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Eurosistema

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The Spanish banking industry and the economic challenges ahead*

Meeting with the Spanish Financial Press Association / Universidad Internacional Menéndez Pelayo

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Governor

* English translation from the original in Spanish.

Good morning:

I wish to begin by thanking the Spanish Financial Press Association (APIE) and the Universidad Internacional Menéndez Pelayo for once again inviting me to take part in this meeting, providing me with the opportunity, on this occasion, to address the latest developments in the Spanish banking industry and the challenges ahead.

POTENTIAL IMPACT OF THE WAR IN UKRAINE: MAIN CHANNELS

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Commodities channel	• Russia and, to a lesser degree, Ukraine are **major producers of certain energy and non-energy commodities** • **Europe is highly dependent** on imports of some of these products: Russia accounted for some 20% of total euro area oil imports and some 35% of total euro area gas imports in 2020. In 2019, only 6% of Spain's energy imports (4.5% of total energy consumption) came from Russia, but this figure is much higher for countries such as Germany (17%) and Italy (22%) • A hypothetical reduction in, or cut to, supply from Russia could have a significant impact on the European economy • **Indeed, oil, natural gas and other non-energy commodity prices have already risen sharply**
Financial channel	• **Direct financial exposure** to Russia and Ukraine is generally **very limited** among European firms and banks (especially, once again, among Spanish ones) • **Volatility has increased and financing conditions have tightened**
Trade channel	• **Direct trade exposure to Russia among European countries is relatively low and smaller in Spain, but the indirect effects may be considerable,** particularly against the backdrop of sanctions • In 2019 euro area exports of goods to Russia and Ukraine accounted for 1.6% and 0.3%, respectively, of its total goods exports. Spain's exports of goods to Russia and Ukraine accounted for 0.7% and 0.2%, respectively, of its total, whereas the relative dependence on imports from Russia stood at 1.1% in 2019 (0.5% in the case of Ukraine, although this figure was higher for certain primary products)
Confidence/ uncertainty channel	• **Households and firms will have difficulty anticipating future economic developments**, particularly regarding their own incomes and this will affect their consumption and investment decisions • **Confidence indicators have deteriorated** since the outbreak of the war

The Russian invasion of Ukraine is a **new shock for the world economy**, just two years after the shock triggered by the pandemic. The political and economic consequences of the war are difficult to predict, but they are already changing the macro-financial environment, characterised by a sharp increase in uncertainty and a persistent surge in inflation. All this, when the Spanish economy was experiencing a recovery – albeit incomplete and uneven across economic sectors – from the economic effects of the health crisis.

The deterioration in the macro-financial environment has come at a time when the Spanish banking industry's resilience remains generally high and it had returned to pre-pandemic profitability levels. But the war in Ukraine and, more generally, the economic costs of a high inflationary setting, pose **fresh risks for financial stability**.

Spanish banks have very little direct financial exposure to Russia and Ukraine, but **the indirect effects of the war may be significant**. It is having a negative impact on world trade and on confidence among households and firms, which may lead them to postpone consumption and investment decisions. In the financial markets, the increased uncertainty is driving up both risk premia and volatility.

That said, the main short and medium-term impact of the war stems from the fact that Russia and Ukraine are major commodity producers, particularly of energy and metal commodities in the case of Russia and agricultural commodities in the case of Ukraine. Given that Europe is a net importer of energy and depends, therefore, on Russian gas and oil, the climb in energy prices not only generates inflationary tensions, but by raising the external energy bill it also reduces household income.

Moreover, monetary policy normalisation, which is needed to moderate inflationary pressures, has already led to a tightening of financial conditions in the economy.

This scenario could reduce households' and firms' ability to pay, particularly among those experiencing a slower or tardier recovery from the pandemic. The impact of these shocks on households is also very uneven, with lower-income households being hit the hardest.

Lastly we should not forget that the war may also affect operational risk in the banking industry, in light of the potential growth of cyber attacks.

THE LATEST PROJECTIONS PUBLISHED BY THE BANCO DE ESPAÑA SHOW THESE ADVERSE CONSEQUENCES FOR ECONOMIC GROWTH AND INFLATION

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		June 2022 projections			December 2021 projections		
	2021	2022	2023	2024	2022	2023	2024
GDP	5.1	4.1	2.8	2.6	5.4	3.9	1.8
GDP deflator	2.2	2.9	2.9	2.4	2.5	1.7	1.7
CPI	3.0	7.2	2.6	1.8	3.7	1.2	1.5
Employment (full-time equivalent jobs)	7.0	4.6	1.5	1.1	3.8	2.8	1.3
Unemployment rate	14.8	13.0	12.8	12.7	14.2	12.9	12.4

SOURCES: Banco de España and INE.

This deterioration in the macro-financial situation stemming from the Russian invasion of Ukraine has led us to revise down our economic forecasts for this year and next, and to significantly raise our inflation projections for this year. Specifically, compared with the forecasts published at end-2021, our latest macroeconomic projections published in June expect real GDP growth of 4.1% in 2022 and 2.8% in 2023 (1.3 percentage points (pp) and 1.1 pp, respectively, below the December 2021 projections), while inflation is expected to stand at 7.2% on average in 2022 and at 2.6% on average in 2023 (3.5 pp and 1.4 pp, respectively, above the estimates published in December 2021).

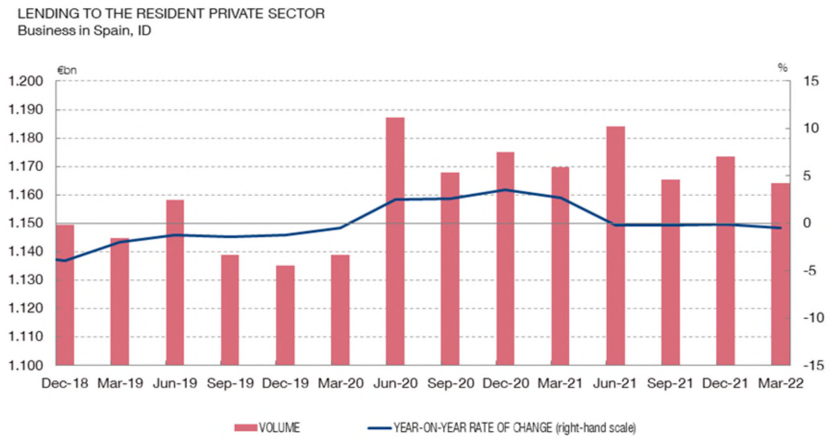
The risks to our baseline scenario are tilted to the downside in the case of activity and to the upside in the case of inflation. All against a backdrop of extraordinary uncertainty, linked in particular to the duration and intensity of the war in Ukraine. A greater degree of pass-through of the recent increases in prices and costs to other prices in the economy and to wages is an additional and very significant source of risk. Other sources of risk include the uncertainties surrounding the pace of the effective roll-out of the NGEU programme in Spain and the possible consequences of monetary policy normalisation in terms of the degree of tightening of financial conditions.

