Box 2.1

IMPACT ON THE SPANISH BANKING SECTOR IF THE FINANCIAL STABILITY RISKS IDENTIFIED FOLLOWING THE OUTBREAK OF WAR IN UKRAINE WERE TO MATERIALISE

The Banco de España has assessed the risks that could arise for the banking sector as a result of the armed conflict in Ukraine. To this end, it has applied a stress testing methodological framework known as the Forward-Looking Exercise on Spanish Banks (FLESB).[1] In this exercise, the hypothetical macro-financial scenarios (described in Box 1.3) envisage the macro-financial risks materialising to a high degree over the 2022-2023 horizon.

Chart 1 shows, for the adverse and severe scenarios, the corresponding impacts on the aggregate CET1 ratio of the group of Spanish banks.[2] The impacts on macro-financial conditions envisaged under the scenarios (e.g. lower GDP growth and higher interest rates) would translate into negative changes in expected bank profitability and solvency for the period 2022-2023 (e.g.

lower profit generation). In particular, the adverse scenario would entail a reduction of 1.8 pp in the aggregate CET1 ratio expected at end-2023, while the effect under the severe scenario would be more negative still (up to 3 pp). These capital ratio impacts would stem from extreme events far removed from the baseline outlook. In any event, the estimated capital charge indicates that the aggregate resilience of the Spanish banking sector as a whole is adequate.

The elements prompting this capital depletion would include, first, a lower generation of funds with which to address the potential impairment in operations in Spain and in sovereign exposures, with reductions of 0.3 pp and 1.5 pp (relative to RWAs in 2021) under the adverse and severe scenarios.

Chart 1
IMPACT OF THE RISK MATERIALISATION SCENARIOS ON BANK SOLVENCY (a)
CONSOLIDATED BUSINESS
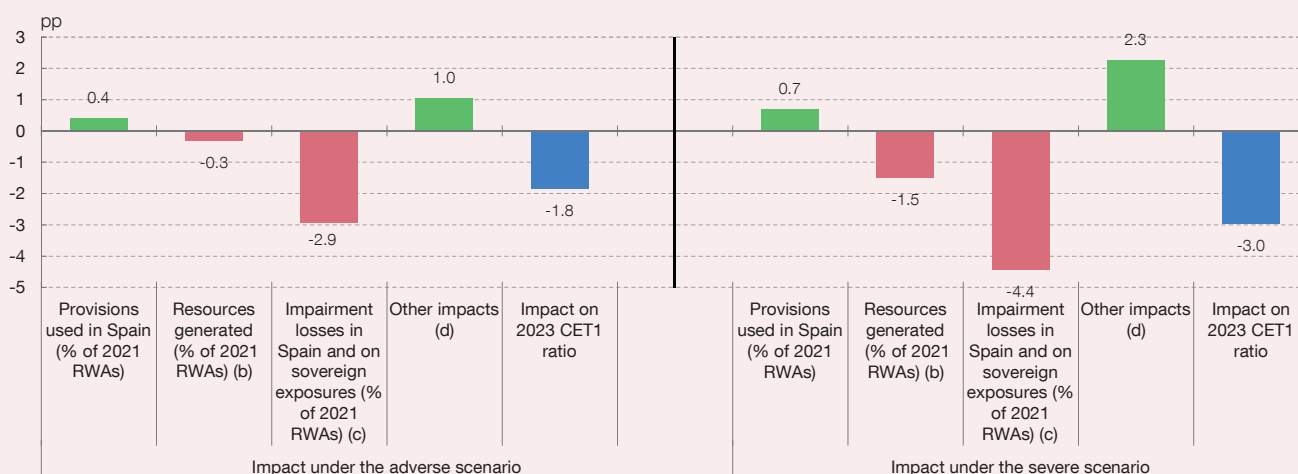
SOURCE: Banco de España.

a The impacts are defined as the expected changes in the CET1 ratio in 2023 and in different financial flows in 2022-2023 (e.g. generation of funds) stemming from the materialisation of adverse changes in macro-financial conditions envisaged in the scenarios described in Box 1.3.
b The generation of loss-absorbing resources is determined by net operating income in Spain, which also includes the net profit generated abroad for banks with significant international activity.
c Impairment losses on loans and foreclosed assets in operations in Spain, along with the impact on capital of the potential deterioration of sovereign exposures at consolidated level.
d Other consolidated gains and losses, tax effects, exchange rate differences, dividend distribution, coverage of Government losses linked to ICO-backed loans and changes in RWAs.

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1   The FLESB is a top-down methodology developed internally by the Banco de España, which applies the same scenarios, assumptions and models consistently across all of the banks analysed. The data sources available are highly granular, reaching down to the level of individual transactions and foreclosed assets in operations in Spain. The main features of this framework are outlined in the November 2013 FSR. Over the succeeding years, the Financial Stability Report has described the main improvements and new developments included in the model, since it is a dynamic framework under continuous development.

