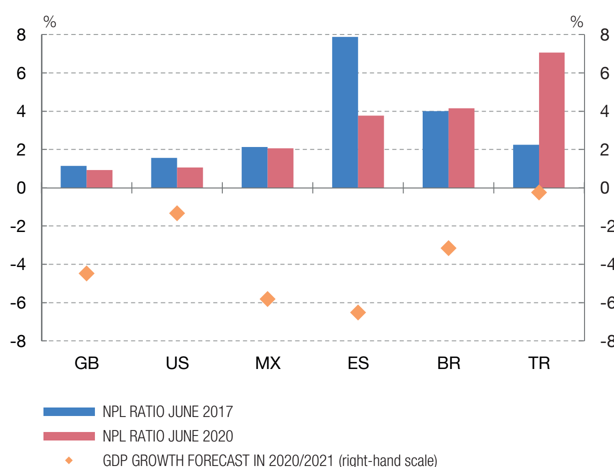
Chart 2.4
BUSINESS ABROAD MAKES UP HALF OF THE FINANCIAL ASSETS OF THE SPANISH BANKING SECTOR AND IS CONCENTRATED IN THE UNITED KINGDOM, UNITED STATES AND LATIN AMERICA

Financial assets abroad are concentrated in the United Kingdom, United States, Mexico and Brazil. In June 2020 these countries accounted for almost one third of the total financial assets of Spanish banks, while business in Spain accounted for approximately 50%. Business abroad is concentrated in larger institutions. The NPL ratio in Spain stood in June 2020 in an intermediate range in relation to other significant geographical areas. In recent years, NPL ratios abroad have remained steady (except in Turkey, where they have tripled over the last three years), but the deterioration in the macroeconomic outlook and financial situation of economic agents may lead to a marked deterioration in asset quality.

1 FINANCIAL ASSETS IN SPAIN AND ABROAD
Consolidated data. June 2020



2 NPL RATIO
Consolidated data



SOURCES: Banco de España and IMF (WEO October 2020).

since the end of the financial crisis of 2008, whereby recoveries and write-offs more than offset new NPLs in each period, leading to a constant decline in the stock of NPLs in Spain. The current crisis, may lead to a further increase in flows of new NPLs in coming quarters, which would be combined with greater difficulty for institutions to liquidate this type of problem assets through sales.

The consolidated assets of Spanish deposit institutions have also grown significantly over the last 12 months, at a year-on-year rate of 7% (see Annex 1). This growth was, first, the result of an increase in banking activity in Spain, where financial assets (mostly loans) increased in June 2020 by 10.8% year-on-year. At the same time, financial assets abroad, which account for half of consolidated financial assets, also grew, but to a lesser extent (6% year-on-year).

Given that the crisis is global, and highly synchronised, the foreign diversification of Spanish banking business may be less useful than in past crises to contain and mitigate risks. The foreign banking activity of Spanish deposit institutions continues to be concentrated in the United Kingdom, the United States, Mexico and Brazil (see Chart 2.4). The expansion of the pandemic globally has reduced economic growth expectations, severely affecting certain regions with a significant Spanish

bank presence, which may lead to a greater deterioration in the quality of bank assets. On a positive note, foreign banking business confronts this crisis with generally contained NPL ratios (2.9% on average in June 2020, 5 bp less than a year ago) except in Turkey (above 7%). Box 2.1 presents in greater detail the developments in banking sectors in which Spanish bank branches have significant activity.

Liquidity and financing conditions

The volumes allotted in the refinancing operations and the expansion of purchase programmes have involved a substantial increase in the liquidity provided by the Eurosystem (see Chart 2.5). The more favourable conditions[3] for long-term refinancing operations (TLTRO III) prompted euro area banks to bid en masse at the latest tenders in June and September, where a net amount of €706 billion of liquidity was provided.[4] Thus, more than 80% of the outstanding amount of refinancing operations is linked to the new, more favourable conditions. Spanish banks that had already obtained a significant volume of financing through the TLTRO IIs, refinanced these operations. However, their share of the total liquidity provided by the Eurosystem has fallen from 19% to 15%, owing to the increased share of other jurisdictions, where the relative increase in the need to resort to ECB liquidity has been greater than in the case of Spanish banks. Considering the different euro-denominated refinancing operations as a whole, the net financing obtained by European banks has increased by €861 billion,[5] to a total of €1.75 trillion. The ECB balance sheet has also expanded as a consequence of the additional allotment[6] of €120 billion until the end of the year for purchase programmes and the expansion[7] of the PEPP programme to a total of €1.35 trillion. Thus, the outstanding balance of purchase programmes has been increased by €709 billion, to a total of €3.5 trillion, as at the cut-off date of this FSR.

The tensions in the money markets in March[8] this year have not been repeated, despite fresh outbreaks of the pandemic, and a gradual reduction has been observed in the interest rates negotiated on money markets. The unsecured rate (€STR)[9] has declined constantly in recent months, and currently

3 As a result of the decision of the Governing Council of the ECB of 30 April 2020. Notable were the reduction in the interest rate (by 50 bp) on TLTRO III operations between 24 June 2020 and 23 June 2021, and the increase in the maximum amount that may be applied for from 30% to 50% of the stock of eligible loans.

4 This is the net amount applied for in the fourth and fifth rounds of TLTRO III (+€1,308 bn and +€175 bn) less the repayments of TLTRO II (–€388 bn) and of LTRO (–€389 bn).

5 This refers to the change in net financing obtained since the last FSR, which has increased by the net provision of the last two rounds of TLTRO III (+€706 bn), the additional amounts applied for in the LTRO before its repayment (+€132 bn), the PELTROs (+€24 bn) and the MRO (+€1 bn) less the repayment of LTRO (–€1 bn).

6 As a result of the decision of the Governing Council of the ECB of 12 March 2020.

7 As a result of the decision of the Governing Council of the ECB of 4 June 2020.

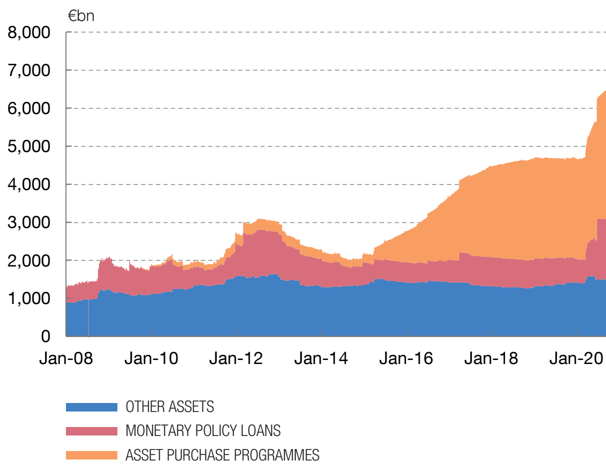
8 See also FSR, spring 2020.

9 This refers to the transactions used to calculate the €STR, which reflects the wholesale euro unsecured overnight borrowing costs of banks located in the euro area. The €STR and trading volume are calculated and published each business day by the ECB based on the information provided by the 48 euro area banks that report to MMSR.

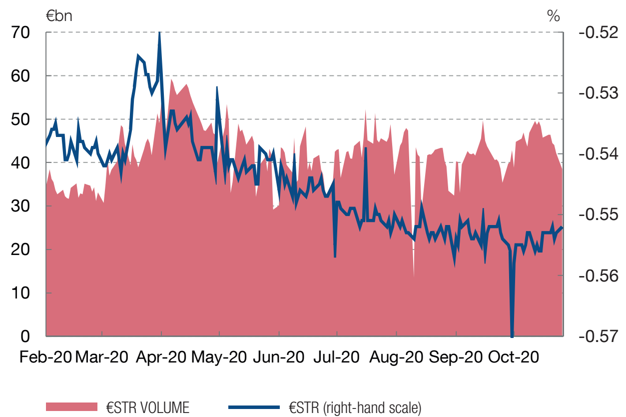
Chart 2.5
THE ECB'S REFINANCING OPERATIONS AND THE EXPANSION OF ITS PURCHASE PROGRAMMES HAVE DELIVERED MARKET CALM

The ECB's balance sheet has been expanded at an unprecedented rate, driven by the growth in refinancing operations and by the asset purchase programmes, reaching historic levels. This expansion has moderated the rates observed in the money markets and reduced tensions in currency transaction prices. Overall, European banks have increased their liquidity reserves and reduced their perception of the risk of their financing instruments.

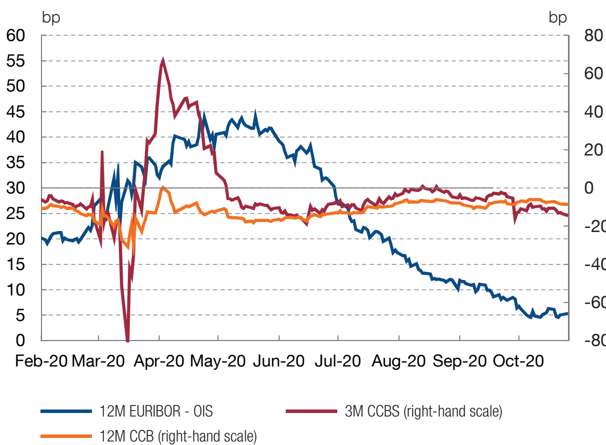
1 EUROSYSTEM BALANCE SHEET AND LIQUIDITY SURPLUS



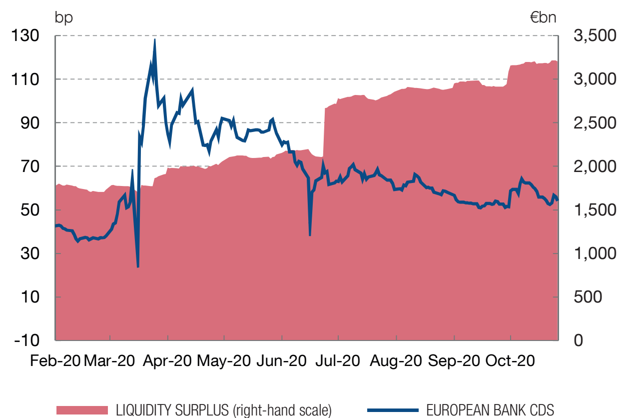
2 €STR VOLUMES AND RATES



3 EURIBOR-OIS SPREAD AND CROSS-CURRENCY BASIS (CCB) SWAP



4 LIQUIDITY AND CREDIT RISK



SOURCES: Bloomberg, Dealogic, Eikon, Thomson Reuters and Banco de España.

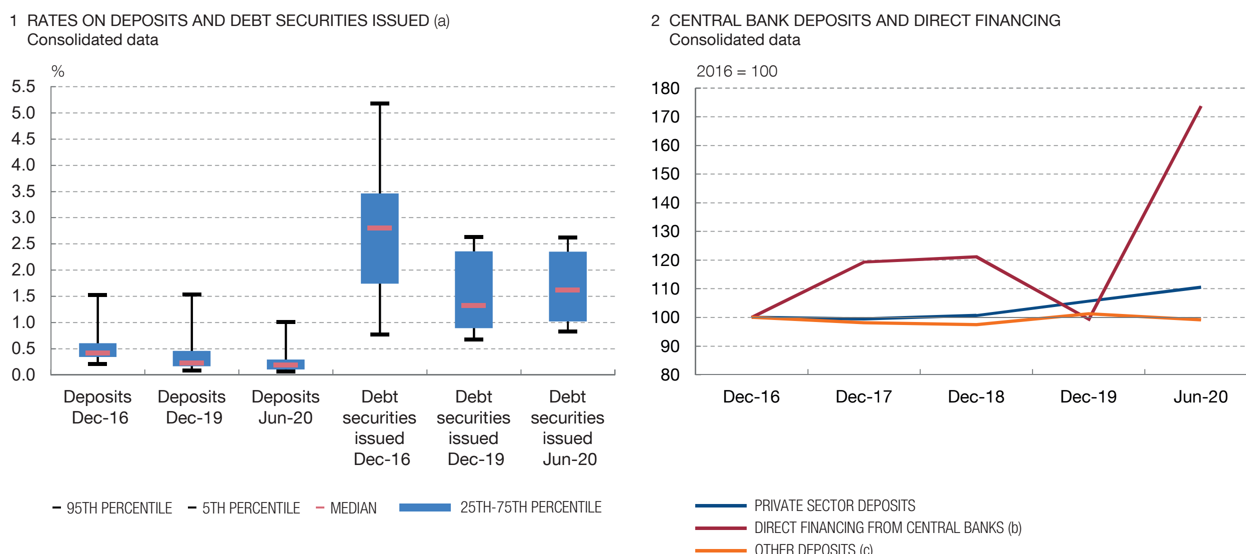
stands below the levels observed before the emergence of COVID-19 (see Chart 2.5).

Central bank action has helped to reduce the EURIBOR-OIS spread, which currently stands below the levels observed in February. Upward pressure on the level of EURIBOR at the start of the pandemic has diminished due to the recovery in the volume traded on money markets at longer maturities, as well as the decline in

Chart 2.6

ALTHOUGH THE COST OF LIABILITIES REMAINS MODERATE, THE PANDEMIC HAS HAD AN ADVERSE IMPACT ON WHOLESALE FINANCING, WHICH HAS BEEN REDUCED BY CENTRAL BANK INTERVENTION

Spanish deposit institutions have a moderate cost of liabilities, both for deposits (main source of financing), with rates close to 0%, and debt instruments issued, the cost of which has risen slightly since the start of the pandemic (with a median level of 1.6%, but with crossbank heterogeneity, although the dispersion has been reduced since 2016). The volume of direct central bank financing on the liabilities side of the consolidated balance sheet of Spanish desposit institutions has increased markedly in the first half of 2020.