In any event, in the absence of any fresh shocks or an escalation of the war in Ukraine, these projections would still be consistent with the Spanish economy holding on a gradual recovery path – that could see it reach pre-pandemic GDP levels in the second half of 2023 – and with inflation rates remaining high in the coming months and subsequently moderating gradually thereafter.

To assess the importance of these risks for the industry, I will now outline the latest developments in lending and private sector indebtedness. I will follow by outlining the situation of the banking industry, and will conclude with a more forward-looking analysis of its resilience and the challenges it faces in the current environment.

Recent developments in lending and private sector indebtedness

LENDING TO THE RESIDENT PRIVATE SECTOR BANCO DE ESPAÑA Eurosistema



SOURCES: ICO and Banco de España.

After recording strong growth in 2020, in Spain **bank lending to the resident private sector fell slightly in 2021**. By sector, lending to non-financial corporations (NFCs) and sole proprietors declined, offsetting the more expansionary behaviour of lending to households, especially loans for house purchase. This pattern intensified in 2022 Q1, when lending overall contracted (-0.5% year-on-year) while loans for house purchase accelerated somewhat (to 1.4%).

BUSINESS SECTOR DEBT

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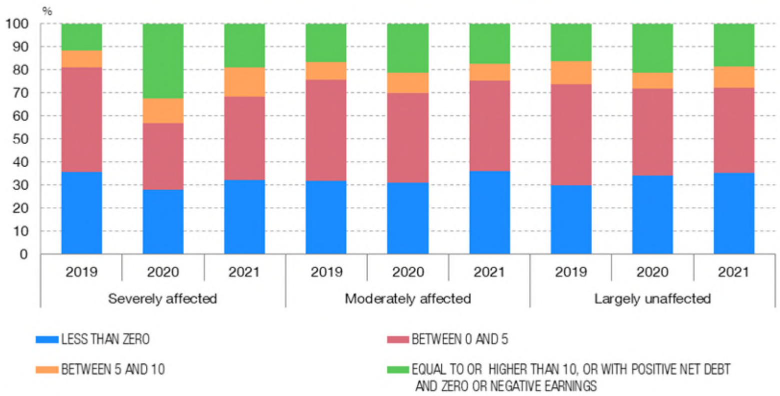
PERCENTAGE OF FIRMS BY DEBT TRANCHE AND SECTOR OF ACTIVITY (a)



SOURCE: Banco de España.
a Indebtedness is measured as the ratio of net financial debt to (gross operating profit + financial revenue). Economic sectors are classified by the extent to which they were affected by the COVID-19 pandemic, measured in terms of decline in turnover.

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Overall, thanks to the recovery in turnover and more moderate growth in debt in 2021, the **financial situation of the business sector has improved, although on average it is still more vulnerable than before the pandemic**.

Thus, average debt and debt burden ratios fell in 2021. The percentage of highly-indebted firms[1] also decreased across the board, down to almost pre-pandemic levels both in the sectors moderately affected and largely unaffected by the health crisis, although it was still 7 pp higher than in 2019 in those severely affected.

HOUSEHOLD DEBT

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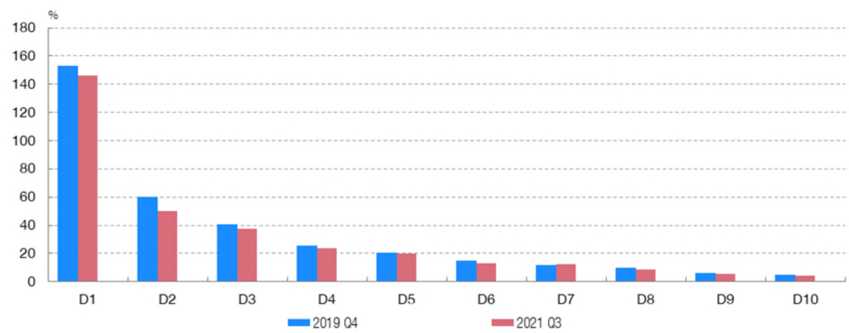
HOUSEHOLD BANK DEBT-TO-TOTAL ASSET RATIO BY NET WEALTH DECILE (a)



SOURCES: ECB and Banco de España.
a The denominator of the bank debt-to-total asset ratio includes financial and non-financial assets.

In the case of **households**, favourable labour market and income developments are also contributing to the **recovery in their economic and financial situation.** In 2021,

[1] Firms are understood to be highly indebted when their ratio of net financial debt to (gross operating profit + financial revenue) is higher than 10, or they have positive net financial debt and zero or negative earnings.

households' gross disposable income (GDI) grew by 2.2%, although it was still 2.8% down on 2019. From the onset of the health crisis to end-2021, households' aggregate net wealth rose by 9.8%, assisted by the increase in value of their financial and, above all, their real estate assets, and by their relatively stable debt levels.

Overall, households' bank debt-to-total asset ratio fell, particularly in the lower net wealth deciles.[2] Nevertheless, in the first net wealth decile, debt continues to far exceed the value of assets (by around 50%), thus signalling the financial vulnerability of this segment.

Also, households significantly increased their saving rate during the pandemic. The accumulated savings could serve as a cushion, at least in part, in the face of a potential deterioration in their real income. But the increase in saving was uneven across households, concentrated among those with the highest purchasing power.

RESIDENTIAL MORTGAGE LENDING AND LOANS TO CONSTRUCTION AND REAL ESTATE DEVELOPMENT

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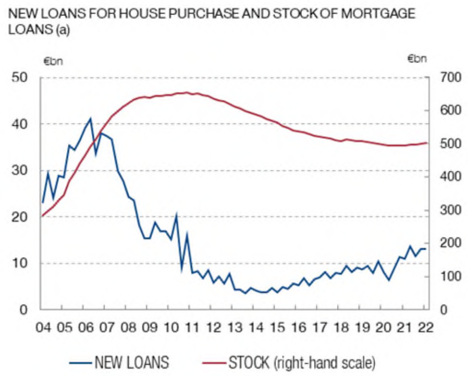

SOURCE: Banco de España.
a The new loans for house purchase series (left-hand scale) shows the cumulative value of new lending at the end of each quarter. The stock of mortgage loans series (right-hand scale) shows the cumulative value of the stock of mortgage loans at the end of each quarter.
b Quarterly data. The year-on-year change is the four-quarter average.

