Box 5.4

THE IMPACT OF THE CRISIS ON BANKING: ANALYSIS OF THE NPL RATIO

One of the main risks facing banks in the COVID-19 crisis is that of the deteriorating quality of the loans on their balance sheets. This risk stems from the sharp contraction in non-financial corporations' and households' income in recent months owing to the disruption to economic activity caused by the pandemic-containment measures, which has not been accompanied by a similar reduction in expenditure. The NPL ratio gauges the quality of banks' balance sheets. It is used frequently as an indicator of changes therein and, therefore, of financial stability. Broadly speaking, it measures non-performing loans (both those which are 90 days past due and those where it is highly likely that borrowers may default in the near future) as a percentage of total credit exposure.

The NPL ratio is, in general, highly countercyclical. Thus, during the 2008 global financial crisis, it increased by more than 13 pp in Spain, peaking at around 14% at end-2013. By contrast, in the five subsequent years of economic expansion, the ratio decreased by approximately 9 pp, to 4.8% in December 2019. This correction was driven by a favourable macroeconomic environment and the supervisory measures geared towards encouraging prompt management by banks of troubled loan portfolios. Given this past behaviour, it is therefore to be expected that the steep declines in GDP envisaged by the various macroeconomic scenarios prepared by the Banco de España for 2020[1] will result in a significant increase in the NPL ratio.

Quarterly data from 2008 to date were used to estimate a correlation between GDP growth and the NPL ratio that points to a 1 pp drop in GDP being accompanied by a 0.7 pp increase in the aggregate NPL ratio (see Chart 1). This historical observation is a guide for approximately calibrating the potential impact of the COVID-19 crisis on the NPL ratio. However, it must be borne in mind that declines in Spain's GDP such as those projected for 2020 are significantly higher than the largest fall recorded in recent history (3.8% in 2009). Therefore, a non-linear effect, leading to an increase in the NPL ratio in 2020 that is larger than that estimated using historical data on the basis of linear models, cannot be ruled out. Nonetheless, it is also necessary to consider the vigorous recovery projected for 2021 by both the Banco de España and most analysts. This would also entail a faster decrease in the NPL ratio than in other recovery periods following previous economic crises. Furthermore, the forceful set of economic policy measures adopted at the Spanish and European level in response to this crisis should also help to reduce the intensity with which the drop in GDP results in an increase in the NPL ratio. In this regard, the Government programmes to guarantee bank loans for business and to support household income and firms' liquidity, the ECB's monetary policy measures and accounting measures in the regulatory realm all take on particular importance.

Moreover, this crisis can be expected to have an inconsistent impact on the various institutional sectors and sectoral levels; therefore, the expected trend in the aggregate NPL ratio will also depend on the distribution of the loan portfolio by agents and economic sectors.[2] That means it is necessary to analyse how the weight of the various institutional sectors and of economic activity in bank lending and in GDP has changed in recent years. Specifically, in 2008 the construction and real estate sector received the largest share of bank loans for business (47.3%), whereas, in December 2019, this sector had become less preponderant relative to the other productive sectors (a share of 21.8%). By contrast, mention should be made of the services sector's growth in weight during this period (55% of total bank loans for business in December 2019, compared with 35% in 2008). This sector includes sub-sectors such as wholesale and retail trade, accommodation and food service activities, and transport, which are more vulnerable to the disruptions caused by the pandemic and the social distancing measures adopted (see Chart 2).

Analysis of the historical correlation between NPL ratios by activity and the activity's respective gross value added (GVA) also shows that the correlation is inconsistent. For example, for the wholesale and retail trade, transport and accommodation and food services sectors taken as a whole, the correlation between GVA and the sectoral NPL ratio is even greater than for the overall loan portfolio. Specifically, a 1 pp change in the GVA of these sub-sectors taken as a whole results in a change of almost 0.8 pp in their NPL ratio, compared with 0.7 pp obtained

1 For more details, see Banco de España (2020). *Macroeconomic projections for the Spanish economy (2020-2022): the Banco de España's contribution to the Eurosystem's June 2020 joint forecasting exercise.*

2 See E. Prades-Illanes and P. Tello-Casas, "The heterogeneous economic impact of COVID-19 among euro area regions and countries", Analytical Articles. *Economic Bulletin,* Banco de España, 2/2020.