SOURCE: Banco de España.

a The chart shows the dispersion of the deposit interest rates of Spanish deposit institutions and of the interest rates on debt securities for those institutions that issue them.
b Includes loans received from and repo transactions with central banks.
c Includes the deposits of credit institutions and general government.

bank credit risk observed through bank CDSs[10] and the correction of tensions in the currency market[11] (see Chart 2.5). Likewise, activation of the dollar swap facilities[12] entailed a substantial reduction in the tensions in dollar financing, the premium on CCB swap contracts increasing from its low of –80 bp on 16 March to very close to zero a few days later.[13] Since then, the frequency and use of dollar swap facilities has

10 Calculated as the average CDS for contracts with a 5-year maturity for a set of 18 listed banks of euro area countries, weighted by the stock market capitalisation of each institution.

11 The USD/EUR cross-currency basis swap spread is used, which measures the premium (positive or negative) required by the counterparty offering the dollars. In this type of transaction one party obtains dollars in exchange for the same amount converted into euro and must pay interest according to the euro reference rate (generally Euribor), and the other offers dollars in exchange for receiving interest (USD Libor). A negative value indicates that obtaining financing directly in dollars is cheaper than doing so by means of a swap while a positive value indicates that it is cheaper to obtain euro and enter into a swap.

12 On 15 March. The ECB announced a coordinated action with the central banks of the United States, Canada, the United Kingdom, Switzerland and Japan to enhance the provision of dollar financing. This measure reduced the cost of operations and extended their maturities, offering an 84-day maturity. A few days later (20 March) the frequency (daily) of 7-day US dollar operations was increased.

13 For further information, see García-Escudero, E. E., and E. Sánchez Pérez, 2020, *"Central bank currency swap lines"*, Occasional Paper, No 2025, Banco de España.

decreased. In addition, the ECB has progressively[14] provided euro liquidity through swap facilities with other central banks.

Despite the pandemic, Spanish deposit institutions' financing costs remain at relatively low levels. Low interest rates have led to a reduction in the cost of financing in recent years. This situation has been compounded by the measures implemented by the different authorities and, especially, the ECB; in the first half of 2020, the cost of deposits of institutions declined and the behaviour of the cost of issued debt was contained (see Chart 2.6).

The financing raised by Spanish deposit institutions continued to grow in the first half of 2020, especially as a result of the higher household saving rate and the accumulation of liquidity reserves by firms, associated with the prevailing economic uncertainty. In June 2020, the stock of deposits increased by 9.1% year-on-year (as compared with 2.4% a year earlier). Retail financing (deposits of households and firms) continues to be the main source of financing for Spanish deposit institutions, accounting for 87% of their liabilities. This increase in the deposits of households and firms involves a moderation in their net indebtedness, despite the increase in their recourse to bank lending mentioned in the previous subsection. At the same time, largely as a result of the expansionary monetary policy implemented by the ECB and other central banks, direct central bank financing increased in June 2020 by 61.6% year-on-year, to €336 billion (see Chart 2.6).

2.1.2 Profitability and solvency

Profitability

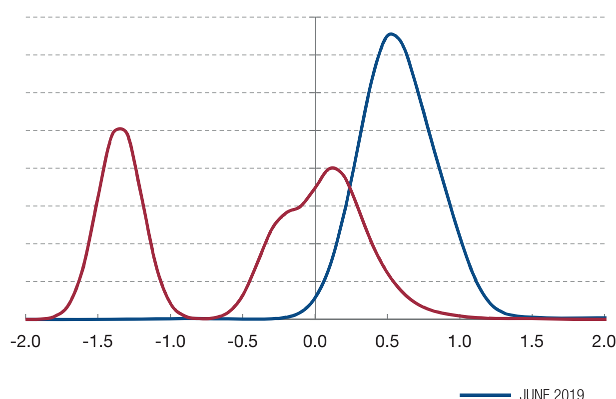
In the first half of 2020, the consolidated net profit of the Spanish banking system as a whole was a negative amount of around €9.5 billion. This corresponded to a decline of almost €20 billion from the profit recorded in June 2019, translating into a return on assets (ROA) of –0.5% (1.1 pp less than in June 2019) and a return on equity (ROE) of –7.3% (15 pp less than a year earlier). The losses were concentrated in the two largest institutions, and were primarily due to the one–off deterioration in the goodwill of their foreign subsidiaries, an accounting item that is not reflected in the solvency of these banks. In fact, without this deterioration in goodwill the ROE of the sector would have been positive, standing at 2.1% (with the ROA at 0.14%). For other institutions, the decline in net profit, which remained positive in most cases, was smaller, but it was also significant due to the provisions made in anticipation of further financial deterioration. Chart 2.7 shows

14 These facilities were activated progressively with the central banks of Denmark, Croatia, Bulgaria and Rumania on 20 March, 15 and 22 April and 20 August, respectively.

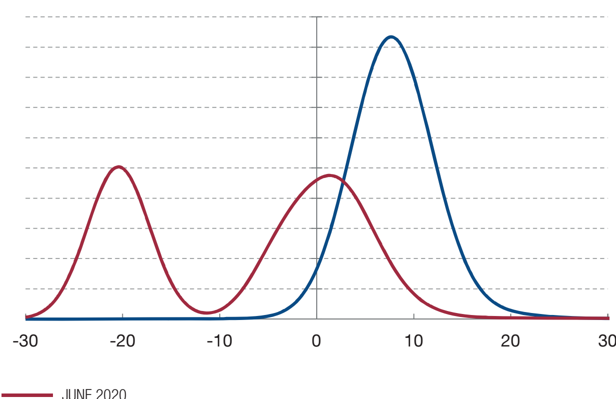
Chart 2.7
MOST INSTITUTIONS HAVE RECORDED A FALL IN NET PROFIT IN THE FIRST HALF OF 2020

Net accounting losses in the first half of 2020 were concentrated in the system's two largest institutions. However, the fall in profit between June 2019 and June 2020 has been broad based. The recording of losses by the largest institutions is explained mainly by the impairment of goodwill of various of their subsidiaries.

1 DISTRIBUTION OF THE ROA (a)



2 DISTRIBUTION OF THE ROE (a)



JUNE 2019 JUNE 2020

SOURCE: Banco de España.

a The charts show the ROA and ROE density functions for Spanish deposit institutions, weighted by the amount of average total assets and average equity, respectively. The density function is approximated by means of a kernel estimator, which enables non-parametric estimation and provides a continuous, smoothed graphic representation of the function.

how, both for the ROA and the ROE, the distribution of bank profitability in the first half of 2020 shifted significantly leftwards. At the same time, Chart 2.8 shows how most institutions (more than 70%) recorded a decline in net profit from the previous year, while their average total assets (ATAs) increased.

The impact of the pandemic on net interest income and commissions was especially strong in Q2 (see Chart 2.8). Net interest income and commissions both fell by slightly more than 5% in the first half of 2020, relative to the same period of 2019 (see Annex 2), especially due to the developments of the last three months. As a result of this decline and the growth in assets, these items fell significantly as a percentage of ATAs in the first half of 2020.

Gains on financial assets and liabilities improved significantly with respect to the previous year. Breaking the trend of recent years, these gains increased significantly between June 2019 and June 2020, with a rise of almost 71%. This increase helped limit the decline in gross income stemming from the fall in activity to 1.4% year-on-year.

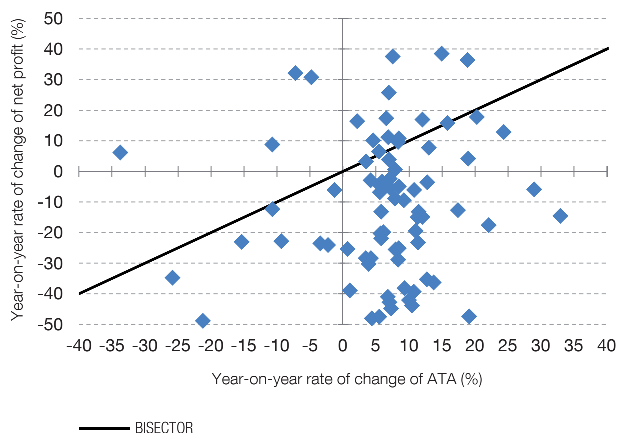
Operating expenses decreased by more than 8% year-on-year. This was largely due to the base effect of the extraordinary expenses relating to staff reductions incurred by some institutions in the same period of the previous year, although

Chart 2.8

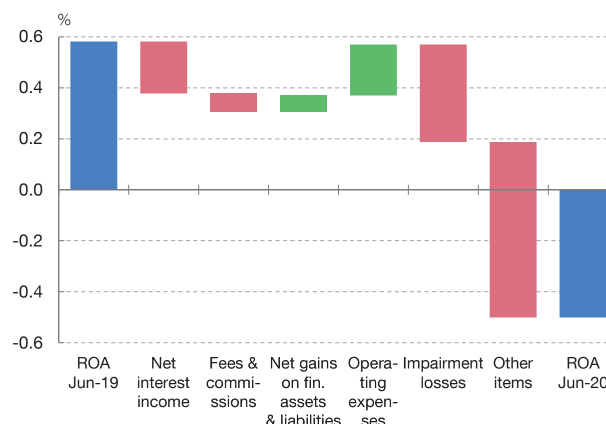
THE COVID-19 PANDEMIC HAS HAD A VERY SEVERE EFFECT ON THE PROFITABILITY OF THE SPANISH BANKING SECTOR, LARGELY DUE TO ACCOUNTING ADJUSTMENTS TO GOODWILL

Most institutions have recorded a fall in net profit relative to the previous year, while their ATA have increased. The main determinants of the sharp fall in profits include the increase in provisions and the notable adjustment to goodwill (included in other items), in both cases as a consequence of the expected deterioration in economic conditions due to the pandemic and its negative impact on credit quality, as well as the decline in net interest income and net fee and commission income owing to the decline in activity.

1 CHANGE IN ATA AND CHANGE IN PROFIT. JUNE 2020



2 BREAKDOWN OF THE CHANGE IN PROFIT
Consolidated profit as a percentage of ATA (a)



SOURCE: Banco de España.

a The red (green) colour of the bars indicates a negative (positive) contribution of the item concerned to the change in consolidated profit in June 2020 with respect to June 2019.

ordinary operating expenses also decreased (2.8% year-on-year), to which these restructurings contributed. Overall, net operating income improved by 6%.

As a result of the potentially negative impact of the pandemic on credit quality institutions have doubled their provisions for impairment since last year. The impairment losses recorded by the Spanish banking sector in the first half of the year totalled €15.2 billion, double the €7.6 billion recorded in June 2019. As a result, they increased significantly as a percentage of ATAs, to stand close to their levels in June 2014, following five years of continuous decline. Such a significant increase in provisions, despite the moderate increase in NPLs is explained partly by the forward looking approach of the new IFRS 9 accounting standard, which requires provisions to be made for impairment losses before loans actually become non-performing. The recognition of extraordinary provisions by institutions, as an additional reserve for future losses, has also contributed to the increase in this item.

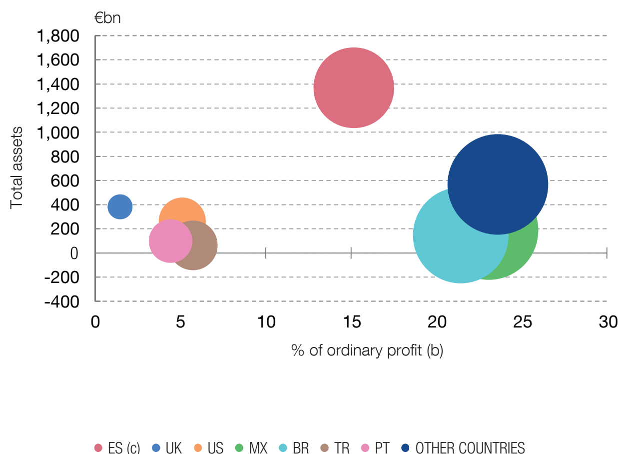
The negative adjustments to goodwill owing to the expected deterioration in economic conditions have had a very severe impact on the profitability of the sector, although they do not affect its solvency, since, under the current rules for calculating own funds, the entire amount of goodwill is deducted from

Chart 2.9

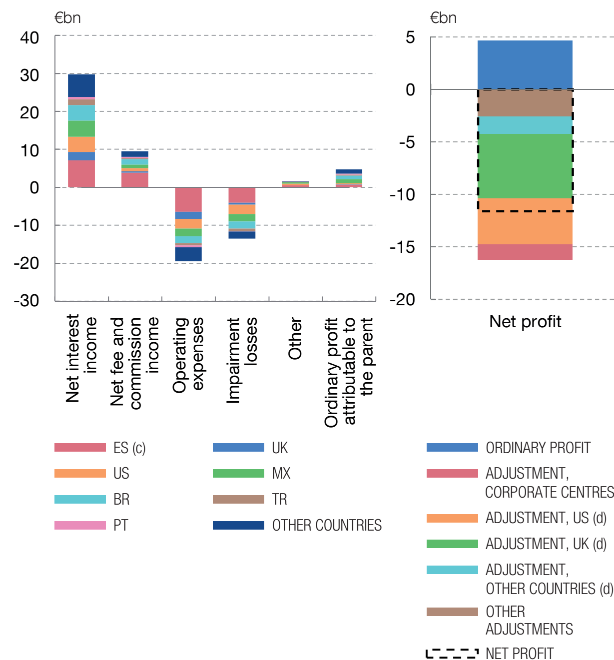
FOREIGN OPERATIONS' CONTRIBUTION TO THE MAIN SPANISH BANKS' PROFITABILITY REMAINED PARTICULARLY SIGNIFICANT, ALTHOUGH IT WAS UNDERMINED BY THE IMPAIRMENT OF GOODWILL

Profit attributable to the parent of the main Spanish banks with foreign operations in the first six months of 2020 was adversely affected by further impairment of the goodwill of their subsidiaries, mainly in the UK and the US. However, ordinary earnings, i.e. excluding impairment of goodwill and other additional adjustments, were positive, with Mexico and Brazil, along with Spain, making the largest contribution.