In the housing market, house purchases in Q1 were 22% higher than in the same period of 2019. Meanwhile, **new residential mortgage lending has risen, standing at its highest levels since 2010.**

However, given the sizeable volume of repayments and the relatively small share of new loans as a proportion of the total stock (owing to the long duration of mortgage loans), the stock of mortgage credit rose by just 1.4% year-on-year in March 2022.

In turn, **the stock of credit to construction and real estate development continued to decline.** Indeed, new housebuilding has not recovered with the same strength as demand for housing, and this is probably being reflected in house prices. Specifically, in 2022 Q1, housing investment accounted for 5.4% of GDP; this compares with 6.2% in 2020 Q1 and is less than half the figure recorded during the real estate boom in the run-up to the global financial crisis.

[2] Average debt-to-GDI and debt burden-to-GDI ratios increased in 2020 owing to the decline in GDI. The recovery in GDI drove down these ratios in 2021.

INDICATORS OF HOUSE PRICE IMBALANCES, CREDIT INTENSITY AND THE DEBT SERVICE RATIO

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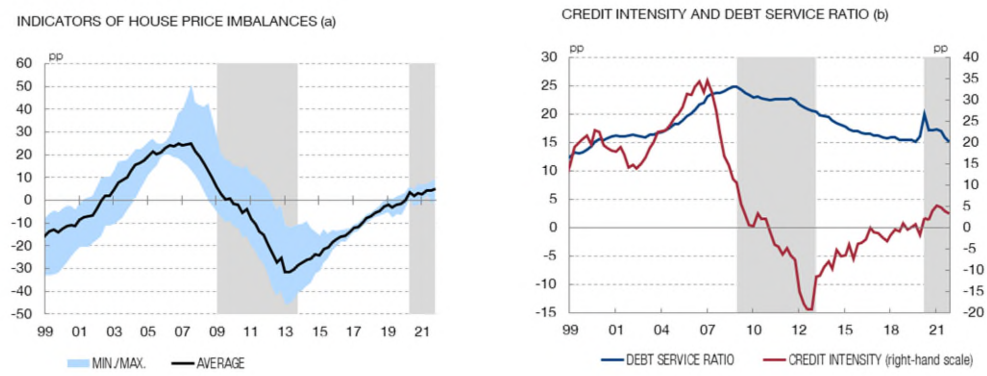

SOURCE: Banco de España.
a The blue shaded area represents the minimum and maximum values of four indicators of house price imbalances.
b The debt service ratio is defined as the ratio of interest and principal payments to aggregate disposable income; it therefore measures the affordability of debt payments with respect to disposable income.

Indicators of price imbalances on the real estate market have been showing some minor signs of overvaluation since early 2020. These indicators climbed slightly in 2021 and could increase further if the acceleration in house prices observed in 2022 Q1 takes a firm hold.[3] Yet prices are close to their equilibrium levels and distant from the levels reached in the run-up to the global financial crisis. In any event, they will have to be closely monitored in the coming quarters. The ongoing macro-financial developments may affect this variable in opposite directions. The downside risks to households' disposable income and the likely tightening of financial conditions could curb the recent increases. But the sharp growth in the cost of construction materials, which could pass through to a greater or lesser extent to final prices via a decline in activity in the sector, and the role of real estate property as a safe haven in times of financial market volatility, could have the opposite effect.

CREDIT STANDARDS FOR RESIDENTIAL MORTGAGES AND INTEREST RATE SPREADS

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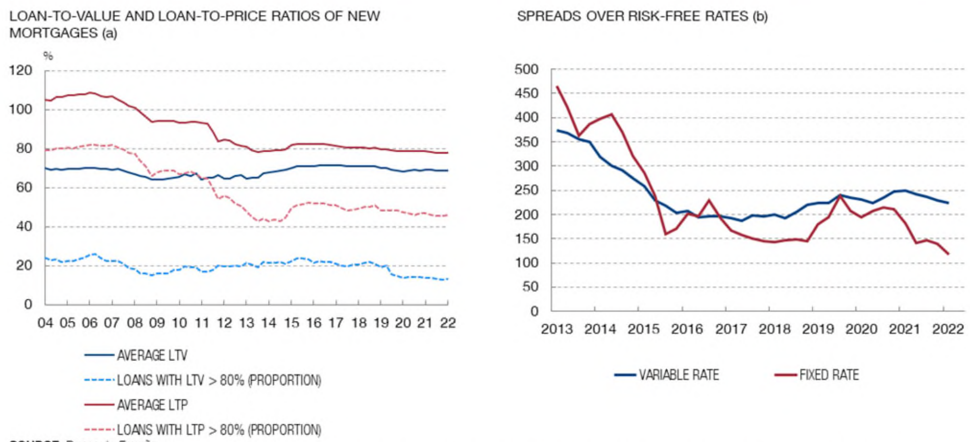

SOURCE: Banco de España.
a The LTV ratio is the relationship between the mortgage principal and the appraisal value of the property. In the LTP ratio the denominator is the registered price of the property.
b Interest rate spread of each new mortgage over the euro IRS or swap curve.

[3] Year-on-year growth in house prices accelerated from 6.4% at December 2021 to 8.5% in 2022 Q1.

There was **no substantial change in credit standards for new residential mortgages** in 2021. Average borrower loan-to-value (LTV) and loan-to-price (LTP) ratios in new mortgages held steady in the year. Nor were there any significant changes in the proportion of mortgages with a higher level of leverage (those with LTV or LTP ratios over 80%).[4] Conversely, the **average interest rate spread for fixed-rate mortgages**, which currently represent the bulk of new mortgage lending, narrowed in 2021, converging with the average spread for variable rate mortgages and standing at its lowest level in recent years. In this respect it is important to underline that the correct pass-through to interest rates of the risks inherent to lending is an essential condition to guarantee financial stability.