2   The analysis covers both significant institutions and a broad sample comprising 45 less significant institutions (LSIs, according to the SSM's supervisory classification), which includes savings banks and credit cooperatives, as well as other less significant institutions (OLSIs).

Box 2.1

IMPACT ON THE SPANISH BANKING SECTOR IF THE FINANCIAL STABILITY RISKS IDENTIFIED FOLLOWING THE OUTBREAK OF WAR IN UKRAINE WERE TO MATERIALISE (cont'd)

Second, the CET1 ratio would be adversely affected by increased impairment losses in operations in Spain and in sovereign exposures, whose adverse effects rise by 2.9 pp and 4.4 pp (as compared with 2021 RWAs) under the adverse and severe scenarios. These losses are affected both by the worsening credit quality of loans to the private sector (which would increase provisioning), and by a value adjustment to banks' sovereign bond holdings, given that the scenarios envisage an interest rate hike. The greater use of existing provisions considered in the scenarios would partly offset the need for new provisioning, with a positive impact of between 0.4 pp and 0.7 pp (relative to 2021 RWAs) under the adverse and severe scenarios, respectively.

Lastly, the changes in other impacts mitigate the reduction in the expected CET1 ratio for 2023 (by 1 pp and 2.3 pp relative to 2021 RWAs, depending on the severity). These essentially capture the banks' deleveraging, which reduces the solvency ratio denominator, and the increased enforcement of guarantees to cover the expected credit loss associated with ICO-backed loans.[3] These guarantees, which have so far not been enforced to any significant degree, represent important loss-absorbing resources in the face of this new, exogenous crisis. This estimate may represent a lower bound for the total mitigating effects, since this exercise does not include the measures approved by the Government[4] in late March, allowing the extension of grace periods and maturities for existing ICO-backed loans to certain industries, as well as establishing a new €10 billion ICO facility.

Deeper analysis of the credit risk impairment losses for operations in Spain reveals notable differences across the banks and the sectors of exposure. In particular, loans to NFCs and sole proprietors show significant heterogeneity (by firm size and sector of activity) in the impact of the adverse scenarios on probability of default (PD) (see Chart 2). The larger differential impact for smaller-sized firms reflects their lower capacity to absorb shocks, given that

their sources of revenue and financing are less diversified. The cross-sector differences are explained in part by the energy price increase affecting each sector differently, as envisaged under the scenarios, but also by the varying sensitivity of their servicing capacity to the general macroeconomic downturn and by differences in their initial financial positions.

When characterising credit loss, loans to individuals are also particularly relevant, as they account for over half of the total credit portfolio of operations in Spain, with household mortgages in particular representing 44% of that total. The expected loss rates in the mortgage portfolio continue to be limited, thanks to the nature of the loans and their associated collateral, and the scenarios therefore envisage a smaller impact for this business.

As a result of these various factors, the final impact on impairment provisions[5] in operations in Spain also differs across banks (see Chart 3). While the median impact ranges between 1.9 pp (relative to 2021 RWAs) under the adverse scenario and 3.5 pp under the severe scenario, there are cross-bank differences attributable to factors such as ex ante heterogeneity in the quality of their loans to the private sector and the differing sectoral composition of the portfolios.

Another relevant impact channel considered in the scenarios is the impairment of the sovereign bond portfolio. This reflects one of the main elements included in the scenarios: an interest rate rise associated with inflationary pressures (prompting a tightening of monetary policy in various jurisdictions) and with increased risk aversion among investors. The higher interest rates at which sovereign exposures is discounted, in both the short and especially the long term, lead to the value of such exposures deteriorating (see Chart 4). The median impacts on the associated losses (relative to 2021 RWAs) stand at 0.6 pp and 0.5 pp under the adverse and severe scenarios, respectively.

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3   The analysis modelled the effect of the economic policy measures to mitigate the impact of COVID-19, particularly taking into account the provision of ICO guarantees. The first programme (for a total of €100 billion in guarantees) was approved in March 2020 (Royal Decree-Law 8/2020) and was extended for a further €40 billion in July (Royal Decree-Law 25/2020). In the analysis, the banks recover the guaranteed percentage of the estimated expected loss for these ICO-backed loans. This explains why losses are cushioned to a greater extent under the severe scenario.

4   See the Council of Ministers announcement of 29 March 2022 (available in Spanish only).

5   The impact on impairment provisions is determined by how gross credit losses are affected (which depends on developments in PD, together with other parameters, such as collateral values, the NPL recovery rates, etc.) and the use of existing provisions to cover them.