Box 5.4

THE IMPACT OF THE CRISIS ON BANKING: ANALYSIS OF THE NPL RATIO (cont'd)

for the portfolio in its entirety. Therefore, the sensitivity of the NPL ratio of the different economic sectors and the make-up of the loan portfolio will together determine how the effects, in terms of the NPL ratio and, consequently, profitability and solvency, are distributed among banks.

In 2019, the value of the NPL ratio has significantly improved with respect to that in 2013 in all sectors, yet some have made more progress than others; furthermore, the current levels are still higher than those at the onset of the 2008 financial crisis. As Chart 3 shows, for all businesses, the difference between the 2019 NPL ratio and that of 2008 is less than 2 pp, whereas, for certain sectors, that difference is considerably larger (more than twice as large, in relative terms, in the agricultural sector, in the industrial sector and in the group comprising the wholesale and retail trade, transport and accommodation and food services sectors).

The NPL ratio in loans to households in 2019 (4.2%) was also higher than its 2008 level (2.8%), following a considerable improvement during the period after the end of the last crisis. Households' ability to continue to meet their payment obligations is also key to financial stability, since as at December 2019 loans to households accounted for around 54% of banks' lending to the

Chart 1
CORRELATION BETWEEN THE CHANGE IN THE NPL RATIO AND GDP GROWTH (2008-2019)

