FINANCIAL STABILITY REPORT

JUN. 2021

BANCO DE PORTUGAL
EUROSYSTEM

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The data underlying the charts presented in this Report can be found at the Banco de Portugal website, with some exceptions for private sources data (only in Portuguese).

BANCO DE PORTUGAL
EUROSYSTEM

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CONTEXT
JUN. 2021

Upward revisions of the projections for economic activity, with the pre-pandemic level picking up in the 1st half of 2022

Uneven recovery across sectors of economic activity

Prolonged low short-term interest rates and higher yields

Enterprises | Households | General government | Banking system

ADJUSTMENT PRIOR TO THE PANDEMIC CRISIS

- Saving (% of GDP)
  4.5 2008 ↗ **9.9** 2019
- Equity (% of assets)
  31 Jun. 2009 ↗ **39** Dec. 2019
- Financial debt (% of GDP)
  120 Dec. 2012 ↘ **86** Dec. 2019

- Financial debt (% of disposable)
  128 Sep. 2009 ↘ **93** Dec. 2019
- Total employment (thousands)
  4,179 2013 ↗ **4,757** 2019

- Maastricht debt (% of GDP)
  135 Mar. 2014 ↘ **117** Dec. 2019
- Primary balance (% of GDP)
  -8.5 2010 ↗ **3.1** 2019

- Total capital ratio (%)
  9.4 Dec. 2008 ↗ **16.9** Dec. 2019
- Loan-to-deposit ratio (%)
  153 Dec. 2008 ↘ **87** Dec. 2019
- Non-performing loans ratio (%)
  17.9 Jun. 2016 ↘ **6.2** Dec. 2019

THE IMPACT OF THE PANDEMIC

- Heterogenous developments in GVA across sectors (%)
  [-12.8 ; 3.2]
  trade, accommodation and food services | construction
- Increase in indebtedness (% of GDP)
  92 2019 ↗ **99** 2020

- Increase in unemployment (% of labour force)
  6.6 2019 ↗ **7.0** 2020
- Increase in disposable income (EUR millions)
  147,100 2019 ↗ **148,653** 2020

- Deterioration in the budget balance (% of GDP)
  0.1 2019 ↘ **-5.7** 2020
- Increase in indebtedness (% of GDP)
  116.8 2019 ↗ **133.6** 2020

- Increase in loan loss charge (%)
  0.52 2019 ↗ **1.03** 2020
- Reduction in return on assets (%)
  0.45 2019 ↘ **0.04** 2020

THE AUTHORITIES' RESPONSE

- Ensure liquidity
- Preserve productive capacity

- Mitigate income loss
- Preserve jobs

- Coordinate European policies
- Maintain net lending capacity

- Accommodative monetary policy
- Create loss-absorbing capacity

VULNERABILITIES AND RISKS

- High indebtedness levels
- Deterioration in financing conditions
- Decrease in debt servicing capacity

- Devaluation of public debt exposures
- Reduction in value of real estate collateral
- Increase in default
- Pressure on profitability
- Incomplete Banking Union
- Money laundering/Terrorist financing

- Cyber risk associated with the digitalisation of the economy and the financial system
- Financial risks from exposures to sectors of economic activity sensitive to climate change

POLICY DECISIONS AND VULNERABILITY AND RISK MITIGATING FACTORS

- Monetary, governmental and regulatory policies must be appropriate to each phase of the pandemic crisis and to the asymmetry of its effects
- Implementation of the Recovery and Resilience Plan
- Capitalisation of viable enterprises to promote their resilience
- Use of banks' capital buffers to absorb losses and finance the economy
- Monitoring by banks of credit quality for timely recognition of losses
- Prevention of risks associated with digitalisation, cyber risk and money laundering and terrorist financing
- Prevention of risks from the transition to a more sustainable economy
- Temporary fiscal support focused on the most affected sectors, while retaining the goal of resuming the trajectory of public debt reduction

MACROPRUDENTIAL POLICY

- The Banco de Portugal maintained the countercyclical capital buffer at 0% of the total risk exposure amount in the 2nd quarter of 2021
- Replenishment of the combined buffer requirement and the guidance level on additional own funds not before 2022

Executive summary

The COVID-19 pandemic caused an economic crisis with implications for the financial situation. The swift and coordinated support measures preserved favourable financing conditions, stabilised household incomes and provided liquidity to firms. This avoided the transmission of the crisis to the financial sector.

The magnitude and persistence of the crisis, together with the dilution over time and the redistribution of the costs of the pandemic between the private and public sectors, led to an increase in debt, in particular in the general government and in the sectors of activity most affected by the crisis. However, the projections for the Portuguese economy have been revised upwards, with economic activity expected to return to 2019 levels in the first half of 2022.

The economic impact of the pandemic has been uneven, across sectors of activity and across countries. This is the result of the different productive specialisations (weight of face-to-face services), different pre-pandemic situations and the asymmetric nature of health measures.

The pandemic crisis has interrupted the adjustment process of the Portuguese economy, reflecting an increase in the indebtedness ratios of the non-financial private and public sectors. In the banking sector, the timely recognition of credit risk has reduced the sector's profitability. Banks, also benefiting from measures adopted over time, have been able to maintain resilient liquidity and solvency indicators.