CREDIT-TO-GDP GAP

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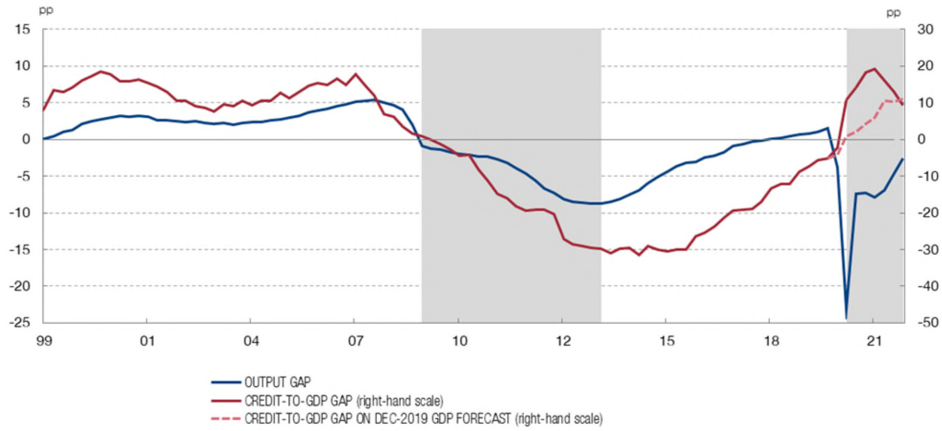
CREDIT-TO-GDP GAP AND OUTPUT GAP (a) (b)



SOURCE: Banco de España.
a The grey shaded areas denote two periods of financial crisis identified in Spain since 2009.
b The credit-to-GDP gap is the percentage difference between actual GDP and its potential quarterly value. Values calculated at constant 2010 prices.

The **credit-to-GDP gap** serves as an indicator for credit market imbalances and as a guide for the potential activation of macroprudential measures. As a result of the normalisation of bank lending in 2021 that I mentioned earlier, and the start of the economic recovery, **in the last stretch of 2021 the gap continued to correct, after widening at the onset of the pandemic.** This process is expected to continue into the coming quarters, but the gap is still quite large.

In this respect it is important to note that, against the backdrop of the crisis caused by the pandemic, the growth in the credit-to-GDP gap is **associated with the sharp drop in GDP** (the denominator in the credit-to-GDP ratio) **in 2020 and with the measures taken to support the flow of credit to the economy** (the numerator in the ratio), which drove its strong growth in that year. Accordingly, it does not reflect exuberant credit dynamics. Likewise, credit intensity and the debt service ratio, which are complementary indicators to identify cyclical risk, stand at moderate levels.

Looking forward, our projections expect the credit-to-GDP gap to continue to correct in the coming quarters. Yet further acceleration in inflation and increasing downside risks to growth make for **greater uncertainty**. In particular, we need to ensure in the coming

[4] Moreover, in the case of the loan-to-income (LTI) ratio, which measures the relationship between the mortgage principal and the borrower's income at mortgage origination, the LTI ratios in most new mortgage loans were either low (LTI less than 3 times) or high (LTI over 4.5 times).

quarters that the effect of nominal GDP growth is correctly interpreted, as it could have a less beneficial impact than in previous periods on the sustainability of private debt, given that it would be more closely related to higher production costs which drive down agents' income. Likewise, the tightening of financial conditions would drive up the debt service ratio.

Developments in the Spanish banking industry

CHANGES IN NPLs

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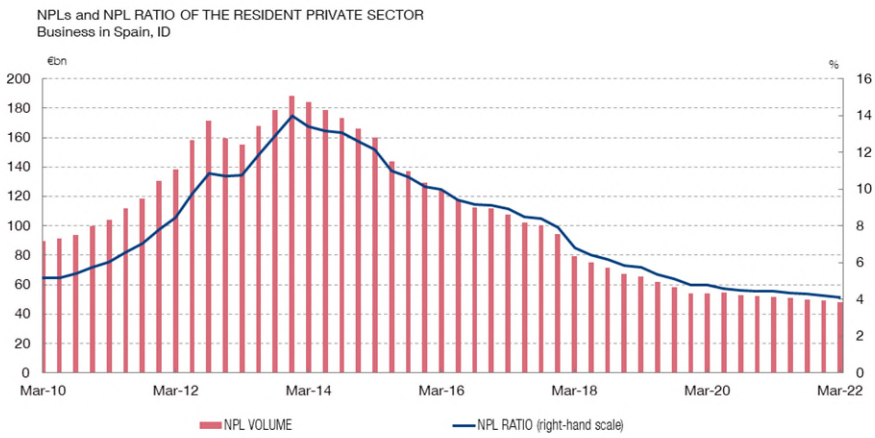

SOURCE: Banco de España.

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As regards bank balance sheet credit quality, **non-performing lending to the resident private sector fell by 5.4% in 2021**, a drop which quickened to 7.1% year-on-year in 2022 Q1. This decline confirms the **differential performance of non-performing loans (NPLs) in this crisis**, with the economic policy measures proving crucial in maintaining households' and firms' ability to pay and their net lending. Thus, **the NPL ratio for credit to the resident private sector stood at 4.1% at March 2022**, compared with 4.8% at end-2019.

Despite this good NPL performance, **there are potential latent impairments in some credit portfolios, particularly those linked with the most vulnerable segments of firms and households.** Specifically, **Stage 2 loans**[5] **continued to rise at high rates** at end-2021 (14% year-on-year), although notably below the growth rates of previous quarters. Meanwhile, Stage 2 loans accounted for 8% of all loans, up 2.2 pp on pre-pandemic levels.

Forborne loans,[6] the bulk of which are classified as Stage 2 or non-performing exposures, **also rose** by 14% in 2021, owing to a sharp rise among NFCs and sole proprietors. At end-2021 they accounted for 5% of total outstanding loans, the same percentage as prior to the pandemic.

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

[6] Forborne loans are also typically associated with possible repayment difficulties for borrowers; indeed, more than half are classified as non-performing.

In any event, the developments in Stage 2 and forborne loans were encouraging in 2022 Q1: the former's year-on-year growth was negative (-2.2%) while the latter's slowed to 8.8%.

Vulnerability is most acute among the sectors sensitive both to the effects of the pandemic and to the rising energy costs. In particular, **the combined share of NPLs and Stage 2 loans in the sectors most severely affected by the pandemic stood at almost 24%** at December 2021, compared with 17.7% in the moderately affected sectors and 15.5% in those least affected. These shares held stable during 2022 Q1.

The credit quality of loans backed by the State through the Official Credit Institute (ICO) has deteriorated somewhat in recent quarters. At March 2022, 22.7% of ICO-backed loans were classified as Stage 2 exposures (up 6.4 pp on June 2021) and 4.1% as NPLs (up 2 pp on June 2021). Further, it must be noted that a significant share of these loans continue to benefit from grace periods, which will come to an end in summer 2022.