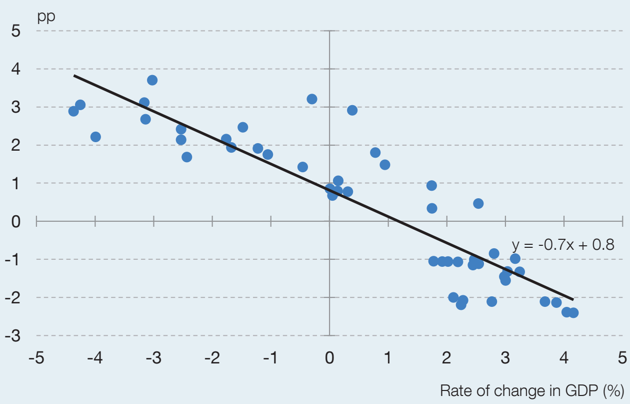


Chart 2
SECTORAL DISTRIBUTION OF LOANS FOR BUSINESS, 2008-2019

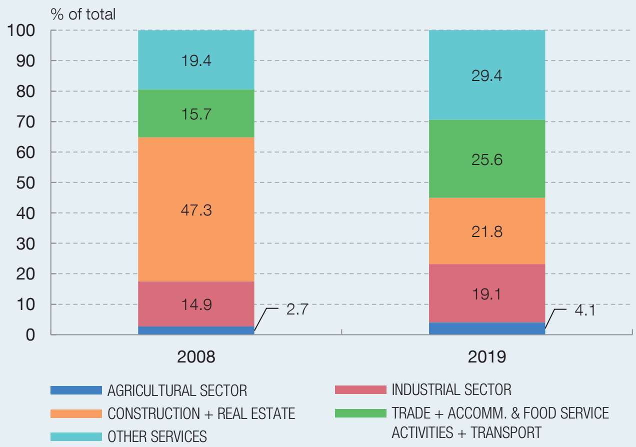


Chart 3
SECTORAL DISTRIBUTION OF THE NPL RATIO, 2008-2019

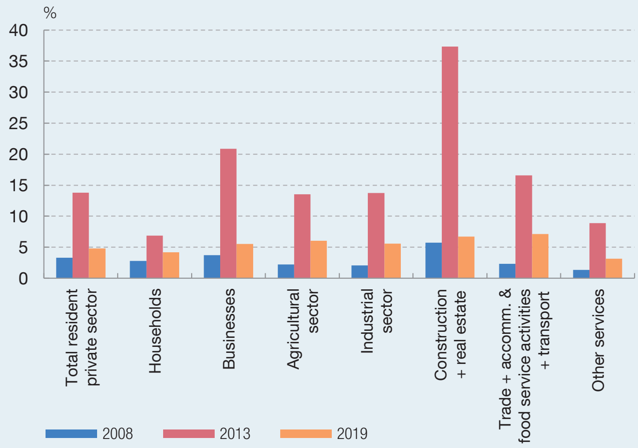
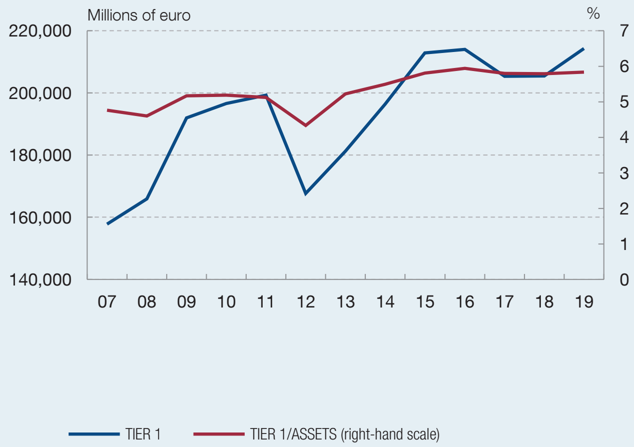


Chart 4
TREND IN TIER 1 CAPITAL (a)



SOURCE: Banco de España.

a Tier 1 capital comprises the highest quality capital, or Common Equity Tier 1, and other additional items (such as some hybrid instruments *(participaciones preferentes)*).

resident private sector. In particular, consumer loans accounted for 11.6% of loans to households at that date, but in general had grown significantly since 2015. Available analyses on the trend in non-performance in loans to households reveal that, for those households taking out various types of loan, defaults tend to arise first in the consumer lending segment.[3] Considering the recent trend in consumer loans and these historical patterns, this segment can be expected to suffer a relatively high and early impact on its credit quality as a result of the COVID-19 crisis. By contrast, if the current crisis ultimately proves to be an essentially temporary episode, the increase in the NPL ratio of mortgage loans might be moderate, since the mortgage loans that survived the global financial crisis are generally of a high credit quality and the new mortgage loans were granted under prudent lending standards.[4]

Lastly, although the NPL ratio is a very useful indicator of the quality of banks' balance sheets, it must be borne in mind that it does not provide all the information necessary to be able to assess banks' ability to absorb the losses associated with non-performing loans. First, the overall macroeconomic and financial conditions throughout the period of the considered scenarios must be assessed. Particularly, the cost of an increase in the NPL ratio in 2020 may vary depending on economic performance in 2021 and 2022. Thus, should there be a significant recovery in activity in this period, as envisaged in most of the latest forecasts, one could also expect an upturn in loan recoveries, i.e. borrowers classified as non-performing in 2020 being reclassified to performing in 2021-2022, and a more favourable trend in collateral prices, which would limit effective losses.

Second, banks' resilience also depends on their loss-absorbing items: provisions (to cover expected losses) and capital (ability to absorb unexpected losses). In the 2008 crisis, the existence of general provisions equipped banks with around €26 billion to absorb their initial losses. At the onset of the current crisis, as a result of the strengthening of capital (volume and its quality) in response to the global financial crisis, Spanish deposit institutions' Tier 1 capital has increased from around €158 billion in 2007 to almost €215 billion in 2019. In other words, Tier 1 capital has increased by €57 billion. Tier 1 capital accounted for 4.8% of total assets in 2007, rising to 5.8% at end-2019 (see Chart 4), thus increasing the ability to absorb the unexpected losses stemming from the growth in non-performance that the COVID-19 crisis will foreseeably cause in 2020.

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3 See "Build-up of household debt defaults", Box 1.2, *Financial Stability Report,* Spring 2020.

4 See *El mercado de la vivienda en España entre 2014 y 2019,* Occasional Paper No 2013, Banco de España, 2020.