In the current economic context, the main vulnerabilities and risks to financial stability are:

- Recent developments in international financial markets add to fears of excessive optimism in investors' expectations. The risk of a correction in international financial markets will tend to be amplified when associated with high leverage, increased exposure to assets with lower credit quality and low liquidity in the non-bank financial sector portfolio in the euro area. However, the ECB reiterated its commitment to maintaining favourable financing conditions for all sectors, which do not jeopardise the recovery in economic activity in the euro area, mitigating the likelihood of international financial shocks.
- The withdrawal of support measures, in a situation of high indebtedness and still depressed activity in some sectors, boosts the materialisation of credit risk. Low interest rates and new, more targeted, temporary support measures that promote the capitalisation and reduction of indebtedness of viable companies mitigate this risk. In the case of households, the improvement in the risk profile of borrowers observed since the sovereign debt crisis, reinforced by the July 2018 macroprudential recommendation, and measures to support household income mitigate risks for the financial sector.
- The high indebtedness of general government and the increase in contingent liabilities constitute a vulnerability of the Portuguese economy. However, the Republic's refinancing risk is mitigated by the appropriate financing conditions for the economic recovery and the reduction in fragmentation risks in the euro area resulting from the ECB's action, together with the longer maturities of Portuguese public debt. Fiscal support measures should be temporary and target the most affected sectors, while retaining the goal of resuming the pre-pandemic path of public debt reduction.
- As in the euro area, residential real estate market prices continued to rise in Portugal during the pandemic, albeit at a slower pace. Domestic bank credit has not been the main factor behind the rise in house prices. The strength of demand from non-residents is likely to have contributed to this growth. A potential deterioration in international financing conditions could translate into shrinking demand for real estate by non-residents. If a price correction occurs in

Portugal, it will tend to be mitigated by the reduction in the household debt ratio in recent years for all income levels and by the improvement in the borrowers' risk profile, following the macroprudential Recommendation for new credit agreements relating to residential immovable property and consumer credit. Furthermore, the distribution of loan-to-value (LTV) ratios in the banks' housing loan portfolio demonstrates resilience to a potential price correction in this market. The relevance of this market calls for the monitoring of signs of possible price overvaluation.

- In the commercial real estate market, where prices fell in 2020 in some segments (retail and hotels), there are no signs of overvaluation and oversupply. The exposure of the banking sector to this asset class being limited and well below that of residential real estate also acts as a mitigating factor for a possible further fall in prices in this market. Despite the adverse environment, demand from non-residents, who dominate this market, remained strong in 2020.
- In the banking system, in addition to the risks described above, it is also worth highlighting:
  - The prospects of low profitability affected by the very low interest rate environment, by a possible increase in NPLs and increased competition from new players in the financial services market.
  - The stronger link between the banking system and the public sector through increased exposure to public debt and the granting of State-guaranteed loans. However, a significant part of public debt is recorded at amortised cost, mitigating the impact of higher public debt yields on capital ratios.

Assessed in an integrated manner, the vulnerabilities and risks listed show interdependencies between economic sectors, which should be taken into account when designing policies promoting financial stability.

The pandemic shock and its persistence have led to an increased reliance on credit. This additional indebtedness for reasons of liquidity may turn into a solvency problem. The projected economic recovery profile and the associated improvement in operational profitability reduces this risk. However, asymmetry in the recovery could lead to an increase in default with repercussions on the banking sector and, through State guarantees, on General Government.

It is therefore of particular importance to identify and support companies that, despite being in financial distress, remain viable, with measures promoting their capitalisation, through grants and/or capital increases. At the same time, it is important to ensure that banks continue to reflect borrowers' credit risk adequately and in a timely manner and take measures to avoid a sharp increase in non-performing assets, including the definition of strategies for managing and selling them.

The strengthening of European integration, driven by initiatives supporting the recovery and resilience of Member States, should be pursued by completing the Banking Union. The initiatives to be taken should aim at the establishment of a European Deposit Insurance Scheme that envisages a prior reduction of risk but also the full mutualisation of losses. It will then be possible to mitigate the link between banks and their sovereigns, to ensure the protection of depositors and their trust in the system, and to achieve a fully-fledged Banking Union that promotes European and Member State financial stability.

I Financial stability outlook

1 Vulnerabilities, risks and macroprudential policy

2 Banking sector

1 Vulnerabilities, risks and macroprudential policy

1.1 Main risks and vulnerabilities

The impact of the pandemic continued to dominate the main risks to financial stability

The unprecedented impact of the COVID-19 pandemic on the global economy and the financial markets has been the determining factor for the risks to financial stability. The uncertainty surrounding the duration of the health crisis and the severity of its impact, while mitigated by the range of policy measures adopted worldwide, has had an impact on the materialisation and size of these risks.

The fact that authorities in Portugal and abroad acted in a swift and comprehensive way has been key. Monetary, fiscal, regulatory and micro- and macroprudential policy measures have mitigated the negative effects on the financial situation of firms and households and on financial markets, maintaining favourable financing conditions.

The main vulnerabilities and risks to financial stability are the following:

- The overvaluation of financial assets, concerns surrounding inflation in the United States and a further rise in yields and debt securities, particularly in market segments that are more leveraged, have lower liquidity and are more exposed to assets with lower credit quality. The actions taken by central banks have supported financial stability, mitigating the probability of international financial shocks;
- Euro area residential real estate prices remained resilient during the pandemic crisis, helped by favourable financing conditions. In Portugal, demand from non-residents remained robust during the pandemic. However, a potential deterioration of international financing conditions may negatively affect this demand. Several factors mitigate the impact of a potential fall in prices in this market in Portugal. The household indebtedness ratio has been declining in aggregate terms and for all income levels, in particular for households that are more vulnerable. The macroprudential recommendation on new credit agreements relating to housing and consumer credit has led to an improvement in the risk profile of borrowers. Domestic bank credit has not been the main factor behind the rise in house prices. The characteristics of banks' housing loan portfolio, namely the loan-to-value ratio (LTV), are resilient to a potential price correction in this market. Available evidence points to a slight overvaluation, but this is surrounded by uncertainty and should be treated with caution.
- In Europe, the prices of a number of segments in the commercial real estate market (retail and hotels) experienced a correction due to decreased demand. Nevertheless, in Portugal, demand from non-residents remained strong, as observed in the residential real estate market. Factors mitigating a potential additional fall in prices in this market were the banking sector's limited exposure to this asset class (and much lower than that of residential real estate) and the fact

that there were no indications of overvaluation or excess supply in the period prior to the pandemic.