1 CONTRIBUTION TO ORDINARY PROFIT ATTRIBUTABLE TO THE PARENT (a)
Main banking groups with foreign operations. June 2020



2 MAIN INCOME STATEMENT HEADINGS (a)
Main banking groups with foreign operations. June 2020



SOURCE: CNMV.

a Ordinary attributable profit does not include impairment of goodwill or other adjustments (e.g. restructuring costs, adjustments for deferred taxes, etc.).
b Each circle's size reflects the respective country's ordinary attributable profit as a percentage of the aggregate total.
c Spain's ordinary attributable profit does not include the contribution by the corporate centre.
d Adjustments for the impairment of goodwill of the subsidiaries in the United Kingdom, the United States and other countries.

regulatory capital in any case. This adjustment has affected the two institutions with the largest international presence, which have reduced their goodwill by more than €12 billion (as reflected under the heading "Other income (net)" in Annex 2). In accordance with international accounting standards, goodwill is not depreciated. However, in the event of any signs of impairment, this should be estimated so that the value of goodwill can be adjusted.[15] In the case of Spanish banks, the importance of goodwill has in recent years been greater than for their European peers,[16] as a result of an international expansion strategy involving the purchase of subsidiaries. This strategy is based on autonomous risk management, and seeks to take full

15 This estimate of impairment should be made at least once a year.

16 According to data published by the European Banking Authority in its latest transparency exercise (https://eba.europa.eu/risk-analysis-and-data/eu-wide-transparency-exercise), intangible assets (of which goodwill makes up the largest part) represented 3.1% of the risk weighted assets of the Spanish banks, more than double the average for the countries participating in this exercise (1.3%).

advantage of the acquired institutions' greater experience and knowledge of the local market.

Business abroad continued to contribute significantly to Spanish bank profitability in the first half of 2020, despite the impairment of goodwill and other extraordinary adjustments. Chart 2.9 shows the contribution of the main countries (including Spain) to ordinary profit attributable to the parent of Spanish banks with significant activity abroad in the first half of 2020. The countries with the largest contributions are Mexico, Brazil and Spain which, in absolute terms, account for more than half of the ordinary profit attributable to the parent (23.1%, 21.4% and 15.2%, respectively). In fact, the subsidiaries with the highest ROA are those of Brazil and Mexico, with 1.4% and 1.1%, well above Spain (0.1%).

The decline in profitability was broad-based at European level, with negative net income in the banking systems of some countries. According to European Banking Authority (EBA) data,[17] in the first half of 2020, the ROE of the banking sector fell in practically all European countries, including the largest. The ROE of the Spanish banking sector stood below its average level in Europe and in the main European countries. Conversely, the efficiency ratio of the Spanish banking system continued to be the lowest (the best) among the main European countries. Box 2.2 analyses how analysts' opinions of the situation of the banking systems of various European countries have changed and their interrelation with their stock market valuations.

Solvency

The CET1 ratio of the Spanish banking system has increased over the past 12 months to stand at 12.6%. For the Spanish banking system as a whole, this ratio was 37 basis points higher than a year earlier (see Chart 2.10). The increase was due to the decline in risk weighted assets (–3.1% year-on-year), since CET1 capital remained steady. Risk weighted assets (RWAs) were affected by the measures implemented by the authorities (guarantee programmes and regulatory changes), but their decline was not across the board (see Chart 2.11), being concentrated among large institutions. The latter were also affected by the exchange rate devaluation in the emerging countries in which they have a significant presence, so that the negative effects that these exchange-rate movements had on the volume of euro-denominated CET1 were partially offset. Also, a large proportion of institutions have increased the volume of their CET1 over the past year, although the sector total hardly changed (–0.2% year-on-year). The tier 1 capital ratio and the total capital ratio have also increased over the past year, to stand at 13.9% and 16%, respectively (up from 13.6% and 15.4% in June 2019).

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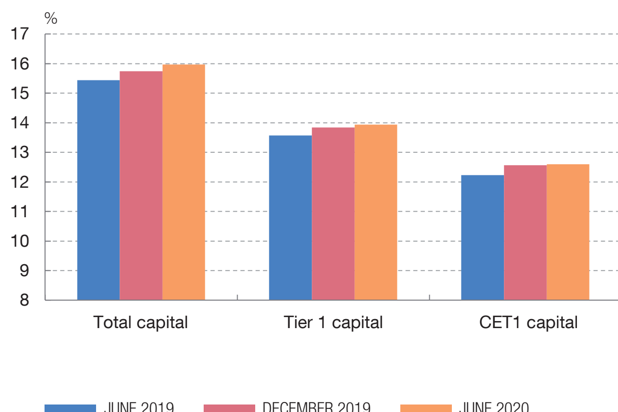
17 See https://eba.europa.eu/risk-analysis-and-data/risk-dashboard.

Chart 2.10

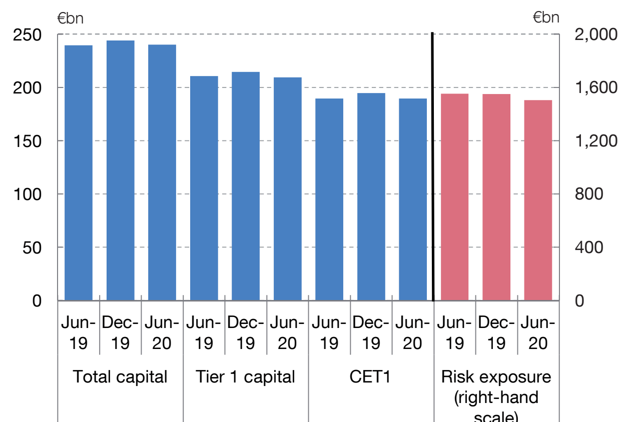
THE SPANISH BANKING SECTOR'S AGGREGATE CAPITAL RATIOS HAVE INCREASED OVER THE LAST 12 MONTHS DESPITE THE OUTBREAK OF THE PANDEMIC

Between June 2019 and June 2020, the CET1 ratio rose by 37 bp to 12.6 %. This increase was recorded in the second half of 2019, and was due to a drop in risk-weighted assets, while CET1 held relatively stable. The tier 1 and total capital ratios also rose over the last year.

1 CAPITAL RATIOS



2 CAPITAL AND RISK EXPOSURE LEVELS



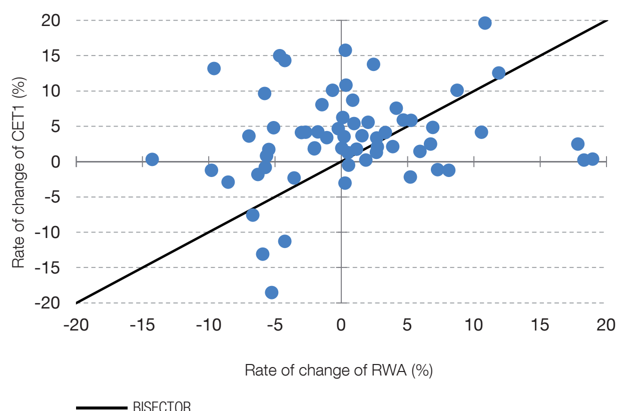
SOURCE: Banco de España.

Chart 2.11

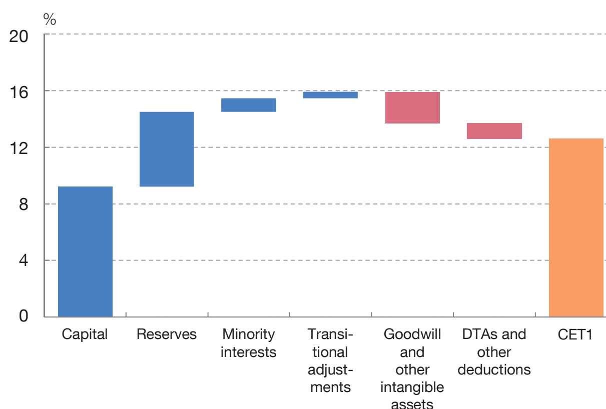
A LARGE PORTION OF SPANISH BANKS HAVE INCREASED THEIR CET1 SINCE JUNE 2019

A large portion of banks have increased their CET1 over the last 12 months, while positive and negative changes in RWA were distributed more uniformly. These increases were concentrated in smaller banks; therefore, aggregate CET1 remained stable (see Chart 2.10). Capital instruments and reserves accounted for more than 90 % of eligible CET1 components. Deductions associated with goodwill decreased on account of the significant impairment of this component in the first six months of 2020.

1 RATE OF CHANGE OF CET1 AND RWA BETWEEN JUNE 2019 AND JUNE 2020 (a)



2 BREAKDOWN OF THE CET1 RATIO AS A % OF RWA



SOURCE: Banco de España.

a The dots above the bisector represent increases (decreases) in CET1 over the last year greater (smaller) than the increases (decreases) in RWA and, therefore, relate to increases in the CET1 ratio between June 2019 and June 2020. The reverse applies for the dots below the bisector.

As regards the composition of the CET1 ratio, capital instruments and reserves account for more than 90% of its eligible items (see Chart 2.11). However, over the past year there has been some change in the relative weights of these two items, with that of capital rising and that of reserves declining. As regards deductions, the decrease in those deriving from goodwill is notable, as a consequence of the downward adjustment to this item recorded by the two institutions with the largest international presence. As already noted, this adjustment has no effect on the solvency ratio (since goodwill is now included as a reduction in income on account of its impairment).

The CET1 ratio of Spanish institutions is lower than that of those of other European countries, while in terms of the leverage ratio, the position of the Spanish banking sector is better than that of the European set. On the information published by the EBA in its riskdashboard as at June 2020,[18] the CET1 ratio of the main Spanish institutions is the lowest in the EU, standing 2.8 percentage points below the European average. This is largely a result of the greater density of the assets of Spanish banks, which make less intensive use of internal models to calculate their capital requirements. In fact, the leverage ratio of the main Spanish institutions (5%) stands slightly below the European average (5.3%), but above those of the main European countries, except for Italy and the United Kingdom.

2.1.3 Forward looking assessment of the resilience of the Spanish banking system

Methodology applied. The FLESB framework

Faced with the uncertainty posed by the current health crisis for the future performance of the economy, the analysis of Spanish banks by means of stress tests is especially important, given the forward looking nature of these tools. The Banco de España has applied its own methodological framework known as FLESB (Forward Looking Exercise on Spanish Banks) to analyse the scenarios raised by the COVID-19 crisis. This exercise has been especially complex, given the special nature of this crisis, which includes a sudden, unprecedented impact on the economy at global level, as well as a rapid and decisive economic policy response by different national and international authorities. Its main characteristics can be summarised as follows:

- **Top-down framework, underpinned by granular information.** The FLESB methodology uses a set of quantitative models developed internally and applied to the granular information with a time dimension

18 See EBA Risk Dashboard.

that is available through regulatory and supervisory reporting.[19] This methodology is used to make a dynamic projection of the balance sheet and income statement of banks for the period 2020-2022. With respect to the previous exercise, improvements have been made to the modelling of the net interest income of business in Spain[20] and of business outside Spain of internationally active institutions.[21] This latter development is especially important given the synchronised, global nature of the COVID-19 crisis, the impact which on business abroad is potentially larger than in the past.

— **Macroeconomic scenarios for assessing solvency.** Two scenarios are used, with different degrees of contraction of GDP in 2020, and speeds of recovery in 2021-2022. The baseline scenario for the Spanish economy (see Table 2.1) has a steeper recovery path, although cumulative real GDP growth is negative for the period as a whole (–1.6%), while the adverse scenario envisages that the health crisis will have a greater impact in 2020, the recovery will be weaker and the cumulative fall in GDP will be larger (–5.7%), this being the risk scenario of the exercise. On the other hand, there is no upward pressure on reference interest rates in these scenarios, given the expectation that the expansionary stance of monetary policy will be maintained, and the correction of house prices is smaller than in historic episodes with greater built-up imbalances in this sector.

The macroeconomic paths for Spain in these exercises correspond to the June 2020 BMPE, which were used in turn in the ECB's July analysis of European bank vulnerability.[22] The same level of severity as in the European exercise is thus applied. The new projection scenarios for Spain, published in September 2020 by the Banco de España show a comparable decline in activity for the purposes of assessing solvency. In addition, the scenario for Spain is completed with consistent international macroeconomic scenarios developed by the Banco de España (see Chart 2.12), which envisage sharp declines in activity, both in advanced and emerging economies. In the case of GDP, cumulative growth in the

19 The information available on credit exposures in Spain through the CCR and supervisory data is highly granular and reaches the level of transactions, guarantees and individual borrowers, and covers the period 2000-2019. The data available for foreign business are less granular and reach at most the level of portfolio by type and geographical origin of counterparty, and they have a more limited historical depth.