These credit exposures with some sign of impairment may, in turn, be **more vulnerable to the materialisation of the risks** stemming from the current context. Accordingly, **they should be monitored with particular care, and any potential losses must be recognised early and appropriately.**

PROFITABILITY

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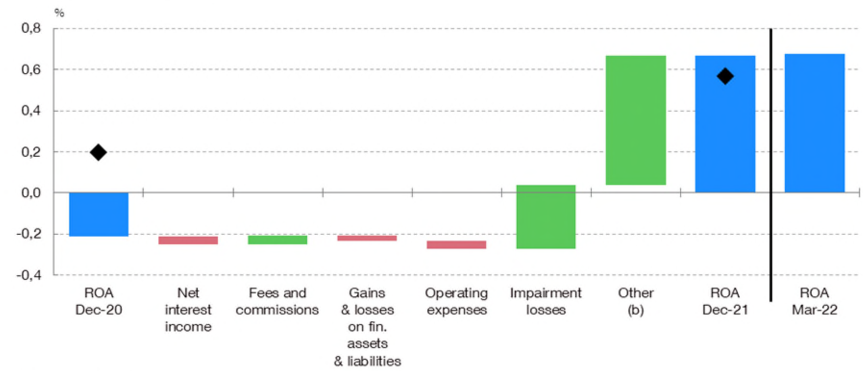
BREAKDOWN OF THE CHANGE IN PROFIT
Consolidated net income as a % of ATA (a)



SOURCE: Banco de España.
a The red (green) colour of the bars denotes a negative (positive) contribution of the corresponding item to the change in consolidated profit in December 2021 compared with December 2020. The black diamonds denote the ROA excluding extraordinary items.
b Including, among other items, the extraordinary gains referred to in the above note.

The Spanish banking industry's profitability improved substantially in 2021. Specifically, return on assets (ROA) stood at 0.7% (compared with -0.2% in 2020 and 0.5% in 2019).

Extraordinary items,[7] which were negative in 2020 and positive in 2021, **had the largest impact** on profitability. Excluding extraordinaries, ROA stood at 0.57%, a similar level to

[7] In 2021 extraordinary gains were recognised as a result of two mergers (€4.2 billion in total), the spin-off of an insurance company (€0.9 billion) and restructuring costs at the two main banks (-€1.2 billion). In 2020, extraordinary items included negative adjustments to the goodwill of the two banks with the largest international presence (-€12.2 billion), an adjustment for deferred tax assets (-€2.5 billion), restructuring costs at one bank (-€1.2 billion) and capital gains on the sale of business lines (€0.6 billion).

2019 (0.63%). **The main driver of this improvement was the reduction in impairment losses,** which fell by 43.5% compared with 2020 to stand at levels slightly below those in the two years prior to the pandemic.

The recovery in profit was widespread across the main countries where Spanish banks pursue significant international business, and also extended to other European banks.

Profitability continued to recover in early 2022. Indeed, this became the norm across the income statement. Thus, ordinary profit rose by more than 30%[8] year-on-year in the first quarter, with increases of 9% both in net interest income and fee and commission income. Meanwhile, impairment losses fell by 12.5% compared with March 2021. It must be noted, however, that the full economic and financial impact of the war in Ukraine did not materialise in the first quarter of the year.

COST OF FUNDING

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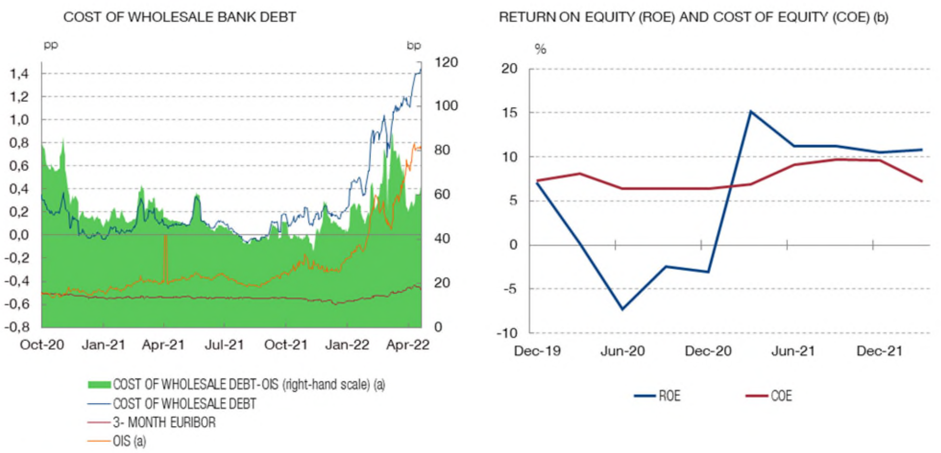

SOURCES: Bloomberg, Thomson Reuters and Banco de España.
a Overnight interest swap: risk-free interest rate.
b The average COE for each quarter is shown. The COE stood at 6.9% and 6.8% in April and May 2022, respectively.

As regards the cost of bank funding, the average cost of liabilities[9] has fallen since the onset of the pandemic, down to 0.5% at end-2021. The latest data available point to a change in trend, albeit with these costs holding below pre-pandemic levels (slightly above 1%) for now. In particular, **wholesale market funding costs rose in the initial months of 2022.** Indeed, expectations of interest rate rises have fed through to wholesale market interest rates on long-term bank debt (a measure of funding costs) more robustly than to the Overnight Index Swap (OIS) rate.[10] Thus, **banks' credit risk spread has widened.**

Banks stepped up their debt issuance in 2021 to comply with prudential and resolution requirements, with issuances of Tier 2 instruments and contingent convertible bonds

[8] By contrast, in 2022 Q1 net profit fell by 30% compared with the same period a year earlier, but this was due to the almost €4.3 billion recorded in extraordinary gains in March 2021 as a result of the merger at CaixaBank.

[9] The average cost of liabilities is the ratio of net interest expense to financial liabilities.

[10] The risk-free interest rate benchmark.

(CoCos). A more diverse set of banks made such issuances last year, giving rise to greater cost dispersion.[11] There was also a significant increase in unsecured debt issuances in 2021, in this case at a slightly higher cost than in 2020.

Meanwhile, **deposits at Spanish banks continued to grow in recent quarters**, albeit at slower rates than a year earlier.[12]

After falling in 2020, the **cost of capital** rose in the first ten months of 2021,[13] but then fell back again, to **8.1% at December 2021. This is below the sector return on equity (ROE)** (10.5%), even without taking into account extraordinary items (9%).[14] **In the initial months of 2022, the cost of capital continued the downward pattern** of late 2021 to stand at 6.8% at May, likewise below the ROE for 2022 Q1 of listed Spanish banks (11.7%).