- The deteriorating financial situation of firms increases the likelihood of a credit risk materialising. The transformation of insufficient liquidity risk into insolvency risk for the firms most affected by the pandemic crisis plays a particular role in this regard. Low interest rates and the long maturities of State-guaranteed credit lines are factors mitigating corporate default and insolvency, in particular if used in conjunction with measures to support firms' capitalisation. Likewise, a swifter and wider economic recovery acts in the same way.
- A drop in households' income due to unemployment is the main risk to their financial situation. The materialisation of credit risk following the withdrawal of support measures is a short-term risk. However, as for credit moratoria, there is evidence that a significant share of households requested moratoria as a precaution. The main factors mitigating the materialisation of household credit risk are low interest rates, the improvement in the borrowers' risk profile observed since the sovereign debt crisis and strengthened by the macroprudential recommendation of July 2018, and support measures for firms, which indirectly support household income.
- High general government debt and an increase in contingent liabilities are a vulnerability if international financing conditions deteriorate. Longer government debt maturities reduced the rollover risk, as well as the ECB's measures to maintain financing conditions that are appropriate to economic recovery and to mitigate fragmentation in the euro area. The sovereign's financing conditions and developments in the government debt ratio also benefited from the impact of the European Recovery and Resilience Facility.
- In the banking system, in addition to the risks mentioned above, the following should also be highlighted:
  - The banking system's low profitability prospects, affected by the low short-term interest rate environment, a rise in non-performing loans (NPL) and increased competition from new, technology-intensive players in the financial services market.
  - An increase in exposure to euro area government debt, in particular to countries whose yields have a high correlation with Portuguese government debt yields, and to State-guaranteed loans. Nevertheless, a considerable share of the exposure to government debt is recorded at amortised cost, mitigating the impact of a yield rise on the net position and capital ratios.

  The banking system is more resilient compared to previous crises and has increased credit impairments, particularly in loans to firms in the sectors most affected by the pandemic and to households for consumption and other purposes. The banking system has strengthened its capital ratios, which, together with the flexibility granted by micro- and macroprudential authorities, has increased its capacity to absorb losses and finance the economy.

1.2 Implications of the pandemic crisis for financial stability

Economic activity is expected to recover to 2019 levels in the first half of 2022

Despite the economic recovery observed in the second half of the year, GDP contracted by 7.6% in 2020. The most recent projections published in the June 2021 issue of the *Economic Bulletin* of the Banco de Portugal point to economic growth of 4.8% in 2021, 5.6% in 2022 and 2.4% in 2023. GDP is expected to recover to 2019 levels in the first half of 2022. The outlook for 2021 reflects benign expectations for the evolution of the pandemic, with the pace of vaccination accelerating and a gradual easing of containment measures, albeit surrounded by uncertainty. Projections for GDP growth over the projection horizon are higher than for the euro area, after a more pronounced contraction in Portuguese GDP in 2020. Cumulative growth in both regions is projected to be similar compared to 2019.

The recovery is expected to remain asymmetrical and mixed across sectors, with services recovering more gradually. As in 2020, construction remained resilient at the start of 2021, continuing to contribute positively to Gross Value Added (GVA) in the first quarter of the year. Activity and confidence indicators available up to May 2021 show a strong recovery in industrial activity in Portugal, in line with the euro area, and more contained developments in services, which continue to experience falls in activity.

Monetary, fiscal and macro- and microprudential policy measures were crucial in mitigating the effects of the pandemic crisis. In particular, employment and income support measures contributed to the resilience of household disposable income, which increased by 1.2% in 2020 and is expected to follow a favourable path over the projection horizon. In 2020, the drop in employment was considerable in the sectors most affected by the pandemic and for workers who had been employed for less than one year. The unemployment rate stood at 7% in 2020 and, after a 0.2 p.p. increase in 2021 to 7.2%, is expected to decline over the projection horizon to 6.8% in 2023, standing 0.2 p.p. above the unemployment rate observed in 2019 (6.6%).

The consumer confidence indicator showed a considerable improvement from March to May 2021, particularly the component on perspectives on the future development of the country's economic situation.

During 2021-23, economic activity will also benefit from measures funded by European funds, in particular the European Recovery and Resilience Facility in force from 2021 to 2026. The implementation of the reforms and investments set out in the Portuguese Recovery and Resilience Plan, with an initial allocation of €13.9 billion in grants and €2.7 billion in loans, will increase investment and output. The Portuguese Recovery and Resilience Plan establishes three main areas of operation: resilience, climate transition and digital transition. In terms of resilience, particularly important are the €1.55 billion allocated to firm capitalisation and financial resilience, which might be reinforced in the future.

Underlying the projections for economic activity in Portugal are a set of risks, whose overall balance is tilted to the upside. Downside risks are related to an unfavourable evolution of the pandemic, in particular as regards the efficacy of vaccines against new COVID-19 variants and the impact of the withdrawal of support measures to more affected sectors. On the upside, particularly relevant is the risk of part of the considerable increase in savings accumulated during the crisis being channelled to expenditure. In addition, there is short-term uncertainty surrounding tourism

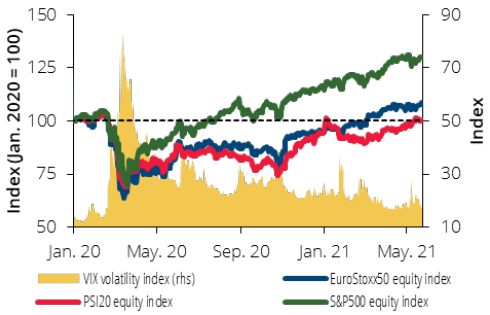
exports, which are dependent on decisions on international travel in tourism-issuing countries and in Portugal.

From April 2020 to May 2021, assets appreciated considerably in international financial markets

The COVID-19 pandemic had an abrupt and severe impact on the global economy and international financial markets at the start of 2020. Swift action by the authorities partially mitigated the economic and financial effects of the pandemic, while preserving the stability of the financial system. Since the onset of the crisis, financial assets have appreciated markedly and credit spreads have narrowed. This trend partly resulted from prospects for economic recovery, which have been more positive than initially expected, reflecting the credibility of the measures taken and the capacity to control the pandemic.