20 Greater disaggregation by counterparty and purpose (firms, households-housing, households-other) is considered in the modelling of private sector loan income, with the productive volume of loans also depending on the result of the credit risk models.

21 A more granular treatment of the credit loss in foreign business has been incorporated, with a limited model for the generation of net operating income maintained. Information on exposures by counterparty, purpose (firms, households-housing, households-other) and geographical situation is used.

22 See ECB Vulnerability Analysis, 28 July 2020.

Table 2.1
MACROECONOMIC SCENARIOS

	Baseline scenario 2020-2022	Adverse scenario 2020-2022
GDP (cumulative growth)	-1.6	-5.7
Unemployment rate (% of labour force) (average)	18.6	23.5
Price of housing (cumulative growth)	-3.8	-11.6
Lending to households for house purchase (cumulative growth)	-5.4	-11.1
Lending to households for other purposes (cumulative growth)	-12.0	-17.6
Lending to businesses (cumulative growth)	-2.2	-5.9
12-month interbank interest rate (average)	-0.3	-0.2
10-year sovereign bond interest rate (average)	1.0	1.3

SOURCE: Banco de España.

baseline (adverse) scenario is: –1.6 % (–3.1 %) in Brazil, –2.8 % (–3.6 %) in the United Kingdom, –3.2 % (–5.0 %) in Mexico, 6.2 % (4.5 %) in Turkey and –0.9 % (–2.3 %) in the United States. Only Turkey has positive average growth thanks to a potentially vigorous recovery. These falls in GDP are consistent with the marked increase in unemployment rates in the scenarios.

— **Segmentation of institutions.** The findings are presented, as in previous years, in aggregate form for three groups of institutions to facilitate their interpretation, since their business models and sources of risk are different. The first group consists of the Spanish institutions directly supervised by the Single Supervisory Mechanism (SSM) that have significant international activity. The second group includes the rest of the institutions supervised directly by the SSM. Lastly, the third group is made up of institutions supervised directly by the Banco de España, which are small and have no appreciable international activity.[23]

— **Modelling the impact of the support measures deployed to mitigate the impact of the pandemic.** The mitigation policies implemented at national and international level include diverse facilities such as bank loan payment moratoria, public guarantees for loans for productive activities, in the case of monetary policy, a new TLTRO programme and, in the prudential area, the recommendation not to make dividend payments. By incorporating

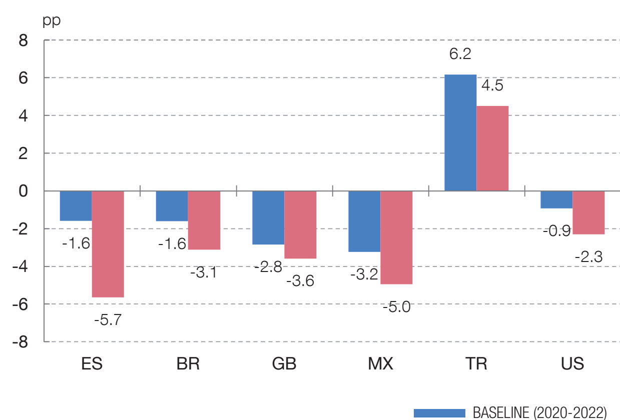
23 This group includes 45 LSIs (less significant institutions, according to the SSM's supervisory classification), which include savings banks and credit cooperatives, as well as other less significant institutions (OLSIs).

Chart 2.12

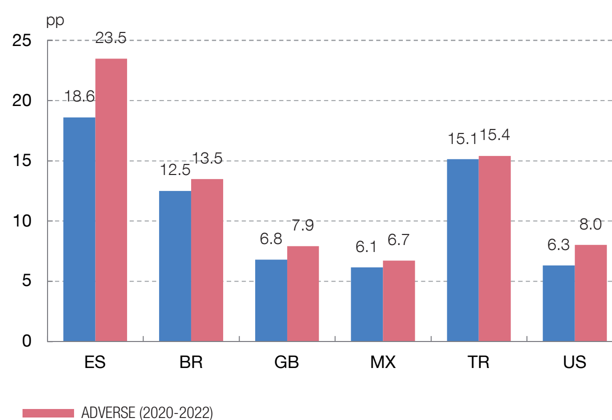
THE MACROECONOMIC SCENARIOS USED TO MEASURE SPANISH BANKS' RESILIENCE ENVISAGE SHARP DECLINES IN ECONOMIC ACTIVITY IN THE GEOGRAPHICAL AREAS WITH A SIGNIFICANT SPANISH BANK PRESENCE

The global nature of the health crisis has triggered a sharp and sudden downturn in the global economic environment, resulting in severe macroeconomic scenarios being considered for the period 2020-2022. Under the baseline and adverse scenarios, activity and employment appear to worsen markedly relative to the pre-pandemic situation. The adverse scenario reflects an even more severe initial impact and a slower recovery.

1 YEAR-ON-YEAR RATE OF CHANGE OF GDP UNDER THE BASELINE AND ADVERSE SCENARIOS (a)



2 UNEMPLOYMENT RATE UNDER THE BASELINE AND ADVERSE SCENARIOS (b)



BASELINE (2020-2022) ADVERSE (2020-2022)

SOURCE: Banco de España.

a Cumulative GDP growth over the exercise's three-year horizon (2020-2022).
b Average unemployment rate for the exercise's three-year horizon (2020-2022).

these measures into the exercise a more complete estimate of the impact of the crisis on bank solvency is obtained.[24]

Results of the stress tests

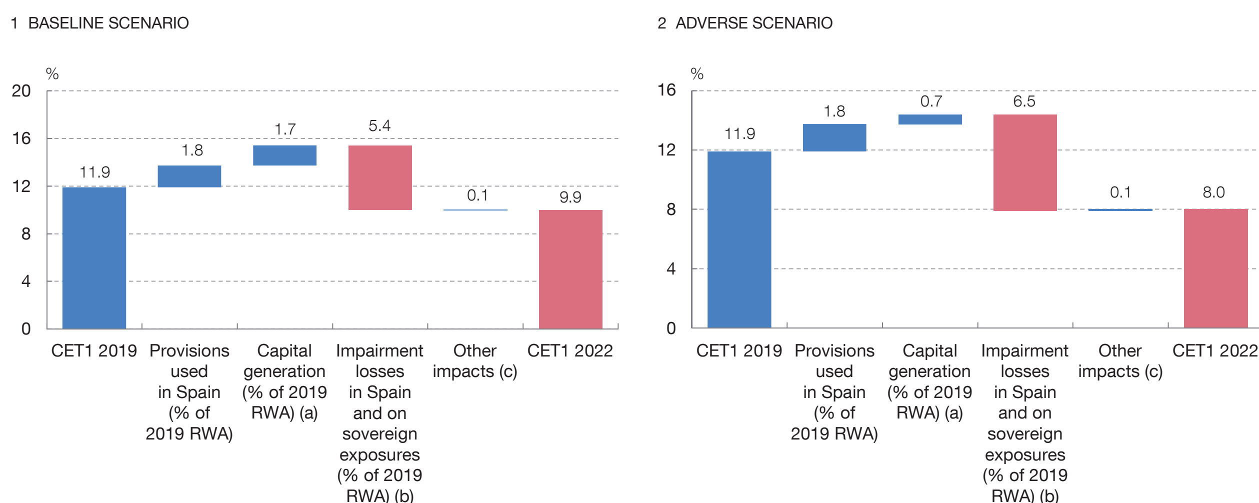
The group of institutions supervised by the SSM with significant international activity recorded a 2 pp decrease in the CET1 ratio under the baseline scenario and a 3.9 pp decrease under the adverse scenario. This group's starting CET1 ratio was 11.9 pp, which was lower than that of the other two groups of institutions. Under the baseline scenario (see Chart 2.13), available provisions (1.8% of RWA) to cover impairment losses in Spain and the reduced capacity to generate new capital (1.7% of RWA) cannot offset the volume of impairment losses in operations in Spain and, to an even lesser extent, sovereign exposure valuation adjustments (overall,

24 The support measures have been modelled in detail for the case of Spain, as the information available permits a more precise treatment, while for other relevant jurisdictions they have been incorporated implicitly in the macro scenarios, and also in the incorporation of the effects of the guarantee schemes and other support programmes for SMEs in the most important countries (United States, United Kingdom, Brazil, Turkey). See Table 1 of Box 2.1 for an estimation of these effects.

Chart 2.13

FOR THE MOST INTERNATIONALLY ACTIVE INSTITUTIONS, THE GLOBAL ECONOMIC CONTRACTION APPEARS TO LIMIT THE GENERATION OF NEW CAPITAL IN FOREIGN OPERATIONS WITH WHICH TO OFFSET THE IMPACT OF IMPAIRMENT LOSSES IN BUSINESS IN SPAIN

Institutions with significant international exposure appear to display notable resilience to the grave economic impact of the global crisis associated with the pandemic, which severely limits the capacity to generate new capital, through net operating income in Spain and subsidiaries' net profit, and increases impairment losses on assets in business in Spain.



SOURCE: Banco de España.

a The generation of loss-absorbing capital in the case of institutions with significant international activity includes net operating income in Spain and net profits obtained in foreign operations.
b Impairment losses on loans and foreclosed assets in business in Spain, and the impact on capital of the potential impairment of sovereign exposures at the consolidated level.
c Other consolidated gains and losses, taxes, translation differences, dividend distribution and changes in RWA.

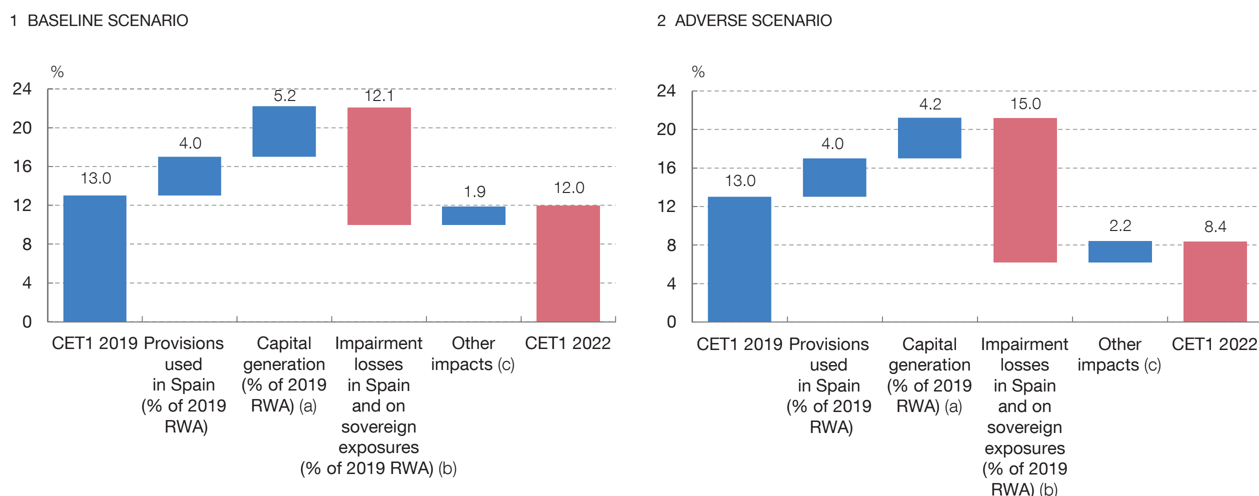
5.4% of RWA).[25] The contraction in economic activity in the period 2020-2022 in most of the main countries where this group of institutions conducts foreign operations (Brazil, Mexico, the UK and the US) and the moderate cumulative growth in other areas of operations (e.g. Turkey) will result in credit losses. These absorb the net operating income generated in Spain and abroad, explaining the aforementioned reduced capital generation (1.7%), lower than in previous exercises. The other impacts make a modest, albeit adverse, contribution (0.1% of RWA), undermining solvency, owing to unfavourable changes in exchange rates and other gains and losses. The final result is a CET1 ratio of 9.9 pp in 2022. Under the adverse scenario, the aforementioned contributions are exacerbated on account of the greater initial shock to activity and its persistence. First, capital generation decreases (0.7% of RWA), owing mainly to greater impairment losses in foreign operations, and, second,

25 The capital generation variable includes net operating income in Spain (similar to pre-provision operating profit) and the contribution to net profit/loss of foreign operations, i.e. net operating income from foreign operations less impairment losses, non-operating income and taxes.

Chart 2.14

THE OTHER SSM INSTITUTIONS, CONCENTRATED IN BUSINESS IN SPAIN, APPEAR TO ENDURE A HIGH VOLUME OF IMPAIRMENT LOSSES, MITIGATED BY A HIGHER STARTING CET1 RATIO AND SOME DELEVERAGING

The other SSM institutions endure a high volume of impairment losses in business in Spain in both scenarios, partially offset by the provisions used and the net operating income generated, and also by some deleveraging, included in the other impacts. The additional impairment losses under the adverse scenario result in the difference between the starting and 2022 CET1 ratios (4.6 pp) being higher than the difference for the other two groups.