Box 2.1

IMPACT ON THE SPANISH BANKING SECTOR IF THE FINANCIAL STABILITY RISKS IDENTIFIED FOLLOWING THE OUTBREAK OF WAR IN UKRAINE WERE TO MATERIALISE (cont'd)

Chart 2
DISTRIBUTION BY SECTOR AND FIRM SIZE OF THE IMPACT ON THE PROBABILITY OF DEFAULT OF FIRMS AND SOLE PROPRIETORS (a). OPERATIONS IN SPAIN
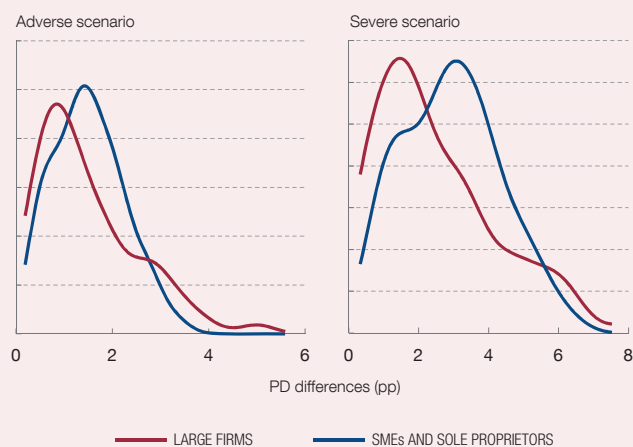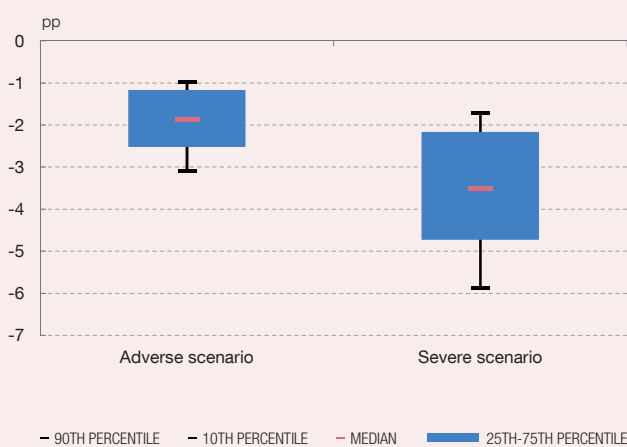
Chart 3
DISTRIBUTION AMONG BANKS OF IMPACTS ON LOAN IMPAIRMENT PROVISIONS RELATIVE TO 2021 RWAs (b). OPERATIONS IN SPAIN

Adverse scenario   Severe scenario

PD differences (pp)

—— LARGE FIRMS   —— SMEs AND SOLE PROPRIETORS

pp

- 90TH PERCENTILE   - 10TH PERCENTILE   – MEDIAN   ▬ 25TH-75TH PERCENTILE

SOURCE: Banco de España.

a Probability of default (PD) is defined as the probability of reclassification from performing to non-performing status in a 12-month period. This probability is estimated using a model that links observed PD to macroeconomic variables and firms' financial ratios. The chart shows the density function of the average impact of the adverse and severe scenarios on the estimated PD for each sector in 2022-2023 (in pp). This is estimated for each bank, but the weighted average for each sector is shown. Weighting is by number of borrowers. This density function is proxied by means of a kernel estimator, which enables non-parametric estimation and provides a continuous, smoothed graphic representation of the function.
b Shown is the distribution among banks of the impact of the adverse and severe scenarios on 2022-2023 impairment provisions for loans to the private sector in Spain (relative to 2021 RWAs in Spain). The bars represent the values between the 25th and 75th percentiles, while the lines show the 10th, 50th (median) and 90th percentiles. The 15 largest banks by RWAs are considered.

The cross-bank dispersion of sovereign losses is explained by factors such as the portfolio's geographical composition, the maturity structure and the accounting classification of the exposures. In the case of some emerging countries, rising interest rates entail high discounts on holdings of their debt, although this deterioration in banks' equity is limited by the depreciation of these countries' currencies against the euro. Given that a significant proportion of banks' sovereign portfolio is classified as at amortised cost (53.7% for the group of banks), on the basis of their intention to hold such debt on the balance sheet until maturity, the deterioration of its market value is only partially passed through to the balance sheet. This is an important factor mitigating the impact of the crisis. Also, considering the sovereign bond holdings classified as at fair value, those banks whose portfolios have shorter terms to maturity are less affected than those with longer-dated maturities. In the case of Spanish banks, 70% of sovereign bonds in the fair value portfolio have a remaining term of over one year, while bonds with a maturity of more than 10 years account for 7%.

The rise in interest rates envisaged in the scenarios also adds a further mitigating element, by improving net interest income. This is because the rise favourably affects the net interest margin on loans to the private sector and makes investing in debt securities more profitable, whereas the cost of deposits responds more moderately. These positive effects predominate over the decline in the stock of performing loans generating interest income prompted by higher interest rates and worsening economic activity, which lower the total growth and quality of credit.