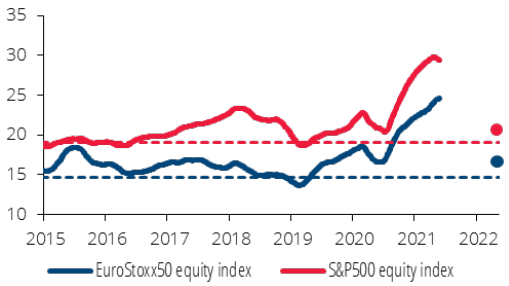
The appreciation of financial assets was particularly robust in the US market, where, despite the health crisis, the recovery in stock market indices took only four months to exceed the increase observed at the end of 2019 (Chart I.1.1). The euro area took longer to recover. However, the European stock market index also recovered to 2019 levels from February 2021 onwards. In the bond market, sovereign and private debt yields remained at record lows, reflecting the support measures taken by international and Portuguese authorities. This considerable increase in value in all asset classes has contributed to heightened market risk. In the equity market in particular, there have been rising concerns of a mismatch between investor expectations and corporate earnings (Chart I.1.2).

Chart I.1.1 • Stock market indexes and volatility



Source: Refinitiv. | Notes: The chart shows the evolution of stock market indexes with the base value set at 100 in January 2020. Quotes are shown at the right hand side for the VIX volatility index. Closing market quotes. Last observation: 28 May 2021.

Chart I.1.2 • 3-months moving average of PE ratio and 12-months forward earnings



Source: Refinitiv. | Notes: The dashed lines show the price-to-earnings mean between January 2000 and May 2021. The dots are the market forecast for the 12-months forward earnings. Last observation: 28 May 2021.

The risk of volatility in international financial markets is reinforced by a high degree of leverage

The appreciation observed in international financial markets reflects a more favourable outlook for economic recovery, as well as an intensified search for yield behaviour. These have materialised in episodes of volatility in some market segments, such as increased participation of retail investors in financial markets (e.g. GameStop) and the bankruptcy of Greensill and the Archegos family

offices. Although they did not affect the financial system's stability, these three events have raised questions of transparency, financial interconnections, attitude towards risk and high leverage as potential sources of systemic risk to the functioning of international financial markets.

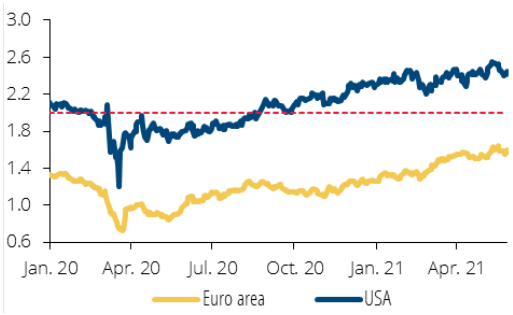
Since the episode of volatility observed in March 2020, signs of lower risk aversion have also been reflected in the appreciation of some segments and assets in international financial markets. At first, this trend was particularly marked in sectors less affected by the pandemic, but it has spread to other more speculative assets more recently, such as crypto-assets and special purpose acquisition companies (SPACs). SPACs are stock-market listed financial vehicles, the main purpose of which is to acquire a company without resorting to the usual mechanisms used in initial public offerings (IPOs), granting the corporate sector easier access to capital markets. Given their characteristics and lower reporting requirements, they may be a source of market and liquidity risk for investors. Since the start of 2021, 14 SPAC transactions have been conducted in Europe to the amount of €37 billion – which is substantially higher than the total accumulated since these instruments were introduced in 1991 (€29 billion). In the first quarter of 2021, crypto-assets – representing digital value or claims and which can be transferred or stored in electronic format – also appreciated considerably. Among these, the cryptocurrency class appreciated the most in 2021, and more than 4,000 of these assets have been identified thus far. However, given that this appreciation has no underlying assets and these instruments are not supervised to the same extent as other financial assets, those who invest in cryptocurrencies are exposed to liquidity risks and episodes of volatility such as that observed in May 2021. In this respect, recent regulatory initiatives promoted by the European Commission are important, in particular the proposal for a regulation on Markets in Crypto-assets (MiCA), with the aim of: (i) providing clarity on the definition of these assets; (ii) determining the scope of supervision for cryptocurrencies used as means of payment; (iii) laying down the requirements applicable to the reserve assets of crypto-assets and the own fund requirements for issuers; iv) setting out the rights and guarantees of investors; and (v) establishing the disclosure obligations of issuers.

The increase in sovereign yields reflected investors' concerns about a rise in inflation in the United States

Despite the sharp appreciation in financial markets, following the increase in US sovereign yields in February 2021, some speculative assets experienced steep declines, reflecting greater risk perception by international investors. The rise in US sovereign yields mainly resulted from investor expectations of an increase in inflation in the short to medium term (Chart I.1.3). This situation derives from prospects of a swifter normalisation of economic activity, as well as the successive fiscal stimuli adopted by the US government and the episodes of disruption observed in international supply chains. This last effect has been important for construction, technology and the automotive sector, reflected in an increase in the prices of commodities such as wood (+47% in five months), shipping costs (+137% in three months) or semiconductors . A sudden, non-temporary rise in inflation in the United States may represent a risk to financial stability if it leads to unforeseen increases in debt security yields. This situation may also have an impact on emerging market economies.

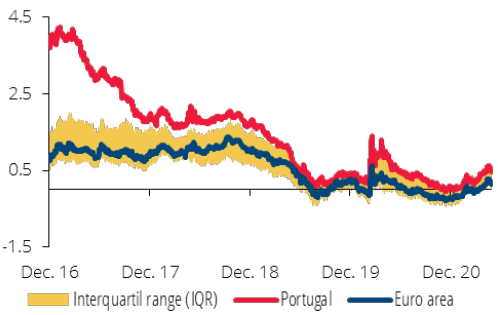
The FED's intervention has so far interrupted the rise in US sovereign yields, in particular by reinforcing the message that monetary stimulus will only be removed when economic activity and the labour market have fully recovered, allowing inflation figures to exceed the 2% objective for a prolonged period.

Chart I.1.3 • 5y5y inflation swaps – euro area and USA | Per cent



Source: Refinitiv. | Notes: Inflation expectations implied in the 5-year, 5-year inflation swaps contracts. Closing market quotes. Last observation: 28 May 2021.