SOURCE: Banco de España.

a The generation of loss-absorbing capital in the case of the other SSM institutions includes mainly net operating income in Spain, with a very limited contribution by net profit from foreign operations.
b Impairment losses on loans and foreclosed assets in business in Spain, and the impact on capital of the potential impairment of sovereign exposures at the consolidated level.
c Other consolidated gains and losses, taxes, translation differences, dividend distribution and changes in RWA.

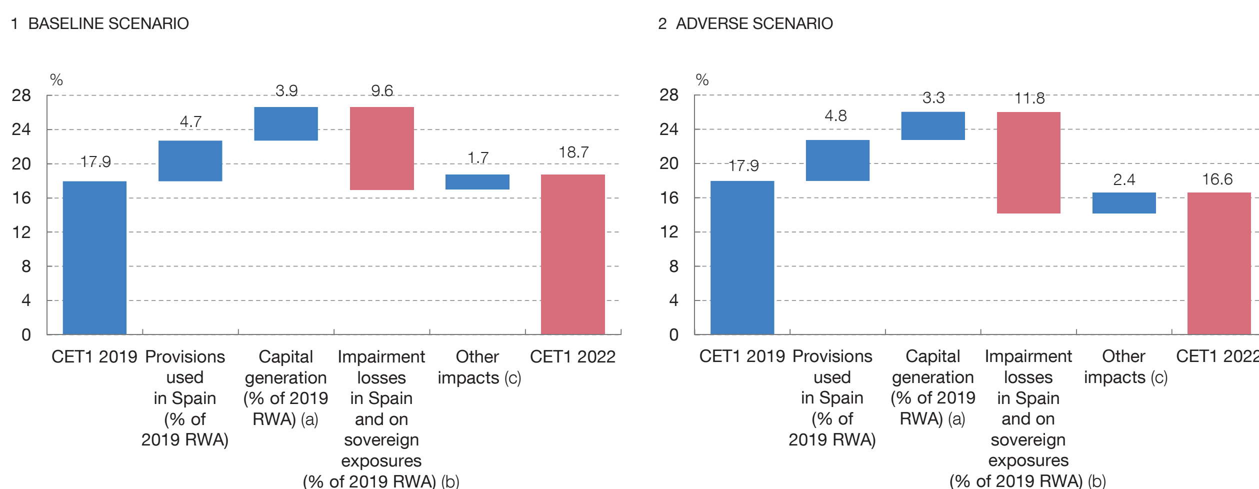
impairment losses in Spain increase to 6.5% of RWA. Under the adverse scenario, the final CET1 ratio is 8%.

Under the baseline and adverse scenarios, the other SSM supervised institutions' CET1 ratio fell by 1 pp and 4.6 pp, respectively. The impacts for this group of institutions, whose starting CET1 ratio was 13 pp, 1 pp higher than that of the first group, are shown in Chart 2.14. Under the baseline scenario, the depletion of the CET1 ratio (1 pp) is lower than that of the institutions with significant international activity, despite larger impairment losses in Spain (12.1%) and impairment losses relative to the use of provisions (4%) and the generation of new capital (5.2%) being less favourable, 2.9 pp versus 1.9 pp for the first group of institutions. The drop in lending in Spain over the period 2020-2022, and the resulting fall in RWA, increase the positive effect of the other impacts (1.9%) and offsets this group's disadvantage compared with the first group in terms of net profit. Under the adverse scenario, capital generation through net operating income declines compared with the baseline scenario (4.2% of RWA) and impairment losses increase (15% of RWA) owing to the macroeconomic downturn in Spain, undermining solvency to a greater extent. The other effects (2.2% of RWA) increase slightly

Chart 2.15

DIRECTLY SUPERVISED INSTITUTIONS HAVE A CONSERVATIVE BUSINESS MODEL, WITH A HIGH LEVEL OF CAPITAL AND EXPOSURE TO LOWER RISK ASSETS. THIS LIMITS IMPAIRMENT LOSSES, WHICH NONETHELESS ARE SIGNIFICANT DUE TO THE STEEP DECLINE IN ECONOMIC ACTIVITY IN SPAIN

The group of institutions under direct national supervision maintains a notable level of solvency under both scenarios, despite also enduring very significant impairment losses. In addition to having a substantially higher starting CET1 ratio, this group of institutions, whose business model is conservative, incurs lower impairment losses than the significant institutions concentrated in Spain.



SOURCE: Banco de España.

a The generation of loss-absorbing capital is determined by net operating income in Spain.
b Impairment losses on loans and foreclosed assets in business in Spain, and the impact on capital of the potential impairment of the group's sovereign exposures.
c Other consolidated gains and losses, taxes, translation differences, dividend distribution and changes in RWA.

compared with the baseline scenario due to the greater decline in lending. The final outcome is a CET1 ratio of 8.4 pp. Capital depletion under this scenario is greater than that of the group of institutions with significant international activity and the directly supervised institutions.

The CET1 ratio of institutions supervised directly by the Banco de España increases by 0.8 pp under the baseline scenario, while under the adverse scenario the ratio drops by 1.3 pp. Chart 2.15 shows the results of the third group, which has the highest starting CET1 ratio (17.9 pp). These institutions, whose business model focuses on simpler and more conservative products (a greater relative weight of mortgage loans and government debt holdings) and who operate in a reduced geographical area, improve their solvency position under the baseline scenario and deplete the least amount of capital under the adverse scenario. Under the baseline scenario, existing provisions (4.7% of RWA) and generated capital (3.9% of RWA) absorb most of the impairment losses (9.6% of RWA). The other impacts make a moderate positive contribution (1.7% of RWA), on account of the drop in lending, yet it is sufficient to end the exercise with an aggregate CET1 ratio of 18.7 pp, up from the starting ratio. Under the adverse scenario, the generation of new loss-

absorbing capital decreases (3.3% of RWA) and impairment losses increase (11.8% of RWA), prompting a depletion of capital that is somewhat mitigated by the other effects (2.4% of RWA). The CET1 ratio ends the exercise at 16.6 pp, the highest final ratio of the three groups.

The Spanish banking sector thus shows in this exercise that it can withstand the severe economic impact of the health crisis, supported by the mitigating effect of the measures implemented by the economic authorities. Under the baseline and adverse scenarios, the three groups of institutions end the test with final CET1 ratios above 6 pp. Compared with past exercises, the deterioration under the baseline scenario, which now contains a much severer initial shock, is noteworthy. As regards the adverse scenario, declines in the CET1 ratio are steeper than in the previous exercise, influenced by the extreme severity of the scenario. However, the falls are mitigated significantly by the support measures, as analysed in detail further on.

Taking into consideration the notable uncertainty the banking sector faces is necessary when assessing the results. The typical caveats from past exercises apply, such as heterogeneity across individual institution's results with respect to the group average, or the possibility of a concrete institution undergoing a specific disruption in addition to the systemic shock upon which the exercise is based. However, caveats specific to the current environment should also be highlighted. For example, the estimated impact on banks' solvency may vary if the economic and financial support programmes are reduced or modified. The estimated effect of the programmes already implemented is also subject to a degree of uncertainty. The adverse effects of the pandemic on economic activity persisting longer than considered in the test's scenarios would pose an additional significant challenge to the sector's solvency. It is therefore advisable that institutions remain vigilant vis-à-vis changes in their assets, manage risk flexibly and in a manner that favours the recovery of activity, and explore effective channels for improving their efficiency.

Spanish institutions also had a robust liquidity position at end-2019 and the ECB's additional measures have reinforced that diagnosis. As in previous years, a stress test was conducted on the liquidity coverage ratio (LCR), with Spanish institutions maintaining appropriate liquidity levels comparable to previous tests.[26]

Assessment of the impact of the financial support measures

The FLESB framework was used to estimate the impact on Spanish institutions' solvency of the various measures implemented by the economic authorities in response to the crisis. The following measures were considered: public guarantees

26 See Chapter 2 of the Autumn 2019 FSR.

for lending to firms,[27] the ECB's new series of TLTROs,[28] the restriction on dividend distributions,[29] moratoria on mortgage loan and consumer credit repayments[30] and certain aspects of the "CRR quick fix".[31] The first three measures may have an impact on solvency over the exercise's three-year horizon and were included in the results of the preceding section. By contrast, the examined effects of the other two measures may be considered temporary,[32] since they are either not applicable over the entire horizon or they will gradually be withdrawn over its course, and are presented in this section as an additional sensitivity analysis.

There is some uncertainty surrounding the scope and effectiveness of the measures when simulating their effect under the FLESB framework. For example, the impact of the public guarantees securing lending to firms will vary depending on whether the guaranteed loans' probability of default is similar to that of the overall portfolio or, on the contrary, they are focused on higher risk debtors. The impact is thus presented as a range between the two possibilities. Logically, the more impairment losses the scheme is able to absorb, the greater the budgetary cost of this support measure. The results of the main exercise considered this range's midpoint.

Securing loans to firms via public guarantees has a significant mitigating impact on the depletion of the banking sector's capital (see Chart 2.16) This facility acts directly through two channels: it lowers the risk weight of the guaranteed portion of the loans granted under this scheme to the 0% risk weight assigned to sovereign exposures, and reduces losses in the event of default, as the central government assumes its share thereof. Furthermore, it is assumed that the amounts guaranteed will not be classified as non-performing in 2020, owing to the liquidity provided and the loan payment holidays. However, this may not be the case over the remaining two years of the exercise's horizon. Depending on the guaranteed loans' credit quality, the guarantees absorb between 11.6% and 48.7% of the expected losses under the baseline scenario, with 30.2% absorbed assuming a credit quality midpoint, while under the adverse scenario the expected losses absorbed range from 12.4% to 43%, with 27.7% absorbed assuming a credit quality midpoint. This

27 See Royal Decree-Law 8/2020 of 17 March 2020 on urgent extraordinary measures to address the economic and social impact of COVID-19.

28 See Decision (EU) 2020/614 of the European Central Bank of 30 April 2020 amending Decision (EU) 2019/1311 on a third series of targeted longer-term refinancing operations.

29 See Recommendation ECB/2020/35 of the European Central Bank of 27 July 2020 on dividend distributions during the COVID-19 pandemic and repealing Recommendation ECB/2020/19.

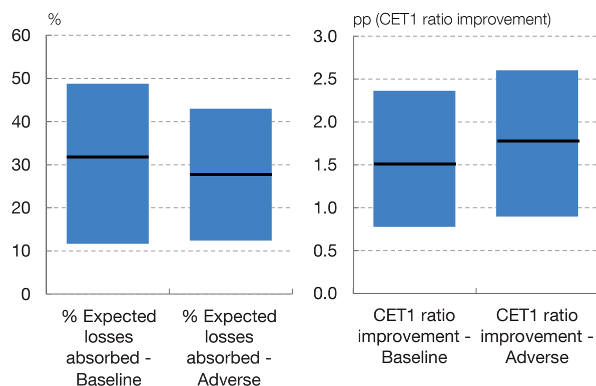
30 See Royal Decree-Law 11/2020 of 31 March 2020, adopting urgent complementary social and economic measures to address COVID-19.

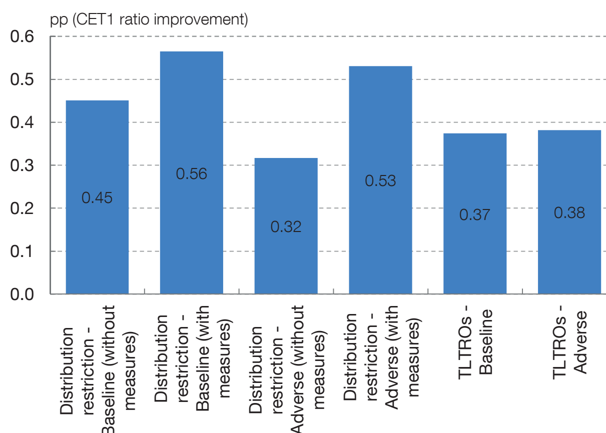
31 See Regulation (EU) 2020/873 of the European Parliament and of the Council of 24 June 2020 amending Regulations (EU) No 575/2013 and (EU) 2019/876 as regards certain adjustments in response to the COVID-19 pandemic.

32 Box 3.3 details the "CRR quick fix", which contains transitional and permanent arrangements. This section does not assess the reform in full, merely some aspects thereof that bear a more direct relationship to estimating impairment losses in the stress test exercise.

Chart 2.16
THE EFFECTS OF THE GUARANTEE FACILITY FOR LOANS TO FIRMS AND THE EXPANSION OF THE TLTRO SERIES HAVE A SIGNIFICANT IMPACT ON THE STRESS TEST, STRENGTHENED BY THE RESTRICTIONS ON DIVIDEND DISTRIBUTION (a)

The public guarantee scheme for corporate lending appears to have a positive impact on the CET1 ratio under both scenarios. The restriction on dividend distributions and the latest TLTRO facility also seem to have a positive effect, yet it is smaller than that of the guarantee scheme. The effect of the dividend distribution restrictions complements the other measures, as they increase the volume of profit generated that can be retained due to the restriction.





