Box 1.2

LOAN MORATORIA DEVELOPMENTS, ANALYSIS OF CHARACTERISTICS OF BENEFICIARIES AND OF THE POTENTIAL IMPACT ON DEFAULT

The measures approved to address the social and economic impact of the pandemic notably include moratoria on mortgage debts and other credit agreements. These measures suspend repayments of principal and/or interest payments on these loans. The box describes how the moratoria have evolved since they were approved.[1] It also presents an econometric analysis of the characteristics of the beneficiaries of the mortgage moratoria, and it concludes with a counterfactual analysis of banks' non-performing loan ratios in the extreme hypothesis that the moratoria measures were not approved and that all the borrowers benefiting from the moratoria defaulted on their loans. The box also provides for compliance with the ESRB recommendation of May 2020.[2]

To date, five different types of moratoria have been approved: (i) legislative moratoria for mortgage debts[3] and (ii) for non-mortgage loan agreements;[4] (iii) the special system for moratoria agreements between lenders and their customers through the banking sector associations,[5] both for mortgage and non-mortgage loans; (iv) the specific moratoria for the tourism sector;[6] and (v) the specific moratoria for the public transport of goods and the charter bus sector.[7]

Chart 1 shows how the total number of moratorium applications has risen over time, with acceptance rates remaining at high levels since May. Up to end-September, more than 1,507,000 moratorium applications had been presented, of which more than 89% had been granted. This extremely high percentage of acceptance is common across institutions. The legislative moratoria on mortgage payments initially saw a very high rate of growth, but since May, less than two months after their approval, the number of applications has stabilised. In the case of the legislative moratoria on non-mortgage debts, applications continued to grow at a good pace up to June. Lastly, the rate of growth of the banking sector moratoria, which were the last to be approved, has outpaced that of the initial legislative moratoria and has not yet stabilised. Applications numbered more than 787,000 at end-September, with a high rate of acceptance (92.5%).[8]

In terms of the outstanding amount of the loans suspended, the mortgage moratoria have suspended loan payments in excess of €20.5 billion. This is very much above the almost €3 billion for the non-mortgage moratoria, but below the €28.7 billion suspended by the banking sector moratoria (see Chart 2). Overall, the outstanding amount of payments suspended by all types of moratoria[9] exceeds €52 billion. This is 7.9% of the total credit stock currently on balance sheet granted by Spanish credit institutions in the loan portfolios eligible for the moratoria measures and 4.7% of bank credit to the non-financial private sector.

To describe the type of households that have accessed any of the legislative or non-legislative (banking sector) mortgage moratoria, an econometric analysis was performed with data from April to July 2020. The study drew on mortgage-level data taken from the Banco de España's Central Credit Register (CCR) and a linear

1 For a supplementary analysis of the moratoria programme, see Box 2 of "Recent developments in financing and bank lending to the non-financial private sector", Analytical Article, Economic Bulletin 4/2020, Banco de España

2 Recommendation ESRB/2020/8 of the European Systemic Risk Board of 27 May 2020 on monitoring the financial stability implications of debt moratoria, and public guarantee schemes and other measures of a fiscal nature taken to protect the real economy in response to the COVID-19 pandemic.

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

4 Royal Decree-Law 11/2020 of 31 March 2020 adopting supplementary urgent economic and social measures to address the impact of COVID-19.

5 Royal Decree-Law 19/2020 of 26 May 2020 adopting supplementary measures in the agricultural, scientific, economic, employment and social security and taxation sphere to alleviate the effects of COVID-19.

6 Royal Decree-Law 25/2020 of 3 July 2020 on urgent measures to support economic recovery and employment.

7 Royal Decree-Law 26/2020 of 7 July 2020 on economic recovery measures to address the impact of COVID-19 on transport and housing.

8 For the two most recent types of moratorium, related to the tourism and transport sectors, the number of applications received and granted is much lower. Specifically, at end-September, 816 applications for legislative moratoria for the tourism sector had been received, of which 376 had been granted, and 1,170 applications for legislative moratoria for the transport sector, of which 818 had been granted.