Chart I.1.4 • Euro area 10-year sovereign debt securities yields | Per cent

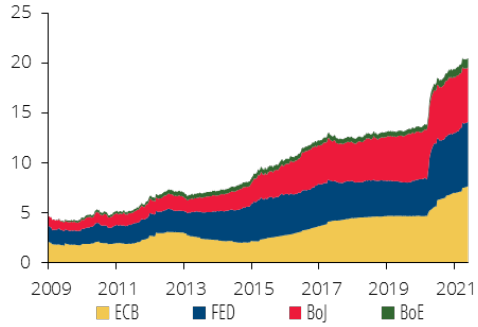


Source: Refinitiv. | Notes: Data series correspond to the closing quote of General Government debt yields for 19 euro area countries and with maturity of approximately 10 years. The series for euro area shows the debt yield weighted-average by country GDP. Last observation: 28 May 2021.

Although sovereign yields have also increased in the euro area, the impact was lower than the US bond market. The increase in the euro area occurred in a context of relative delay in the vaccination process in Europe compared to the United States, prospects of a slower economic recovery and less ample fiscal stimuli in comparison to the United States. Consequently, the lower increase in debt security yields mostly reflected the swift and significant measures introduced by the ECB, which, following this event, reaffirmed the objective of maintaining favourable financing conditions to support economic recovery. From among the measures adopted, the Pandemic Emergency Purchase Programme (PEPP) has been particularly important by mitigating the rise in risk premia, supporting liquidity in the various segments of the financial market and decreasing the risk of fragmentation (Chart I.1.4). From the start of the pandemic crisis until April 2021, the ECB purchased €1.02 trillion in bonds under the PEPP (corresponding to 22% of the Eurosystem's assets at the end of 2019) and the amounts allotted in targeted longer-term refinancing operations (TLTRO III) reached €1.98 trillion (Chart I.1.5).

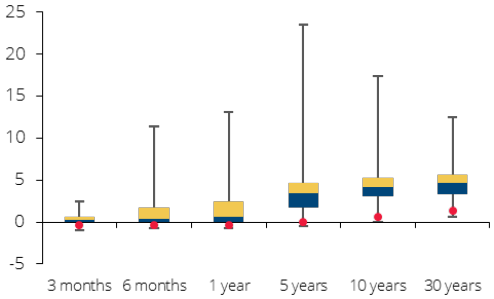
Over the course of 2020, the ECB announced an extension of the monetary stimulus. From among the measures announced, the following were particularly relevant: an increase of €120 billion in purchases under the Asset Purchase Programme (APP) until the end of 2020, the creation of the PEPP, consecutive increases in the PEPP's financial envelope to a total of €1.85 trillion and its extension until March 2022, as well as the reinvestment of maturing amounts until 2023, which have helped maintain favourable financing conditions for a more protracted period. The special interest rate period for TLTRO III operations was also extended until June 2022, the refinancing limit was increased, and three new operations were announced for the period between June and December 2021, ensuring that the incentives for lending are maintained. Finally, the ECB also announced four new pandemic emergency longer-term refinancing operations (PELTROs) for 2021, with rates below the Eurosystem's main refinancing rate and the extension of the Eurosystem repo facility for central banks until March 2022. Together, these measures are aimed at preserving favourable financing conditions in the euro area. In Portugal, despite the recent increase, the actions taken by the authorities have also enabled sovereign financing costs to remain close to record lows (Chart I.1.6).

Chart I.1.5 • Central banks' balance sheet | Trillion euros



Source: Refinitiv. | Notes: The values refer to central banks' total assets in euros, in particular European Central Bank (ECB), Bank of Japan (BoJ), Bank of England (BoE) e Federal Reserve (FED). Last observation: 28 May 2021.

Chart I.1.6 • Portugal sovereign yields distribution between 2000 and 2021 | Per cent



Source: Refinitiv. | Notes: The series show the Portuguese sovereign yields distribution between January 2000 and May 2021. The yellow and blue boxes are the difference between the median and Q3 and Q1, respectively. The red dot refers to last observation available: 28 May 2021.

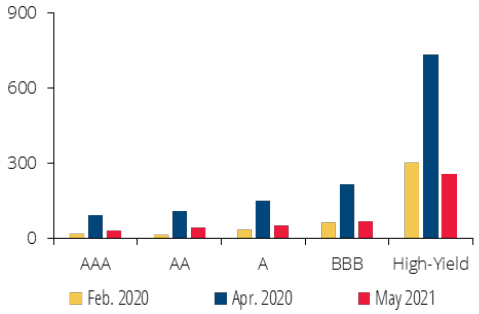
In the European private debt securities market, financing costs also remained at record lows. Additional funding needs related to the pandemic crisis were first reflected in an increase in the volume of debt securities issued by firms and their market financing costs. However, the measures taken by the authorities led to a reduction in the risk premia of both securities with a better credit rating and securities below investment grade (Chart I.1.7). The latter is the only category still with financing costs below those observed before the pandemic crisis, reflecting an intensified search for yield. As the end of the health crisis and a potential change in support measures edge nearer, increased exposure to this asset class may introduce additional vulnerabilities to a number of sectors in the European financial system. At the national level, market financing costs also remained low, and two bond issues were made in the past year by non-financial corporations in Portugal, totalling €1.25 billion with a maximum coupon rate of 2%.

Market participants continued to expect a protracted period of very low interest rates in the euro area

The high degree of monetary policy accommodation has been reflected in expectations of a prolonged environment of very low interest rates. However, prospects of a normalisation of economic activity and inflation have also been reflected in revising market expectations for interest rates (Chart I.1.8). This effect was considerable between February and May 2021, with investors predicting the return of positive interest rates one year sooner (March 2025).

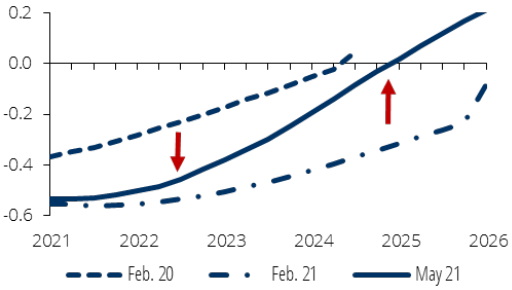
The revision of expectations reflects a better outlook for economic recovery. Still, market participants continue to expect a protracted period of very low interest rates in the euro area.