SOURCE: Banco de España.

a The effects of the guarantee scheme assuming the credit quality midpoint, the restrictions on the distribution of dividends (with measures) and the TLTROs are included in the main analysis, the results of which are shown in Charts 2.13, 2.14 and 2.15.
b Chart 2.16.1 shows the range of the measure's effect on expected losses (left-hand side) and on the CET1 ratio (right-hand side) depending on the assumptions made regarding the credit quality of the loans to firms and sole proprietors in Spain under the ICO guarantee facility. The minimum effect assumes that the expected losses are equal to the average of the corporate lending portfolio, while the maximum effect assumes that NPL inflows are primarily concentrated in the guaranteed loans. The black line denotes the midrange effect.
c Chart 2.16.2 shows the effect of the restriction on dividend distributions and of the latest TLTRO facility (in pp of the 2022 CET1 ratio) with no mitigating measures and assuming a midrange effect of the ICO guarantee facility.

results in a notable improvement in the CET1 ratio of 1.5 pp under the baseline scenario and of 1.7 pp under the adverse scenario where the lending guaranteed is at the credit quality midpoint.

The funding facilities granted by the ECB have also been included, improving institutions' net interest income. The new series of TLTROs offers institutions access to ECB funding at negative interest rates. Funds raised by institutions under TLTRO III can be used to expand the volume of performing assets, thereby obtaining an additional source of income via the interest rate spread. Assuming that the facility remains in force until 2022, and factoring in an average impact for the other measures, it is estimated that the additional volume of income would increase the CET1 ratio by 0.37 pp under the baseline scenario and by 0.38 pp under the adverse scenario. The two scenarios result in similar figures because both the facility's rate and the average rate of the low-risk assets in which the funds are assumed to be invested remain practically constant in both scenarios.

The restriction on dividend distributions over the exercise's horizon also has a positive and significant effect that complements the other support measures. This measure impacts the CET1 ratio's numerator, boosting the build-up of reserves. Depending on the scenario and on whether or not the other measures are included, the effect of the dividend distribution restriction ranges from an increase in the CET1 ratio of 0.45 pp to 0.56 pp and 0.32 pp to 0.53 pp under the baseline and adverse scenarios, respectively. As expected, the effect in the two scenarios is greater if the other measures are included, since they mitigate the adverse impacts on profitability and therefore improve net profit, which is not distributed on account of the restriction, but instead appropriated to reserves.

The loan repayment moratoria initially appear to have a positive short-term effect on banks' solvency by limiting defaults due to liquidity problems in 2020. Furthermore, in conjunction with the public guarantee scheme they seemingly also mitigate the severity of the macroeconomic scenarios in the longer term (2020-2022 time horizon). The moratoria influence short-term solvency through two channels. First, they reduce losses by lessening defaults during the period they are in force. However, defaults may ultimately arise after this period has ended. Second, they may affect interest accrual, should it be suspended. However, the accounting rules allow for interest to be considered for at least some of the loans benefiting from the moratoria.[33] As mentioned above, the ICO guarantee facilities increased NFCs' and sole proprietors' liquidity across the board, thereby limiting defaults in the short term. The simulations performed suggest that in 2020 the direct effect of the liquidity-supporting measures would substantially improve the NPL ratio in the two scenarios. It should be noted that this direct effect is temporary and is not included in the estimated solvency ratio for 2022. However, these schemes also appear to enable a larger proportion of solvent firms experiencing liquidity problems to overcome the COVID-19 crisis, by mitigating the severity of the macroeconomic scenarios used in the fully fledged exercise for 2020-2022.

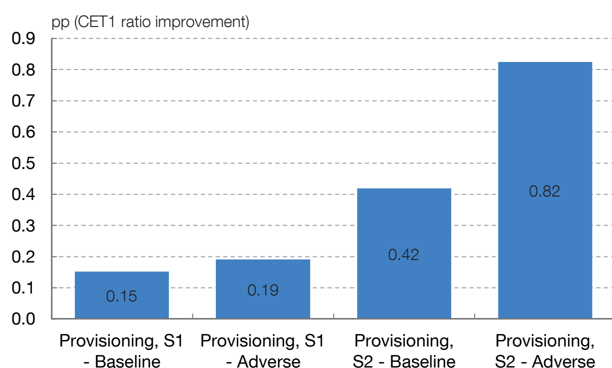
The measures included in the CRR quick fix also appear to have a positive impact additional to that considered in the exercise. However, some of the quick fix's effects are temporary. The CRR quick fix in response to the health and economic crisis came into force on 27 June 2020 (see Box 3.3). These measures were not included in the main analysis, which considers a CET1 ratio free of any temporary adjustments. However, an analysis of their estimated impact is included here in order to assess institutions' ability to satisfy the regulatory requirements over the exercise's horizon. Specifically, the effect of two measures included in the CRR quick fix that are of particular interest to Spanish institutions is estimated. First, the prudential filter for changes in the value of sovereign bond exposures measured at

33 Various methodological assumptions may be made about the effect of the moratorium on interest accrual. However, the simulations performed show that these assumptions do not significantly change the CET1 ratio and, therefore, only its average effect is presented.

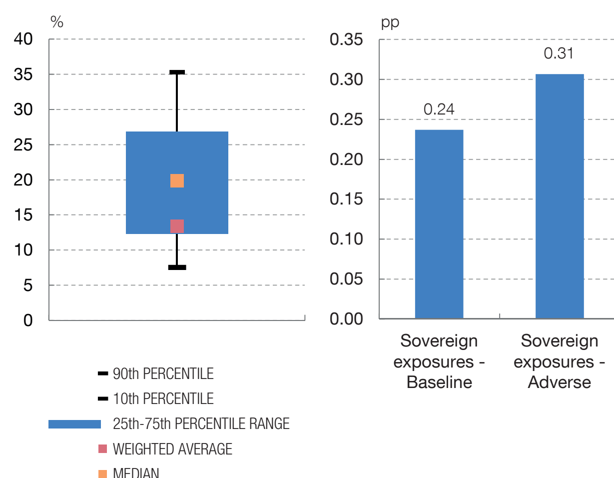
Chart 2.17
THE ADOPTION OF ADDITIONAL MEASURES IMPROVES THE REGULATORY SOLVENCY ASSESSMENT, ALTHOUGH SOME OF THEM HAVE MOSTLY SHORT-TERM EFFECTS (a)

The effect of some of the CRR quick fix's measures is assessed, finding that the transitional arrangement for expected credit loss provisioning for non-impaired loans (classified as Stage 1 or Stage 2) has a greater impact than the temporary prudential filter for changes in the value of sovereign exposures. Nonetheless, the latter is also important, owing to holdings of sovereign exposures accounting for a significant percentage of consolidated assets. This percentage is lower for larger institutions.

1 QUICK FIX EFFECT, ECL PROVISIONING FOR STAGE 1 AND STAGE 2 EXPOSURES (b)



2 SOVEREIGN EXPOSURES AS A % OF TOTAL ASSETS (LEFT-HAND SIDE) AND EFFECT OF THE SOVEREIGN EXPOSURE QUICK FIX (b) (RIGHT-HAND SIDE)



SOURCE: Banco de España.

a The effects considered in this chart are not included in the main results in Charts 2.13-2.15 since they relate to transitional arrangements to the regulatory assessment of solvency. Thus, stripping them out from the fully loaded results is useful for the medium and long-term assessment.

b Chart 2.17.2 shows the pp improvement in the 2022 CET1 ratio, under this section's baseline and adverse scenarios, of two arrangements included in the CRR quick fix concerning the impact of expected losses on capital: (i) the effect of the prudential filter for changes in the value of sovereign exposures; and (ii) the effect of the temporary arrangement for expected credit loss provisioning for Stage 1 and 2 exposures. The CRR quick fix includes measures other than those considered in this exercise, as well as permanent arrangements (see Box 3.3).

fair value and, second, the temporary ability to add back to their CET1 capital any increase in new expected credit loss provisions recognised for their non-impaired loans.[34] These measures act by increasing the CET1 ratio's numerator. The prudential filter for sovereign exposures improves the CET1 ratio by 0.24 pp under the baseline scenario and 0.31 pp under the adverse scenario (see Chart 2.17). Meanwhile, the measure concerning impairment losses for non-credit impaired debtors appears to improve the CET1 ratio by 0.57 pp under the baseline scenario (0.15 pp and 0.42 pp in relation to impairment losses for Stage 1 and Stage 2 exposures, respectively). This improvement increases to 1.01 pp (0.19 pp and 0.82 pp for impairment losses for Stage 1 and Stage 2 exposures, respectively) under the adverse scenario, where these losses are far greater.

34 In other words, debtors classified for accounting purposes as Stage 1 or Stage 2.

2.1.4 Deposit institutions' operational risks

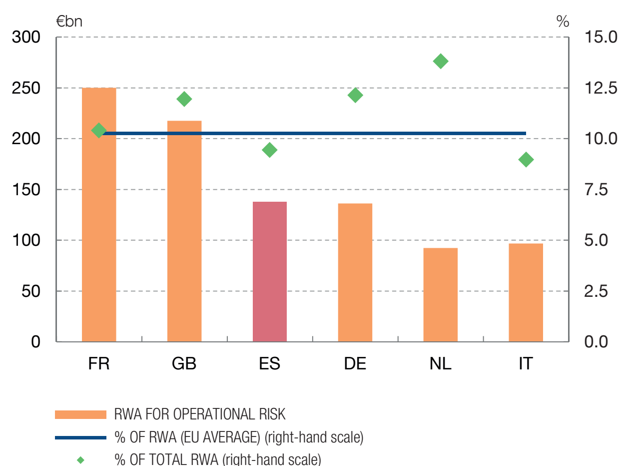
The measures adopted by Spanish deposit institutions to mitigate the impact of the pandemic on their operational continuity and, above all, the speed at which they were implemented have helped contain operational risks. Specifically, during the most stringent months of lockdown, on average around 20% of branches were closed and 10% of automated teller machines were not working. The percentage of employees working from home was above 60%. 80% of jobs can be performed remotely, placing Spain among the countries with a banking sector better adapted to this type of working arrangement. Lastly, 5% of staff members were unavailable. Operating expenses recognised by Spanish institutions in relation to the COVID-19 shock were immaterial (less than 0.1% of CET1) and in line with the SSM average. They corresponded mainly to strengthening infrastructure and business continuity, in addition to health and safety measures to protect employees and branches.

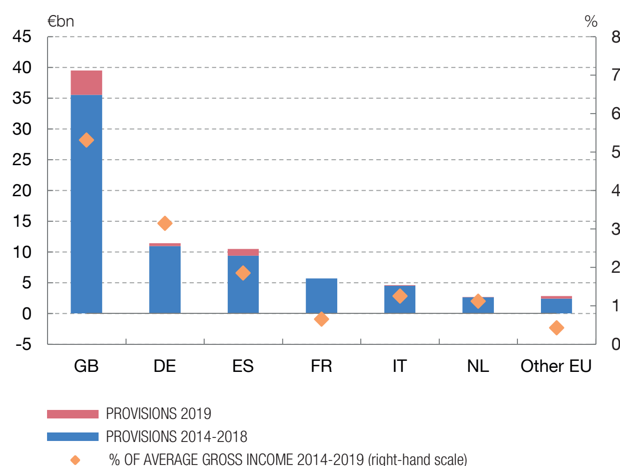
The RWA for operational risk of Spanish institutions fell over the last 12 months, owing to the decrease in the business indicator used to calculate them. Thus, although the weight of operational risk held steady in June 2020 at around 9.5% of total RWA, RWA for operational risk decreased by 4.4% in year-on-

Chart 2.18

RISK-WEIGHTED ASSETS FOR OPERATIONAL RISK HAVE HELD RELATIVELY STEADY IN RECENT YEARS, WHILE PROVISIONS FOR PENDING LEGAL ISSUES AND TAX LITIGATION HAVE INCREASED

At the European level, RWA for operational risk accounted for 10.3% of total RWA in December 2019. Although Spain was ranked third in terms of volume, the weight of its RWA for operational risk (9.4%) was lower than that of the main European countries (above only Italy) and below the European average. In turn, European banks have recognised significant provisions for pending legal issues and tax litigation in recent years. In 2019, the United Kingdom and Spain were the European countries that recorded the largest increase in provisioning compared with the period 2014-2018.





SOURCE: EBA.

year terms. At the European level, based on data from the latest EBA EU-wide transparency exercise for December 2019,[35] although Spain ranked third in terms of volume of RWA for operational risk, as a percentage of total RWA (9.4%) they remained below the European average (10.3%) (see Chart 2.18). The main reason for this difference is Spanish institutions' greater use of the standardised approach (linked to business indicators) rather than the advanced measurement approach to calculate operational risk capital requirements (linked to historical losses).

European banks' provisioning for pending legal issues and tax litigation fell in 2019. According to the transparency exercises published annually by the EBA, provisions recognised by the European banking sector between 2014 and 2018 exceeded €70 billion (2.3% of gross income). However, this was uneven across countries (ranging from 5.8% in the United Kingdom to 0.8% in France). By volume of provisions, Spain is ranked third, where they amount to 2% of gross income. In 2019, the countries with the largest increase in provisions compared with the period 2014-2018 were the United Kingdom and Spain. The United Kingdom remained the country with the largest volume of provisions (see Chart 2.18).

2.2 Non-banking financial sector and systemic interconnections

2.2.1 Non-banking financial sector

Specialised lending institutions

The outstanding amount of credit granted by specialised lending institutions (SLIs) fell over the last year as a result of changes therein since the onset of the pandemic. Prior to the COVID-19 crisis, lending by SLIs exhibited great momentum, with year-on-year growth of close to 10%. However, in June 2020 that rate dropped to –4.7% (see Chart 2.19), reflecting SLIs' greater vulnerability to the shock triggered by the pandemic on account of their business model, which is heavily focused on consumer credit.