9 As indicated above, the number of applications received and granted for the last two types of moratorium is much lower: hence, the outstanding amount of loan repayments suspended by the respective moratoria measures is €575 million in the case of the tourism sector and €62 million in the case of the transport sector

Box 1.2

LOAN MORATORIA DEVELOPMENTS, ANALYSIS OF CHARACTERISTICS OF BENEFICIARIES AND OF THE POTENTIAL IMPACT ON DEFAULT (cont'd)

Chart 1
CHANGE IN CUMULATIVE TOTAL APPLICATIONS AND IN RATE OF ACCEPTANCE BY MORATORIUM TYPE (a) (b)

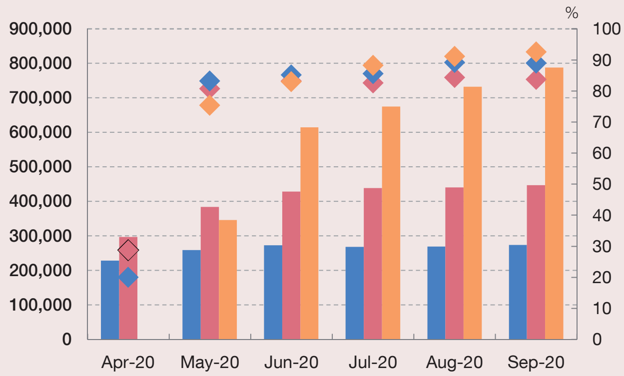
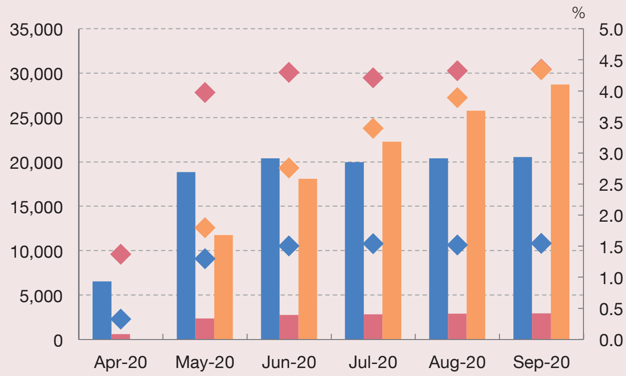


Chart 2
CHANGE IN AMOUNT OF MORATORIA AND IN ITS PROPORTION OF TOTAL ELIGIBLE CREDIT UNDER MORATORIUM PROGRAMMES (c) (d)



SOURCE: Banco de España.

a The number of applications and the acceptance rate for legislative mortgage moratoria in July were slightly lower than in June because in July banks removed from their reported data applications that had been submitted but then withdrawn by customers.
b For each moratorium programme, the bar depicts the cumulative total applications (left-hand axis) and the diamond (right-hand axis) the percentage of that cumulative volume approved.
c For each moratorium programme, the bar depicts the credit volume subject to the programme (left-hand axis) and the diamond (right-hand axis) the percentage this represents of the total credit qualifying for moratoria (e.g. legislative mortgage moratoria as a percentage of total mortgage credit to individuals).
d The outstanding amount and the percentage this represents of the total amount of legislative mortgage moratoria in July were slightly lower than in June because in July banks removed from their reported data applications that had been submitted but then withdrawn by customers.

probability model was estimated with more than 5.3 million observations corresponding to existing mortgages.

The dependent variable in the study is access to the moratoria programmes, while the explanatory variables include characteristics of the borrower, the mortgage agreement and the lending bank. For borrowers, these variables specifically include the economic situation of their home region, their average household income drawing on postcode level data from the National Statistics Institute (INE) for 2016, the age of the household head, their credit record and total bank debt-to-income ratio in 2019, and the profession of the household head or industry in which he/she works if self-employed. The loan data include the debt servicing-to-income ratio at origination, whether or not there is a guarantor, and the loan maturity. In addition, at the regional level, controls were included for the impact of the pandemic on employment, through the percentage of workers subject to short-time work arrangements and the unemployment rate (both statistics obtained from the National Public Employment Service (SEPE)). Lastly, to test the level of heterogeneity across banks, the specification includes controls for the size of the bank and its leverage, liquidity, return on assets and non-performing loan ratios, among other factors.

The findings show very robustly that the households that were more disadvantaged or more vulnerable before the pandemic are those that have made most use of the moratoria. In this respect, it is important to recall that in order to qualify for moratoria, individuals must satisfy certain conditions relating to their purchasing power before the pandemic and the impact the pandemic has had on their economic situation. In consequence, lower income households with worse credit records or who are in default, with higher debt-to-income ratios in 2019, with higher mortgage debt service rates (at origination) and with mortgage guarantors are those most likely to obtain a moratorium on their mortgage payments.