Chart I.1.7 • Average yield of euro area non-financial corporations debt securities | Basis points



Source: Refinitiv. | Notes: Average yield of iBoxx indexes for non-financial corporations by credit rating. Last observation: 28 May 2021.

Chart I.1.8 • Implied interest rate in the 3-month EURIBOR futures contracts | Per cent



Source: Refinitiv. | Notes: 30-day average value of the interest rate implicit in the 3-month EURIBOR futures. Last observation: 28 May 2021.

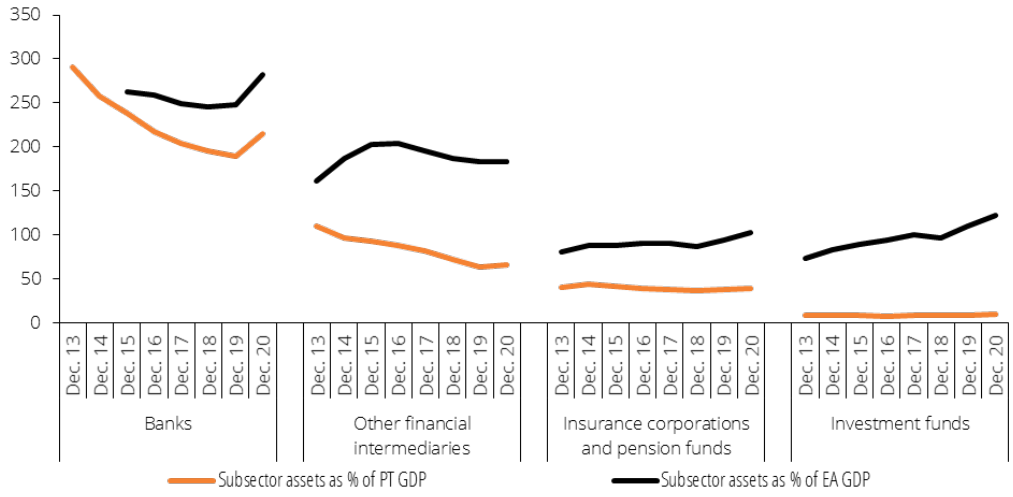
1.3 Economic sectors and the coordination of policy measures

1.3.1 Non-banking financial sector

The non-banking financial sector continued to take on a relevant role in market financing conditions in the euro area. In 2020, the size of this sector, measured by the volume of assets held, remained broadly unchanged at approximately 408% of GDP. According to the *Non-Banking Financial Monitor*, the debt securities market in the euro area increased by 2.1% in 2020 (0.3 p.p. less than in December 2019). In the wake of the pandemic crisis, uncertainty in the financial markets was reflected especially in the activity of this market, with debt securities issues falling significantly between March and April. However, activity returned, with a high proportion of these assets being acquired by insurance corporations, pension funds and investment funds.

Nevertheless, in Portugal, the volume of non-banking financial sector assets has fallen. In 2020, the sector's size dropped by 3%, representing around 120% of GDP (Chart I.1.9). Likewise, there was a decrease in direct interlinkages between the financial system's subsectors. The reduced size of the non-banking sector in Portugal is reflected in a greater dependence of non-financial corporations on bank lending.

Chart I.1.9 • Relative size of the financial system subsectors and direct interlinkages – Portugal and euro area | As a percentage of GDP



Sources: Banco de Portugal and European Central Bank. | Note: Total non-consolidated assets of each sector were also considered.

The low interest rate environment has put additional pressure on the profitability of financial intermediation activity in the euro area. Investment strategies have been altered to preserve the correlation between return on assets and bond yields. This has resulted in more intensive search-for-yield behaviours, increasing exposure to credit, foreign exchange and liquidity risks. This trend is particularly important considering the growing leverage observed in certain financial agents (see *Report on Trends, Risks and Vulnerabilities,* ESMA, March 2021). In the event of a sudden financial market correction, these vulnerabilities can result in the insolvency of more exposed financial entities, as was the case of the bankruptcies of Archegos and Greensill.

Excessive leverage, observed in some market segments, represents a risk to financial stability

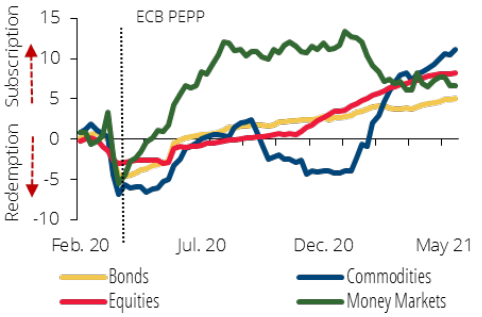
At the beginning of March 2021, Greensill Capital – an entity with its head office in the UK, specialising in financing trade credit – was closed down by the German supervisory authorities. It focused its activity on the financing and securitisation of higher-risk trade credit. This event led to the suspension of redemptions in eight European investment funds and recognition of losses in a European bank.

More recently, the family office Archegos was also forced to declare insolvency due to its financial inability to meet various margin calls. Estimated losses exceeded USD 10 billion and were particularly significant for a European bank. However, these episodes did not affect the stability of the financial system.

Due to their size and interlinkages with the financial system, euro area money market funds remain vulnerable to market risks. With very low interest rates, credit risk has increased in this sector, and the share of liquid assets in their portfolios has fallen. This trend was partially interrupted during the market correction observed in March 2020. However, following the intervention of the ECB and improved market sentiment (Chart I.1.10), the asset quality of these agents' portfolios

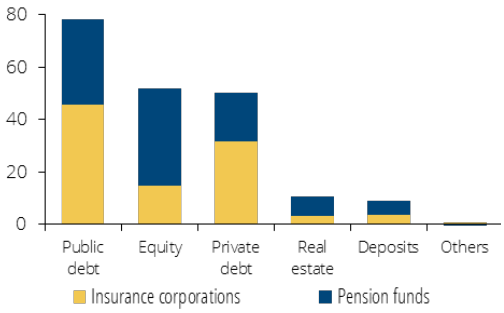
continued to deteriorate, average maturities increased and liquidity declined (see *EU Non-bank Financial Intermediation Risk Monitor 2021*, ESRB). The vulnerabilities observed in this sector are particularly important considering the absence of liquidity support mechanisms and macroprudential measures for it (Section 1.4). Notwithstanding, in Portugal, the weight of investment funds on the financial system is low, 10.4% of GDP, compared to 122.6% of GDP in the euro area in December 2020.