SOLVENCY

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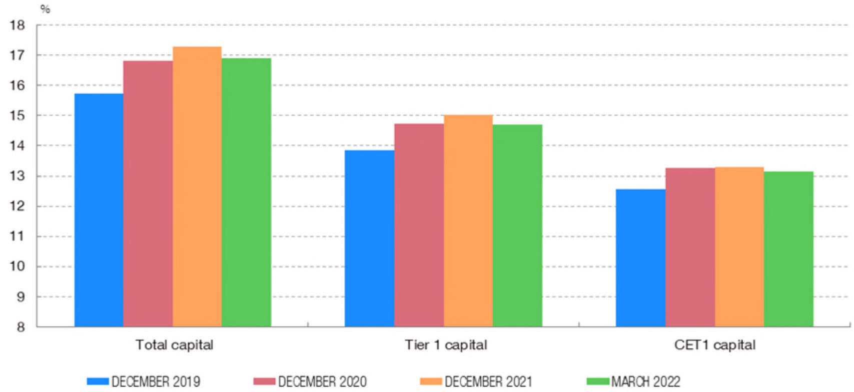
CAPITAL RATIOS
Consolidated data



SOURCE: Banco de España.

In terms of solvency, the common equity tier 1 ratio (CET1) of Spanish banks held relatively stable in 2021, after increasing in 2020.[15] The CET1 ratios of **the main European countries' banks were also relatively stable**, meaning that the Spanish banking industry, on average, remains in last place in terms of this solvency indicator. This difference owes largely to Spanish banks' higher asset density, influenced by structural factors such as the more widespread use of the standardised approach to calculate asset risk weightings.

[11] The rising cost of Tier 2 debt owes, at least in part, to smaller banks issuing these instruments to comply with MREL resolution requirements. This factor may have had an important impact, given that MREL requirements are binding from 1 January 2022 and banks must reach the required levels.

[12] The balance of bank deposits held by the resident private sector in Spain rose by 4.1% in 2021, compared with growth of 8.9% in 2020. In March 2022, deposits increased by 5.1% year-on-year, compared with rates of over 7% in the same month a year earlier.

[13] In 2021, the cost of capital increased over the first ten months of the year, from 6.4% at December 2020 to 10.8% at October 2021, and then fell back over the last two months, standing at 8.1% at year-end. Thus, the average cost of capital for the full year was 8.8%, in any case below the sector's ROE.

[14] So far this year the cost of capital has continued to fall, to 7.3% in March and 6.9% in April, below the ROE for 2022 Q1 (11.7%).

[15] The CET1 ratio and its denominator (risk-weighted assets (RWAs)) recorded similar declines (0.9% for CET1 and 1.1% for RWAs), so the ratio rose by barely 2 basis points (bp) to 13.3% at end-2021.

Indeed, at December 2021, the leverage ratio of Spain's significant banks (5.7%) was only slightly below the European average (6%).

To sum up: the Spanish banking industry has proved resilient to the economic crisis triggered by the pandemic, maintaining the supply of credit to the private sector and an adequate solvency level. It has also been able to swiftly recover its profitability.

The banking sector in the new macro-financial climate

Despite these favourable circumstances, the recent macro-financial deterioration I described earlier calls for a prudent approach on the part of banks and for close monitoring of the risks associated with the Ukrainian conflict. Indeed, as noted above, these factors have led to a downward revision to the economic outlook published by the Banco de España for 2022 and 2023, as well as a significant upward revision to our inflation projections for 2022.

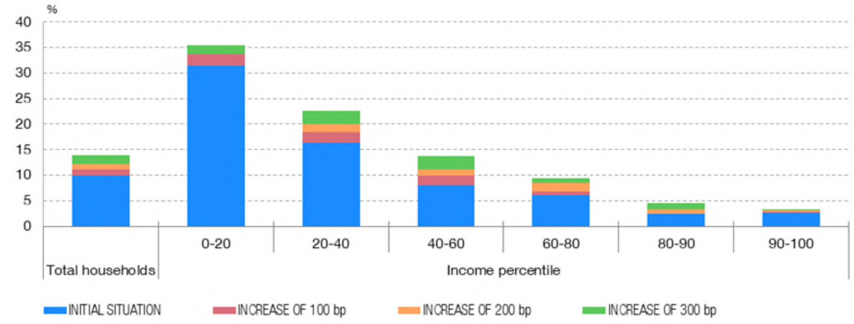
Against this backdrop, our latest *Financial Stability Report,* published in May, included **some simulation exercises on the impact of a potential rise in interest rates or energy prices on the economic and financial situation of Spanish firms, households and general government.** I will now turn to the results of these exercises, updated to include the latest developments and market expectations of interest rate hikes.

Thus, in the case of businesses, an interest rate hike could drive up the percentage of firms under financial pressure. Specifically, within corporate bank financing, short-term and variable-rate loans predominate, and changes in interest rates therefore pass through relatively swiftly.

Under a scenario consistent with the Banco de España's March 2022 projections, the exercise included in the *Financial Stability Report* estimated that firms' interest expenses as a percentage of gross operating surplus would begin to increase from 2023 onwards to stand, by the end of 2024, 1 pp above 2021 levels. In any event, the subsequent upward revision to market expectations of future interest rates means that the estimated share of firms' interest expenses as a percentage of gross operating surplus is likely to rise by a further 1.8 pp by end-2024, increasing by a total of 2.8 pp on their 2021 level.[16]

[16] Given that business income may be expected to fall under this scenario, the increase in the weight of interest expenses should be considered to be the lower bound of the total impact of the rise in interest rates. Meanwhile, every additional 100 bp increase in short and long-term interest rates above the levels currently priced in to market expectations is likely to add an additional 1.7 pp to the weight of interest expenses in 2024.

IMPACT OF AN INTEREST RATE RISE ON THE PERCENTAGE OF HOUSEHOLDS WITH A HIGH NET INTEREST BURDEN. BREAKDOWN BY INCOME PERCENTILE (a) (b)



SOURCES: Banco de España and Encuesta Financiera de las Familias (EFF) (2017).
a The increase in debt service costs is calculated for households with variable-rate debts. It is assumed that the increases in short-term interest rates are passed through in full to interest rates for variable-rate debt. In the case of deposits, it is assumed that 15% is passed through to sight deposits and 76% to fixed-term deposits.
b The net interest burden is considered to be high when the ratio of (debt service costs - interest income from deposits) / household income is higher than 40%. Households without debt are excluded from this calculation.

For households, moderate interest rate rises would have a relatively small impact on their debt repayment capacity, partly because of the increase seen in recent years in the proportion of fixed-rate mortgages, which accounted for 24.9% of the outstanding amount at December 2021.