The modelling used bears out the improvement in net interest income of operations in Spain under the adverse and severe scenarios (see Chart 5). In terms of median impacts (relative to 2021 RWAs), increases of 1.1 pp and 0.3 pp are observed in net interest income in Spain under the adverse and severe scenarios, respectively. The cross-bank dispersion in the results is associated with differences in the composition of loans to the private sector, in the weight of fixed-income securities in total assets and in private sector deposits as a share of total funding.

Box 2.1

IMPACT ON THE SPANISH BANKING SECTOR IF THE FINANCIAL STABILITY RISKS IDENTIFIED FOLLOWING THE OUTBREAK OF WAR IN UKRAINE WERE TO MATERIALISE (cont'd)

Chart 4
DISTRIBUTION AMONG BANKS OF IMPACTS IN TERMS OF LOSSES IN VALUE IN SOVEREIGN EXPOSURES (a). CONSOLIDATED BUSINESS
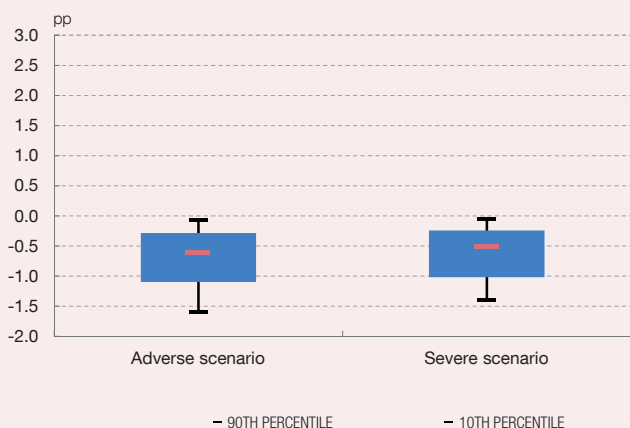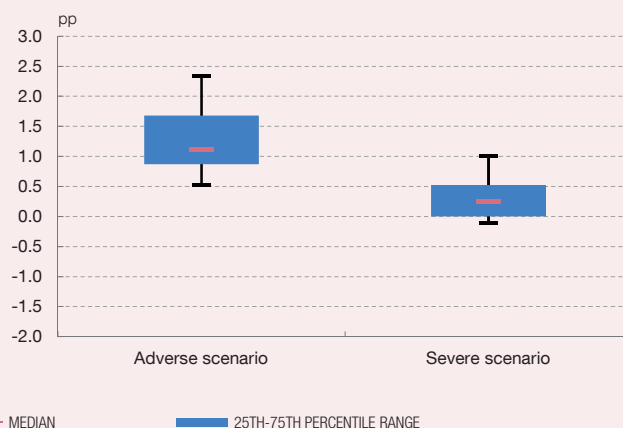
Chart 5
DISTRIBUTION AMONG BANKS OF IMPACTS ON NET INTEREST INCOME (b). OPERATIONS IN SPAIN

— 90TH PERCENTILE   — 10TH PERCENTILE   — MEDIAN   ▬ 25TH-75TH PERCENTILE RANGE

SOURCE: Banco de España.

a Shown is the distribution among banks of the impact of the adverse and severe scenarios on the cumulative losses on consolidated sovereign exposures in 2022-2023 (relative to RWAs in 2021). The bars represent the values between the 25th and 75th percentiles, while the lines show the 10th, 50th (median) and 90th percentiles. The 15 largest banks by RWAs are considered.

b Shown is the distribution among banks of the impact of the adverse and severe scenarios on cumulative net interest income in 2022-2023, relative to RWAs in 2021. The bars represent the values between the 25th and 75th percentiles, while the lines show the 10th, 50th (median) and 90th percentiles. The 15 largest banks by RWAs are considered.

In sum, the stress tests conducted suggest that the Spanish banking system's CET1 ratios would be lower if the risks envisaged in these scenarios were to materialise to a high degree.[6] However, the results also suggest that, given the current levels of these solvency ratios, the aggregate resilience would suffice to absorb the impact of the crisis. In any event, the armed conflict adds uncertainty over the impact and source of the macro-financial risk factors that are relevant for assessing banks' solvency. Thus, as this crisis episode unfolds, the analysis assumptions will need to be reassessed, so that any risks and vulnerabilities that may arise or intensify can be detected early on.

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6   When comparing, in terms of severity, the results with those of other exercises performed with the FLESB tool and published in the Financial Stability Reports, it should be specified that the time horizon in this exercise is shorter: two years, rather than three. Accordingly, a decline in CET1 over the two-year horizon comparable to that envisaged in previous exercises would indicate a more severe impact were an additional crisis year added to the scenario. Conversely, if the additional year were one of recovery, the severity would likely be lesser than in other exercises.