Chart I.1.10 • Euro area investment funds' accumulated flows | As a percentage of assets



Source: Refinitiv. | Notes: Data corresponds to investment funds domicilied in euro area. Flows are computed relative to each investment fund's net assets. Last observation: 28 May 2021.

Chart I.1.11 • Insurance corporations and pension funds investment policy in 2020 | Per cent



Source: Autoridade de Supervisão de Seguros e Fundos de Pensões (April 2021's Report). | Note: Real estate also includes the ICPF exposure to real estate investment funds.

A prolonged environment of very low interest rates has additional risks for the insurance sector

Prospects of a protracted period of very low interest rates introduce additional risks to the profitability of the insurance and pension funds sector. This effect is particularly relevant considering the reduction in sovereign debt security yields, as well as developments in the risk-free interest rate term structure, which is the main reference for discounting the liabilities of insurance companies. When combined, these two effects put pressure on the solvency and valuation metrics of liabilities of the sector's agents.

In 2020, the Portuguese insurance sector saw an improvement in solvency levels compared with the previous year, with coverage ratios increasing by 2 p.p. to 180% for the SCR (Solvency Capital Requirement) and 39 p.p. to 534% for the MCR (Minimum Capital Requirement). In terms of the sector's activity in Portugal, there was a reduction in direct insurance, contributed to by a fall of 35.4% in life insurance. This reduction resulted especially from the challenges brought about by the low interest rate environment and its impact on the implicit yield of products in this area of activity. Notwithstanding its resilience, the main vulnerabilities of the sector as identified by the results of the stress test carried out by the Portuguese Insurance and Pension Funds Supervisory Authority (Autoridade de Supervisão de Seguros e Fundos de Pensões – ASF) in April were as follows: (i) high concentration of investment portfolios in public debt securities and a limited number of issuers (Chart I.1.11), (ii) an increase in exposure to private debt securities on the investment-grade threshold; and finally, for some operators, (iii) exposure to the risks of a change in the measurement assumptions of the best estimate for technical reserves of temporary annual renewable (TAR) life insurance products with contracts greater than one year.

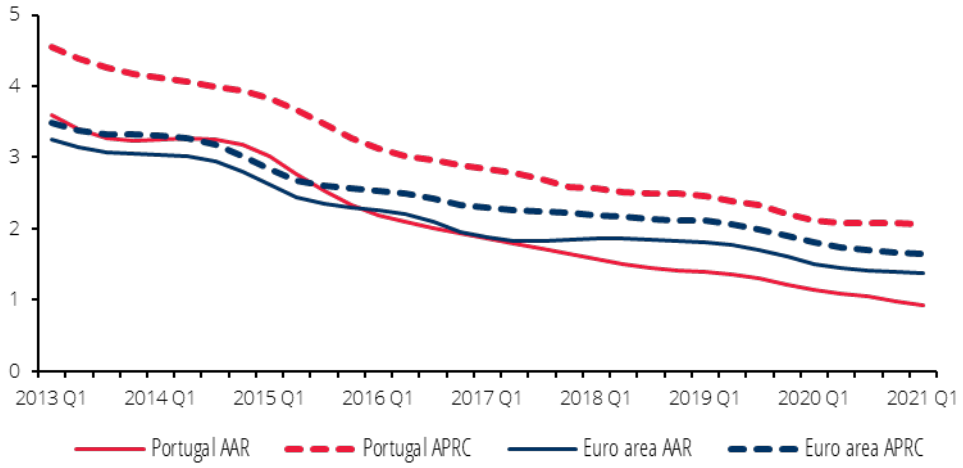
1.3.2 Residential and commercial real estate market

Residential real estate market prices continued to increase during the pandemic period

In Portugal, residential real estate market prices continued to increase, albeit at a slower pace. In the fourth quarter of 2020, the housing price index grew by 8.6% year on year, compared to 10.3% in the first quarter of the year. House prices also grew in the euro area during the fourth quarter of 2020 (5.4% in year-on-year terms). Between March and December 2020, the housing price index grew by 3.5% (4.4% in the euro area). But the number of transactions fell by 5.3% in 2020. Despite this, the value of transacted dwellings increased by 2.4% in 2020 (6.3% in 2019).

According to the *Bank Lending Survey*, interest rate levels contributed to an increase in demand for housing loans in 2020 and the first quarter of 2021. It is, however, noteworthy that in Portugal the additional charges involved in housing loans (not including interest payments) represent a significant share of the total cost of the loan (Chart I.1.12). The annualised agreed rate (AAR) and annual percentage rate of charge (APRC, which includes all the charges associated with the loan, in addition to the payment of interest, such as account maintenance fees necessary for the credit agreement and insurance costs), for new housing loans have been decreasing, standing at 0.9% and 2.1% respectively in March 2021. The APRC for new housing loans in Portugal is among the highest in the euro area, while the AAR is among the lowest.

Chart I.1.12 • Interest rate on new housing loans | Per cent



Sources: Banco de Portugal and Statistics Portugal.