If the differences between households in the first and fifth quintiles of the distribution are measured in terms of bank debt-to-average income at end-2019 (see Chart

Box 1.2

LOAN MORATORIA DEVELOPMENTS, ANALYSIS OF CHARACTERISTICS OF BENEFICIARIES AND OF THE POTENTIAL IMPACT ON DEFAULT (cont'd)

Chart 3
PERCENTAGE IN 2019 OF MORTGAGES SUBJECT TO MORATORIA BY QUINTILES OF TBD/AI RATIO (a) (b)

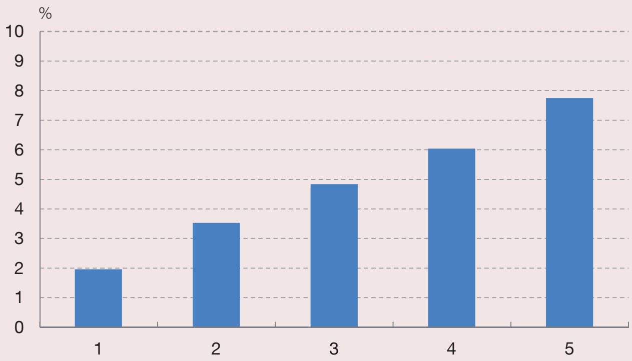


Chart 4
PERCENTAGE IN 2019 OF MORTGAGES SUBJECT TO MORATORIA BY QUINTILES OF TBD/AI RATIO AND AVERAGE HOUSEHOLD INCOME (b) (c)

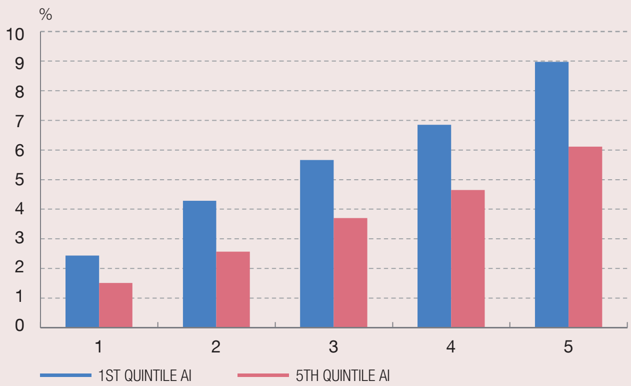


Chart 5
PERCENTAGE IN 2019 OF MORTGAGES SUBJECT TO MORATORIA BY QUINTILES OF TBD/AI RATIO, AVERAGE HOUSEHOLD INCOME AND MORTGAGE DEBT SERVICING (b) (d)

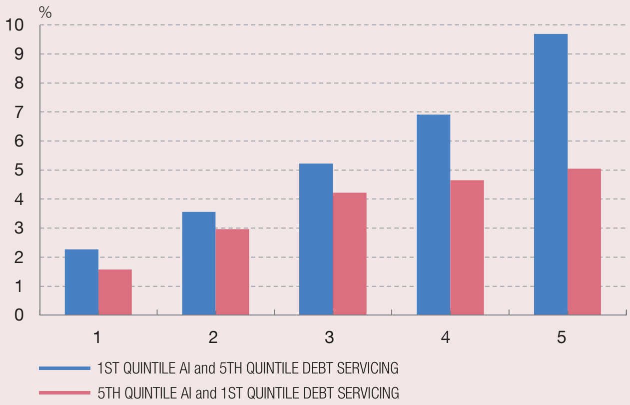
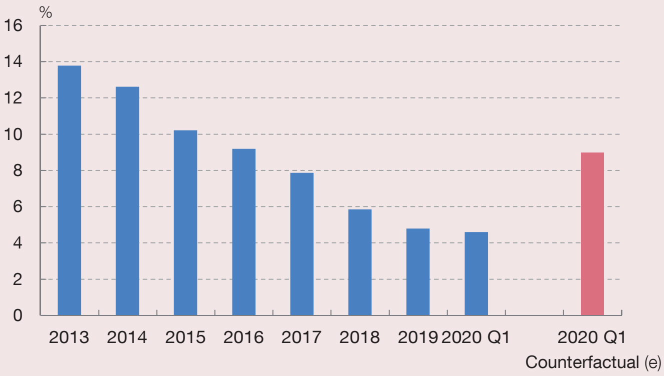


Chart 6
RATIO OF NON-PERFORMING CREDIT TO THE RESIDENT PRIVATE SECTOR: 2013-2020 DATA AND COUNTERFACTUAL IN EVENT OF NO MORATORIA AND MAXIMUM DEFAULT IN 2020 Q1



SOURCE: Banco de España.