Based on the latest microeconomic information available,[17] it is estimated that the increase in interest rates since the start of this year (of 1.6 pp for the 12-month EURIBOR,[18] the main interest rate to which the stock of mortgages in Spain is linked) will lead to a rise of almost 2 pp in the proportion of households with a high net interest burden.[19] This effect would be most pronounced among indebted households between the 20th and 40th percentiles of the income distribution.[20]

[17] This exercise was conducted drawing on information from the 2017 Spanish Survey of Household Finances (EFF by its Spanish abbreviation). The latest *Financial Stability Report* includes the results of the exercise for various interest rate hike scenarios. It was found that the proportion of households with a high net interest burden would rise by 1.2 pp, 2.3 pp and 3.9 pp, respectively, if interest rates were raised by 100 bp, 200 bp and 300 bp.

[18] The 12-month EURIBOR has risen from -0.501% at 31 December 2021 to 1.091% at 20 June 2022.

[19] The net interest burden is considered to be high when the ratio of (debt service expenses - interest income from deposits) to household income is over 40%.

[20] These percentages should be considered as the lower bound of the total impact of the interest rate rise, as this would also reduce agents' income, through its negative impact on economic activity, and would curb the accumulation of wealth on account of the higher net interest burden.

IMPACT OF AN INTEREST RATE RISE ON THE GENERAL GOVERNMENT DEBT BURDEN (AS A % OF GDP)

BANCO DE ESPAÑA Eurosistema

SENSITIVITY OF INTEREST PAYMENTS (a)

SOURCE: Banco de España.

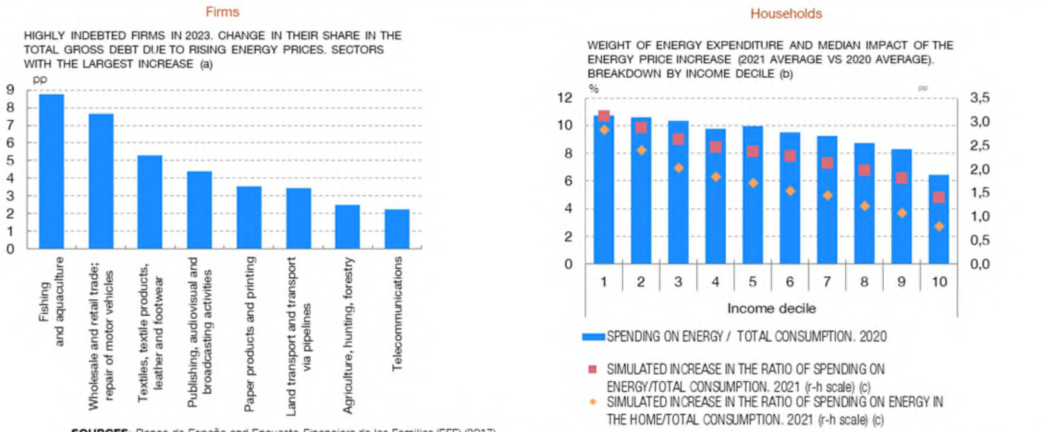
a June BMPE projections (based on the Spanish government debt yield curve at 17 May 2022) and the alternative scenario based on the yield curve at 22 June 2022.

As far as general government is concerned, the steep rise in the public debt-to-GDP ratio seen since 2007 also means that **public finances are more sensitive to interest rate movements.** However, the fall in interest rates of recent years has led to a continuous decline in the interest burden as a percentage of GDP, while at the same time, longer average debt maturities (currently standing at more than eight years) limit the short-term impact of higher issuance costs.

Specifically, incorporating the current market expectations for rising interest rates into the Banco de España's latest macroeconomic projections, the public debt burden would increase from 2.2% of GDP at end-2021 to 2.5% in 2024. Under this updated scenario, an additional 100 bp increase in short and long-term interest rates, with all other variables remaining constant, will further drive up interest payments by around 0.4 pp of GDP by 2024.

IMPACT OF HIGHER ENERGY COSTS ON FIRMS AND HOUSEHOLDS

BANCO DE ESPAÑA Eurosistema



SOURCES: Banco de España and Encuesta Financiera de las Familias (EFF) (2017).

a A 22% rise in energy prices has been assumed for 2022, with an additional 3% increase in 2023. Firms are understood to be highly indebted when their ratio of net financial debt to (gross operating profit + financial revenue) is higher than 10, or they have positive net financial debt and zero or negative earnings.

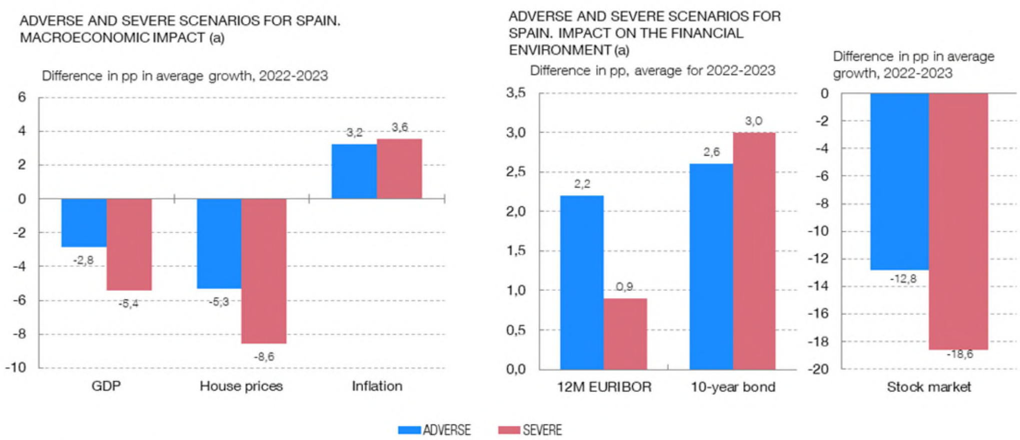
b Income distribution is proxied drawing on total household consumption, adjusted for households that are home-owners to reflect an imputed rent.

c Increase in pp, assuming stability in the amount of energy consumed and a price increase equal to that in 2021.

As regards the impact of rising energy prices, variations similar to those observed between the Banco de España's December 2021 and March 2022 projections[21] would have moderate average effects on the degree of financial vulnerability of firms, albeit with notable cross-sector heterogeneity. Thus, while the overall impact on businesses stands at slightly over 2 pp, it is expected to top 5 pp in the three most affected sectors.[22]

For households, given that **energy expenditure accounts for a larger proportion of the consumption of lower-income households,** the price rises seen in 2020 and 2021 will hit this group the hardest.