Non-performing consumer credit loans extended by SLIs have risen such that the NPL ratio is at a similar level to that of deposit institutions for the same segment. The significant growth in consumer credit granted by SLIs had kept their NPL ratio below that recorded by deposit institutions in recent years (see Chart 2.19). However, the greater deceleration of new loans granted over the last year has prompted the NPL ratios to even out. Given the current macroeconomic situation and the macroeconomic forecasts, the SLIs' NPL ratio is likely to be subject to upward pressure.

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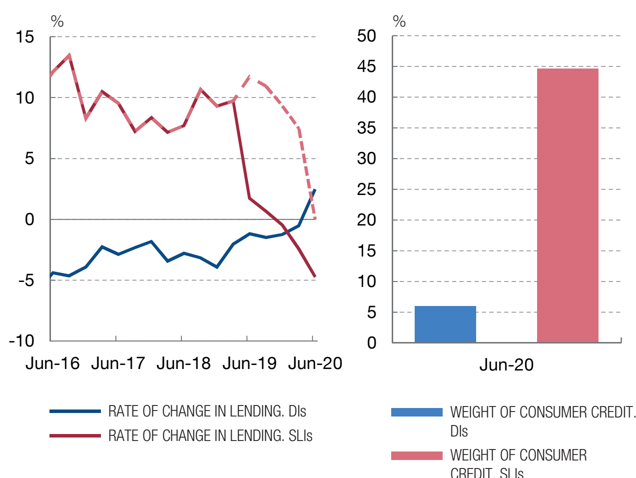
35 See the 2020 EU-wide transparency exercise.

Chart 2.19

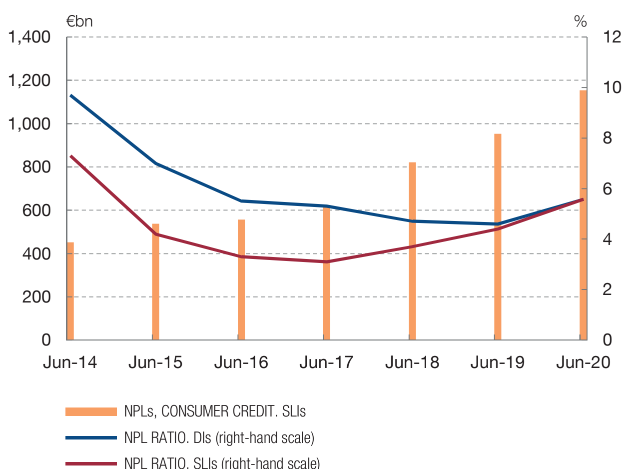
SLIs HAVE RECORDED A DROP IN LENDING AND AN INCREASE IN THE NPL RATIO SINCE THE ONSET OF THE COVID-19 PANDEMIC

Lending by SLIs fell in year-on-year terms on account of the performance in the first six months of 2020 and, above all, the sharp decline observed in Q2. Over the last 12 months, the NPL ratio of SLIs increased at a similar pace to that of deposit institutions. However, the SLI business model, heavily oriented towards consumer credit, makes them more vulnerable to the potential further worsening of households' ability to pay.

1 RATE OF CHANGE IN LENDING AND WEIGHT OF CONSUMER CREDIT (a)
Business in Spain, ID



2 NPLs AND NPL RATIO OF CONSUMER CREDIT
Business in Spain, ID



SOURCE: Banco de España.

a The broken red line shows the change in lending of existing SLIs in June 2020. Since June 2019, several significantly large SLIs have become deposit institutions, hence the marked drop in the rate of change in lending from that date (solid red line).

Insurance companies

The insurance sector's return on equity (ROE) in 2020 H1 fell by 0.5 pp compared to the same period of 2019 to 6.3%. The life insurance segment's performance was a driving factor behind this decrease. With the size of the sector's balance sheet and equity having held relatively steady over the last 12 months, the decline in ROE was triggered by the drop in the sector's earnings (–2.23%). The life (–13.9%) and non-life (6.2%) segments' year-on-year accounting profit performed unevenly in the first six months of 2020. The latter managed to grow despite the impact of COVID-19. This unevenness was also reflected in the performance of premium income. In the life segment premium income fell in the first six months of 2020 by 27.6% in year-on-year terms, while in the non-life segment it increased by 0.9% (see Chart 2.20). The increasing difficulty of channelling savings linked to life insurance products in a low interest rate environment is largely behind the poorer performance of the life segment's income.

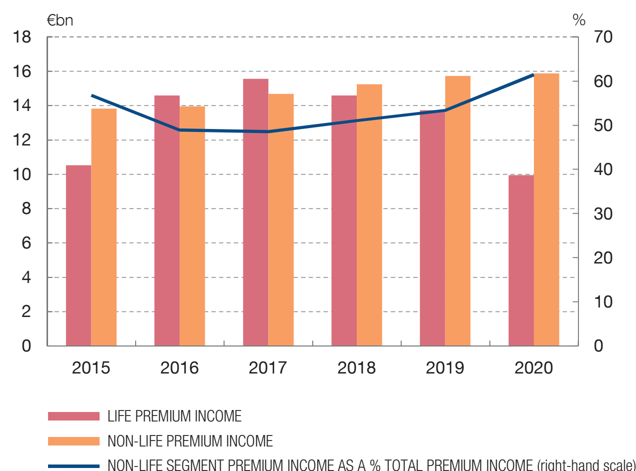
To date the COVID-19 crisis has not entailed significant changes to the sector's solvency position or to its investment portfolio structure by product type in

Chart 2.20

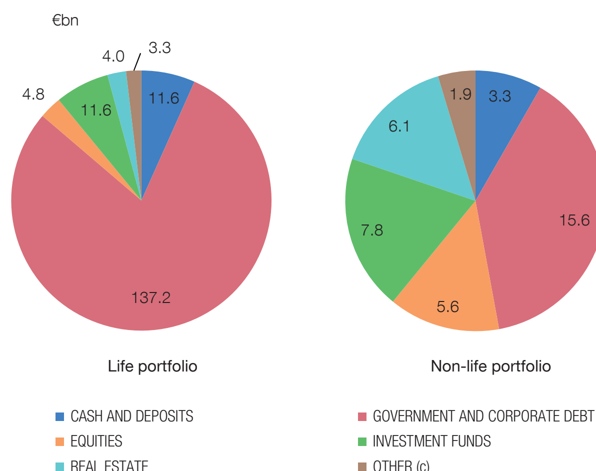
THE PREMIUM INCOME OF THE NON-LIFE SEGMENT HAS INCREASED IN 2020, COMPARED TO THE SHARP YEAR-ON-YEAR DROP RECORDED BY THE LIFE SEGMENT. THE NON-LIFE SEGMENT'S INVESTMENT PORTFOLIO ALSO HAS A GREATER WEIGHT OF RISKIER ASSETS (a)

The premium income of the non-life segment in Spain increased by 0.9% in the first six months of 2020, compared to the decline of more than 25% for the life segment. The life segment faces growing difficulties to attract savings, with an investment portfolio with a high weight (79.6%) of sovereign and corporate bonds with limited yields on account of the low interest rate environment.

1 PREMIUM INCOME AND EARNINGS



2 DISTRIBUTION OF INSURANCE COMPANIES' INVESTMENT (b)



SOURCE: ICEA.

a Life insurance policies may cover the risk of death and/or include a savings component tied to the insured's survival (with endowment insurance policies combining the two components being a possibility), while non-life insurance policies cover a wide range of risks (motor insurance, health insurance, breakdowns, home insurance, etc.).

b The life segment's portfolio represents 54.4% of the insurance sector's investments, while the non-life segment barely accounts for 12.7%. Equity and general portfolio investments account for the remaining 32.9%.

c Other includes mortgage and other loans, derivatives and the other asset categories.

the life and non-life segment. The insurance sector's solvency ratio stood at 229.8% in June 2020, down 4.7 pp on a year earlier. The investment portfolio in the life insurance segment remained concentrated in debt securities, with a weight of 76.9% in June 2020, which had declined minimally by 1.4 pp since June 2019. The proportion of riskier assets, such as equities and investment funds shares or units (2.8% and 6.7%, respectively in June 2020) is much smaller. By contrast, the non-life insurance segment's portfolio has a riskier profile, comprising 13.8% of equities, 19.3% of investment fund shares or units and 15.1% of real estate assets.

The higher risk profile of the non-life segment's investments has advantages in terms of profitability in a low rate environment but involves taking on greater risks. Central bank intervention has contained the negative effect of the COVID-19 crisis on financial asset valuations to date. This is estimated to have limited balance sheet impairment related to the investment portfolio, in particular, of the riskier non-life segment.

During 2020 work continued on the review of Solvency II, the regulatory framework for insurance companies in the EU, with the particular aim of enhancing its macroprudential dimension. Public consultations were launched by the European Insurance and Occupational Pensions Authority (EIOPA) and by the European Commission regarding the review of Solvency II. In February of this year the ESRB published a report[36] on this review with several macroprudential policy proposals. Notably, the ESRB favours incorporating into legislation new solvency requirements to prevent and mitigate the procyclical behaviour of insurance companies (through capital buffers), and liquidity requirements to address the risks of specific activities such as hedging derivatives and the placement of certain products, as well as new tools to reduce the risks of credit origination by the insurance sector in certain countries. The COVID-19 crisis has underlined the need to shore up the macroprudential dimension of the regulation in order to address systemic risks (the framework of Solvency II was not initially conceived for this purpose) and the appropriateness of providing the insurance industry with a set of macroprudential tools similar to that available for the banking industry.

Investment funds

Initially investment funds' assets were adversely affected by the pandemic, although they largely recovered during Q2. Specifically, in March 2020 their assets fell by 8.8% month-on-month and subsequently recovered, posting a quarter-on-quarter growth rate of 5.4% in June. The most important contributory factor to these positive developments in the second quarter was the funds' return to profitability, owing to the favourable performance of financial markets valuations, although this was not enough to reverse the losses following the outbreak of the pandemic, particularly in equity funds. Also, on the latest data available published by Inverco (September 2020), the year-on-year growth rate of investment funds' assets fell by 2.3% (see Chart 2.21), despite the favourable performance of long-term bond funds and equity funds. That is in line with the positive trend of the main stock market indices and the fall in risk premia in recent months mentioned in Chapter 1.

Pension funds

Pension funds have performed in a similar way to investment funds since the beginning of the pandemic. Thus, in March 2020 their assets declined by 8.8% in quarter-on-quarter terms and recovered in the second quarter, limiting the fall to 0.3% in year-on-year terms in June. This positive pattern in the second quarter was the result both of net contributions and of pension funds' recovery of profitability. In September (the latest available data published by Inverco), individual pension funds'

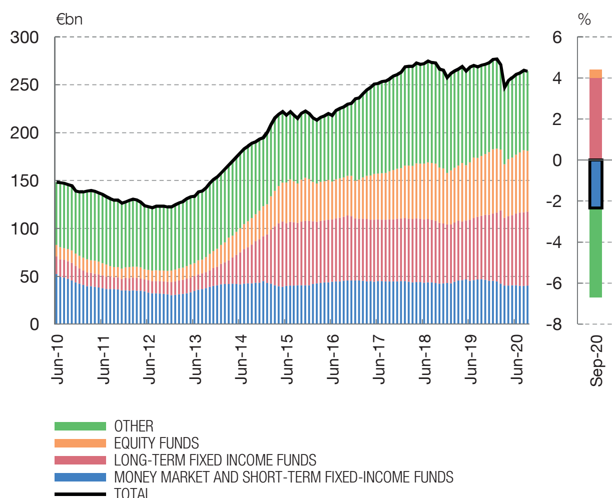
36 See ESRB February 2020 *Enhancing the macroprudential dimension of Solvency II*.

Chart 2.21

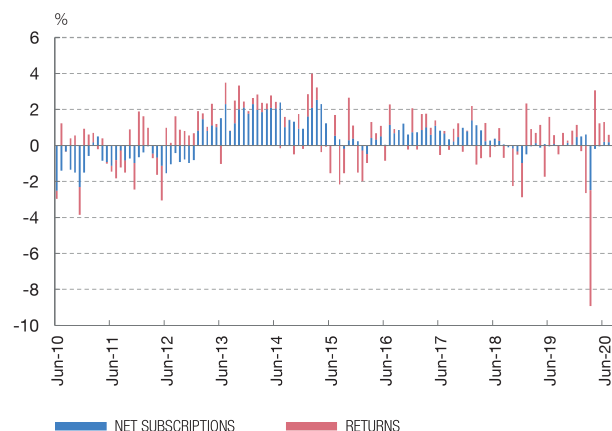
INVESTMENT FUNDS' ASSETS FELL SHARPLY AT THE ONSET OF THE PANDEMIC BUT HAVE LARGELY RECORDED A SUBSEQUENT RECOVERY

The sharp fall in investment funds' assets at the onset of the pandemic, both due to the negative impact on their profitability and net redemptions, was subsequently reversed by their return to profitability, with net subscriptions barely contributing to assets as from March 2020. The latest available data (September 2020) show that the reduction in investment funds' assets year-on-year (–2.3 %) is due to the negative behaviour of money market and short-term fixed-income funds and, in particular, of funds included in the "other" category.