a For the TBD/AI ratio (total bank debt in 2019 to average household income), the quintiles of the distribution have been calculated. For each quintile the chart shows the mortgages subject to moratoria as a percentage of the total mortgages in the system corresponding to households in that quintile.
b Average household income (AI) calculated drawing on INE 2016 postal code level data on the mortgaged property.
c For the TBD/AI ratio (total bank debt in 2019 to average household income), the quintiles of the distribution have been calculated. For each quintile the chart shows the mortgages subject to moratoria as a percentage of the total mortgages in the system corresponding to households in that quintile and which, in addition, are in the first (blue) and fifth (red) quintile of the average income (AI) distribution.
d For the TBD/AI ratio (total bank debt in 2019 to average household income), the quintiles of the distribution have been calculated. For each quintile the chart shows the mortgages subject to moratoria as a percentage of the total mortgages in the system corresponding to households in that quintile and which, in addition, are in the first quintile of the average income distribution and the fifth quintile of debt servicing (blue) and in the fifth quintile of income distribution and the first quintile of debt servicing (red).
e The counterfactual NPL ratio is calculated under the assumption that no moratorium programme was approved and that all the borrowers that have obtained moratoria would have defaulted on their loans (an extreme hypothesis as the probability of default would not necessarily be equal to 1).

3), the probability of having a moratorium increases by 5.8 pp for the most indebted households. In addition, these differences in terms of probability of accessing moratoria are reinforced if households' different income levels and debt-servicing capacity are also considered (see Charts 4 and 5). The regression model confirms that participation in moratoria is significantly sensitive to households' financial situation, which is consistent with this descriptive analysis. The regression model is also used to measure the impact of other explanatory variables. For example, if the household had a consumer loan at December 2019, the probability of it having a moratorium on mortgage payments is 29% higher. Furthermore, having a poor past or current credit record can double that probability, while having a mortgage guarantor increases it by 19%.

Moreover, compared with wage and salaried workers, the probability of self-employed individuals obtaining moratoria is 58% higher. Among employees, public sector and banking group employees are those who have submitted the fewest moratoria applications, followed by pensioners. Among the self-employed, most applications have come from those belonging to the accommodation and food services sector, transport, retail and other services.

In addition, the probability of deferral of residential mortgage payments is highest in the regions where the pandemic has had the most impact on employment. For example, it is 21% higher in the case of workers on short-time work arrangements and 32% higher in the case of the unemployed, comparing the third quartile of the distribution by province with the first quartile.

Lastly, regarding the characteristics of the lender, the size of the bank and its non-performing loan ratio are significant factors. The proportion of moratoria is 35% higher among the larger banks and 10% higher among those with higher NPL ratios, comparing the banks in the third quartile of the distribution with those in the first quartile.

Accordingly, the empirical findings suggest that the most vulnerable households are those that have taken most advantage of the moratoria, in keeping with the purpose of these programmes. This in turn suggests that once the payment holiday comes to an end, there is a high risk that these households may default on their debts, if economic activity has not returned to normal.

In view of the findings of the econometric analysis, the counterfactual exercise was made to measure the impact that an extreme hypothesis, i.e. that the total volume of loans covered by the moratoria would have resulted in default, would have had on banks' non-performing credit ratios. Specifically, given that loan volume, the non-performing ratio of business in Spain would have practically doubled, to almost 9% (see Chart 6). Under this hypothesis, the volume of non-performing assets would have increased by around 100%, up to just over €100 billion. This counterfactual analysis aims to estimate an upper bound for the impact of the moratorium programme on default, since had the moratoria not existed, the probability of borrowers defaulting on the mortgage loans that have taken advantage of the moratoria would feasibly be very high, although it would not reach 100% and it would presumably fall substantially as economic recovery took hold.

To sum up, the moratoria programmes were rolled out with considerable speed and have reached a significant portion of mortgage and non-mortgage loans to individuals, concentrated on the households that were most vulnerable before the pandemic and that have been most affected by it. In consequence, in the short term the programme has played a significant part in easing the economic situation of the most disadvantaged households and containing bank NPLs, especially in lending to households. Looking forward, these programmes should be adapted in a prudent and orderly fashion to economic developments, to avoid an abrupt withdrawal that might trigger potential liquidity crisis episodes that were the reason for the introduction of the programmes in the first place. In this respect, the information available indicates that a large proportion of borrowers who took advantage of the legislative moratoria, which had a duration of three months, are transforming them upon maturity into moratoria provided by the banking sector, which have a duration of up to one year.