BANKING INDUSTRY STRESS TEST SCENARIOS BANCO DE ESPAÑA Eurosistema



SOURCE: Banco de España.

a The impacts are defined as the differences (in pp) in the values of the variables shown compared with the central projections of the analysis.

More broadly, the *Financial Stability Report* also sets out the results of **banking industry stress tests for two potential stress scenarios** (dubbed "adverse" and "severe") for the period 2022-2023. The use of this type of extreme scenarios, which are plausible but have a relatively low probability of occurring, is consistent with the goals of prudential regulation, which require that banks have sufficient capital to absorb unexpected losses.

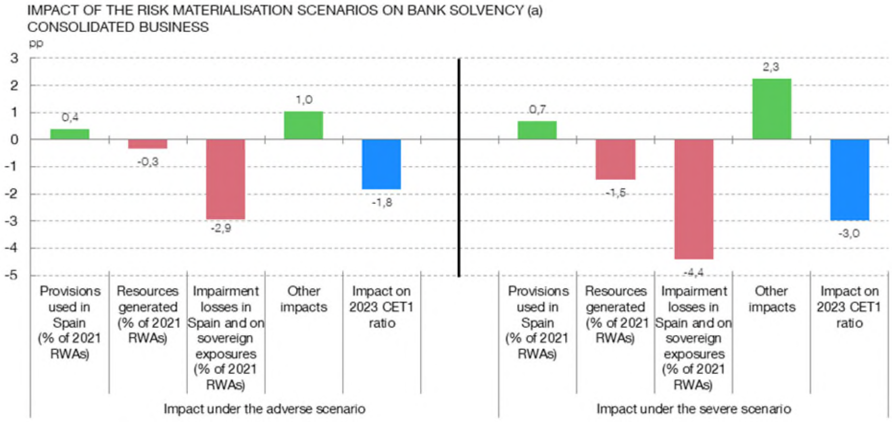
The adverse scenario simulates an increase in energy prices in addition to that seen in early 2022, and a greater persistence of international trade bottlenecks. The impact on prices would accelerate the monetary policy response, while also entailing a worsening of financial conditions. Meanwhile, under the severe scenario, the price shocks are slightly more significant than under the adverse one, while including a more marked worsening of households' and firms' confidence, triggering further falls in the main domestic demand variables (consumption and investment).

[21] Specifically, increases of 22% and 25% in average price levels for 2022 and 2023, compared with the price used in the December projections.

[22] The most affected sectors include some whose margins would be hardest hit, such as wholesale and retail trade and repair of motor vehicles, land transport, fishing and agriculture. The degree of financial vulnerability is also expected to rise by more than the average in some sectors in which the impact on sectoral margins is comparatively smaller, such as basic metals manufacturing, or publishing, cinema, television and radio. This is largely because some of the firms in such sectors were already hovering around the thresholds determining vulnerable status before the shock.

RESULTS OF THE BANKING INDUSTRY STRESS TESTS

BANCO DE ESPAÑA Eurosistema



SOURCE: Banco de España.

a The impacts are defined as the changes in the expected CET1 ratio in 2023 and in different financial flows in 2022-2023 (e.g. generation of resources) that would ensue as a result of the materialisation of the adverse changes in macro-financial conditions envisaged in the scenarios described in Box 1.3 of the *Spring 2022 Financial Stability Report*.

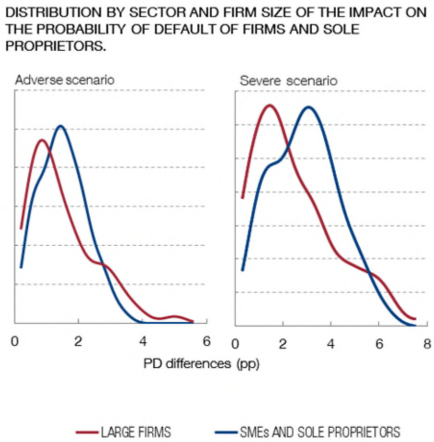
The results show that the greater adverse impact of these scenarios on the sector's solvency would take the form of a worsening of the credit quality of loans to the private sector, leading to **greater impairment losses on business in Spain** and less capacity to generate net income **from foreign business.** Moreover, the simulated interest rate hike entails a slight reduction in the value of the bond holdings on banks' balance sheets.

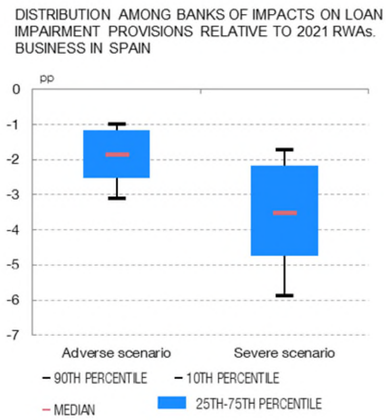
At the same time, **higher interest rates push up net interest income**, by improving the net interest margin on loans to the private sector and making investing in debt securities more profitable, whereas the cost of deposits responds more moderately.

Overall, **the adverse scenario would have a negative impact of 1.8 pp on the aggregate CET1 ratio** of Spanish banks as a whole, while **the impact under the severe scenario would be as high as 3 pp.**

STRESS TEST RESULTS. CROSS-BANK HETEROGENEITY

BANCO DE ESPAÑA Eurosistema





SOURCE: Banco de España.

There is nonetheless some **heterogeneity across banks,** owing to differences in factors such as the composition of their private sector credit and debt securities portfolios, their international presence or the extent of their lending under the ICO programme. For instance, the impact of the scenarios on firms' probability of default varies notably according to their size and sector of activity. These factors and others, such as the relative weight of mortgage credit (relatively safer) and lending to firms, mean that impairment losses are more prevalent at some banks than at others in Spain.

Conclusions

In short, **the Spanish banking industry looks to maintain satisfactory aggregate resilience were the extreme macro-financial risks identified to materialise.** While the materialisation of such risks would entail a significant capital charge in the sector, this would not be so substantial as to jeopardise the stability of the financial system under the scenarios analysed.

In any event, the current uncertain environment calls for prudent behaviour on the part of the industry and the careful monitoring of risks, which may evolve rapidly and require that new stress scenarios be considered.

Moreover, the short and medium-term challenges I refer to above must not allow us to overlook the need to address the **structural challenges already facing** the banking sector before the onset of the pandemic and the Russian invasion of Ukraine. **In particular, the need for capacity adjustment and the growing competition from tech firms, as well as the potential adverse impact of climate-related risks.**