1 BREAKDOWN OF INVESTMENT FUNDS BY CATEGORY (a)
Volume (left-hand scale) and y-o-y growth at Sep. 2020 (right-hand scale)



2 CONTRIBUTION OF RETURNS AND NET SUBSCRIPTIONS TO CHANGE IN INVESTMENT FUNDS' ASSETS



SOURCE: Inverco.

a The "long-term fixed-income funds" category includes long-term fixed-income investment funds, mixed fixed-income funds, international fixed-income funds and international mixed fixed-income funds. The "equity funds" category includes equity investment funds, mixed equity funds, international equity funds and international mixed equity funds. The "other" category includes hedge funds, passive management funds, absolute return funds, global funds and collateralised investment funds.

assets (which represent around 70% of the aggregate assets of individual, occupational and associated pension schemes) continued to rebound to post a year-on-year growth rate of 0.3%.

2.2.2 Systemic interconnections

In Spain the banking sector is key to the economy's financial activities and has a relatively stable weight of more than 65% of the private financial system's individual total assets. In turn, the banking sector is directly exposed to the non-banking financial sector (NBFS, which comprises entities such as investment funds, insurance companies, pension funds and other financial intermediaries) and it is also indirectly exposed to the same risks through investments in the same assets that are included in non-banking entities' portfolios. Although the combined size of these non-banking entities is much smaller than that of the banking sector, their interlinkages could potentially affect financial stability.

Investment funds account for a relatively small percentage of the domestic financial system, although their weight has increased in recent years owing to asset growth. Specifically, investment funds represent 21% of the individual total assets of the NBFS (7% of the total for the financial system). Given that investment funds are one of the most diversified industries in terms of geographical area and sectors, in principle, they would be more likely to mitigate the effects of local crises. However, the COVID-19 crisis has triggered turmoil on many markets worldwide and droves of investors exited the investment funds of several countries in search of less risky and more liquid assets.

The assets which funds must sell to address these divestments at times of stress may prompt prices to fall considerably and cause losses for other sectors which are holding them. Also, bulk sales could spiral and prices could fall in reaction to downgrades of issuers bordering on investment grade, owing to the mandate of many funds which requires them to invest in above investment-grade assets. In addition to the direct impact of falling prices on income or capital, the value of banks' collateral which is accepted or deposited in financial transactions could be affected where it comprises assets subject to fire sales or other assets which are impacted by these sales. As discussed in Chapter 1, at the moment the rating agencies have not revised valuations across the board as they did in the global financial crisis, however in more adverse scenarios this could ultimately happen.

The COVID-19 crisis triggered considerable outflows of capital from investment funds in the euro area. The outflows occurred mainly in the second half of March and reached around 2% of the funds' total assets prior to the outbreak of the pandemic (see Chart 2.22). From April onwards, these outflows were seen to stop or revert depending on the country in question.[37] Consequently, the situation at end-August was highly mixed; whereas the net subscriptions received by the funds in some countries exceeded the withdrawals in March (such as in Ireland or France, even though March's outflows were particularly severe in the latter country), the funds in other countries continued to record net capital outflows (such as in Italy). Spanish funds contained the net outflows in early April and their situation has remained stable since then. The outflows in March were sizeable (in Spain the outflows as a percentage of assets were higher than 95% of the monthly outflows observed since 2005). However, developments from March to September were significantly less negative than those observed in the 2007-2008 global financial crisis or the 2010-2012 sovereign debt crisis. The decisive action of the ECB and national authorities[38] is estimated to have contributed to stabilising investment fund flows.

A high percentage of banks' and investment funds' portfolios are invested in the assets of the same issuers, particularly sovereign bonds. Chart 2.23 shows the

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37 The ECB's pandemic emergency purchase programme (PEPP) which was implemented on 25 March played an essential role.

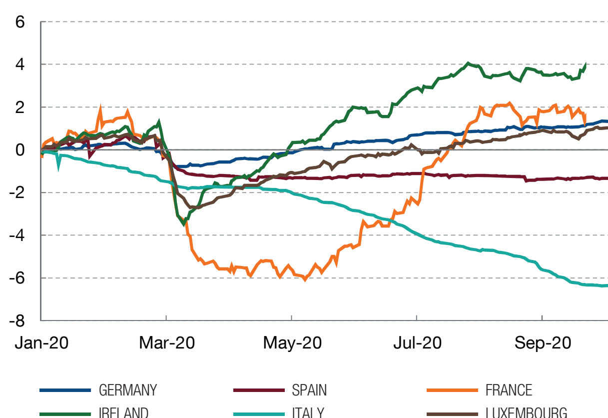
38 See, for example, the ECB's FSR of May 2020.

Chart 2.22

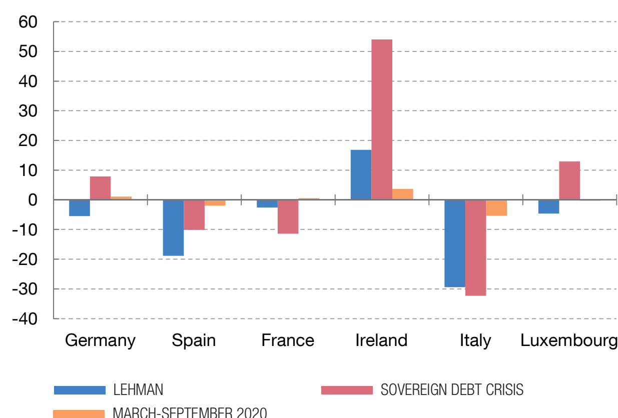
DESPITE THE PANDEMIC'S INITIAL SHARP IMPACT ON EUROPEAN INVESTMENT FUNDS, NET CAPITAL OUTFLOWS SINCE MARCH HAVE BEEN MORE MODERATE THAN IN PREVIOUS CRISES

In March 2020 the investment funds in several European countries experienced net capital outflows of around 2% of their assets. As from April a very mixed recovery has been observed, with funds in countries such as Ireland and France experiencing net inflows that exceed previous outflows, very low levels of net inflows into Spanish funds, and continuous outflows from Italian funds. The outflows recorded in 2020 are moderate when the developments in the period March-September 2020 are compared with the global financial crisis and the 2012 sovereign debt crisis.

1 NET INFLOWS ACCUMULATED SINCE 15 JANUARY 2020
As % of initial assets (a)



2 INVESTMENT FUNDS' NET CAPITAL INFLOWS IN SEVERAL CRISES
As % of initial assets (b)



SOURCE: Refinitiv.

a Initial assets are calculated as average assets between 8 and 14 January, except for Germany, which were calculated between 22 and 28 January (owing to Refinitiv's scant coverage for this country in the previous period).

b The "Lehman" data relate to the period July 2007-December 2008 and the "sovereign debt crisis" data relate to February 2010-December 2012. In the three cases, the figures relate to the net flows accumulated in the period with respect to total assets in the month before the period considered.

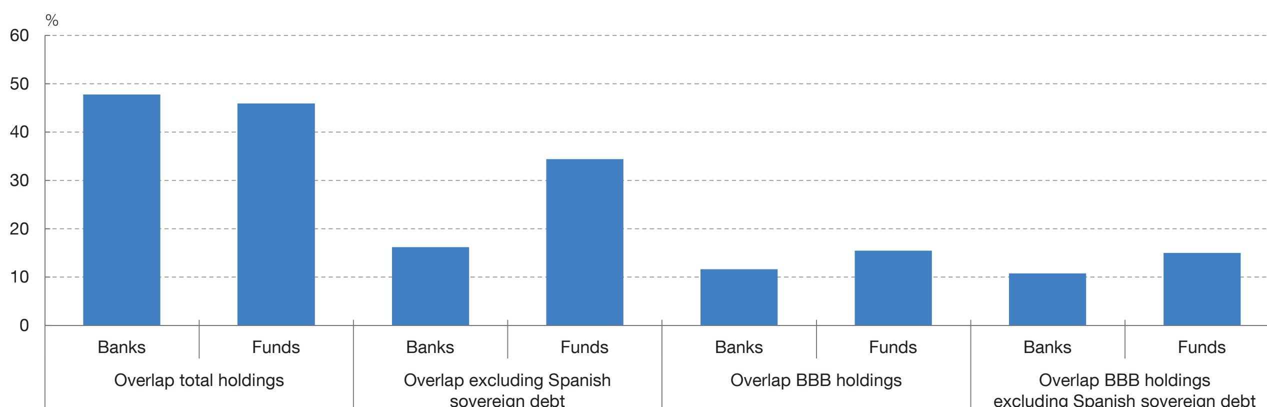
overlap across banks' and investment funds' marketable securities portfolios and the effect that government bond holdings have in this measure of portfolio similarity (the marketable securities portfolio represents 24% of total banking assets in individual terms). The overlap falls considerably if sovereign bond holdings are excluded; it decreases from 48% to 16% when measured in terms of the total banking portfolio. In the event of hypothetical fire sales, the fall in the price of sovereign holdings is expected to be lower than that of private-sector securities since those markets are deeper and more liquid. As for holdings bordering on investment grade,[39] the portfolios overlap to a much smaller extent, which ranges from 12% (for banks) to 15% (for funds). The effect of excluding sovereign bond holdings which are close to investment grade is lower since they account for a very small percentage of holdings (and include securities issued by regional or local public bodies). Therefore, possible sudden ratings downgrades in the

39 The ratings available as at 16 September 2020 are considered. They are assigned by one of the rating agencies recognised by the ECB and are adapted to the S&P scale so that all holdings whose issuer receives a rating of between BBB+ and BBB- are deemed to be at the lower range of investment grade.

Chart 2.23

A HIGH PERCENTAGE OF BANKS' AND INVESTMENT FUNDS' PORTFOLIOS ARE INVESTED IN ASSETS OF THE SAME ISSUERS (a)

A significant portion of the holdings they have in common are due to sovereign bond investments. At the same time, the overlap is considerably lower in assets whose rating is at the lower range of investment grade.



SOURCE: Securities Holdings Statistics by Sector.

a The chart shows the holdings that the banking and investment fund sectors have in common (i.e. securities with the same characteristics issued by the same issuer). The vertical axis shows the weight of these holdings as a percentage of each sector's total securities portfolio or of certain segments in their portfolios. For example, around 47% of the banking sector's securities portfolio is in common with that of investment funds. The market value (or fair value, if appropriate) of the holdings reported by the entities is considered. Holdings existing in June 2020 and credit ratings updated as of September 2020.

more vulnerable segments and fire sales of these assets by funds would have limited effects through the securities which are held in common. Nevertheless, these effects could be amplified by the correlation existing between prices of assets which are not held in common, but are similar, in the portfolios of the financial sectors.

2.2.3 Financial market infrastructures under the COVID-19 crisis

The crisis triggered by COVID-19 has posed a considerable challenge for financial market infrastructures (FMI) which, as an essential economic activity, must remain operational at all times. In the climate of uncertainty prompted by lockdown measures and the volatility in the volumes of operations processed, FMIs have had to adapt quickly. They have introduced remote working on a large scale and strengthened security measures to counter higher operational and cybersecurity risks arising from the new situation, while guaranteeing the continuity of their activities.

Securities infrastructures, particularly central counterparties (CCPs), have experienced sharp peaks in processing operations and have successfully overcome the challenge faced. CCPs experienced peak in activity in March and higher increases in variable and intraday margin requirements; the situation returned

to normal in subsequent months, although margin requirements have remained high at above pre-crisis levels. No important operational incidents occurred in this type of infrastructures in Spain or in the rest of Europe.[40]

However, market volatility in the early weeks of the crisis increased the strains on the functioning of the TARGET2-Securities[41] platform, owing to the concentration of settlement operations at certain times of the day which caused some minor incidents. The peaks in operations at certain times in the second half of March were more than double the average usual daily operations. At times these peaks tested the platform's processing capacity, which generated some delays. The operator adopted immediately applicable corrective measures, strengthened processing capacity and by mid-April the situation was gradually returning to normal. In any event, the stability of the financial system was not compromised by the above-mentioned incidents, which were of a markedly technical nature and did not increase financial risks.

Wholesale and retail payment systems, both in Spain and in the rest of the euro area, also responded promptly to the pandemic and continued to operate without incident. At the wholesale level, TARGET2[42] experienced atypical fluctuations in year-on-year terms in the volume of operations at the onset of the pandemic, but they have returned to normal over subsequent months. In the retail segment, the National Electronic Clearing System (SNCE, by its Spanish abbreviation)[43] provided its services as usual, although the crisis has meant a reduction in both the volume and value of its operations. Even so, the performance by payment instrument was mixed. Specifically, immediate transfers grew sharply, which could be partly explained by the proliferation of certain electronic payment applications as an alternative to cash. Nevertheless, a recovery was observed in the overall operations of the National Electronic Clearing System as from June, which coincided with the gradual lifting of the restrictive measures imposed under the state of alert since these operations are closely tied to private consumption and economic activity in general.

There were no notable incidents in the functioning of card payments either, which was affected by consumers' preference for alternative electronic payment instruments rather than cash, and there was a sharp drop in cash withdrawals from ATMs. Furthermore, the relative weight of in-person contactless payments using physical and digitalised cards on mobile devices has increased[44], as has the relative weight of remote payments.

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40 For Spain, BME Clearing and Iberclear (the central securities depository) are deemed CCPs.

41 TARGET2-Securities, a pan-European platform operated by the Eurosystem for the centralised settlement in central bank money of securities operations denominated in euro or in other currencies.

42 TARGET2, systemically important interbank euro real time gross settlement system operated by the Eurosystem.

43 Spanish retail payment system which processes among other instruments transfers and direct debits.

44 Since the payment threshold for purchases not requiring a PIN has increased from €20 to €50 in the context of social distancing.