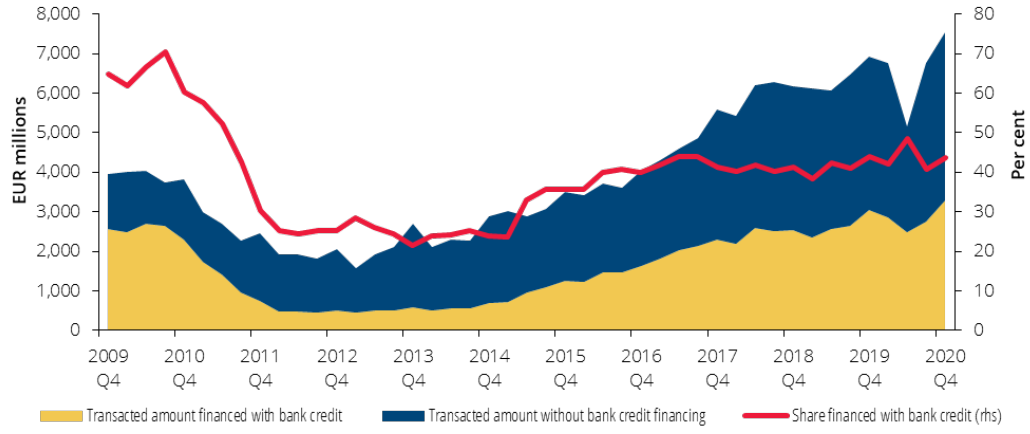
Housing loans continued to grow moderately: housing loan stock grew by 2.6% compared with March 2020 (1.5% excluding the impact of the moratoria). Over a longer horizon, between 2013 and 2020, growth in residential real estate prices in Portugal occurred simultaneously with contained developments in housing loans, contrary to other euro area countries (Chart I.1.13).

Chart I.1.13 • Cumulative change in house prices and in the stock of housing loans for the euro area countries | Per cent

Sources: European Central Bank and OECD. | Notes: Cumulative change between 2013Q4 and 2020Q4. Cyprus and Malta were excluded from the sample due to missing data.

The share of residential real estate transactions financed by domestic credit is over 25 p.p. lower than in the period prior to the sovereign debt crisis, about 40% since 2016, compared to 66% in 2009 (Chart I.1.14). Low interest rates have contributed to increased demand for residential real estate as an investment, thus contributing to the increasing value of these assets.

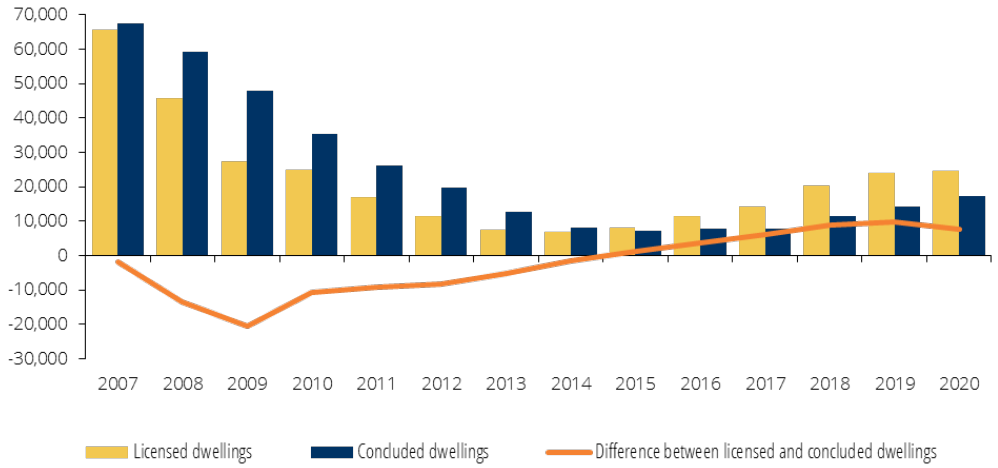
Chart I.1.14 • Transactions in dwellings *versus* new housing loans



Sources: Banco de Portugal and Statistics Portugal.

Another factor that has contributed to sustaining residential real estate prices is the shortage of supply, reflected in the low levels of construction during the years leading up to the pandemic crisis (Chart I.1.15). However, the construction sector in Portugal remained resilient throughout 2020: gross value added (GVA) and investment in the sector increased by 3.2% and 4.7% respectively.

Chart I.1.15 • Licensed and concluded dwellings in new construction for family housing | Units

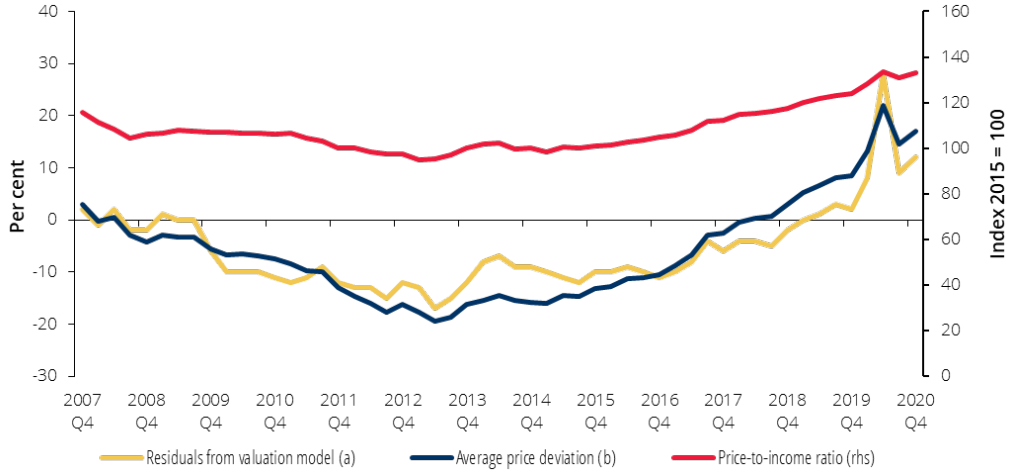


Source: Statistics Portugal (Banco de Portugal calculations).

Available estimates suggest some overvaluation of the residential real estate sector in Portugal since 2018 (Chart I.1.16). Nevertheless, these estimates should be interpreted with special care due to the methodological limitations and consequent uncertainty associated with the results. The variables considered in these estimates do not include all the drivers behind demand for residential real estate, especially the demand by non-residents and demand associated with tourism activities that contributed to price developments in this market during the pre-pandemic period. These factors are particularly exposed to uncertainty surrounding the duration of the pandemic crisis.

However, the demand for housing by non-residents continued to be significant. Foreign direct investment in the real estate sector grew by 8.2% in 2020 (10% in 2019) and reached €321 million in the first quarter of 2021, compared to €385 million in the first quarter of 2020. Investment in real estate through the Golden Visa regime continued to be significant (despite falling from €661 million in 2019 to €588 million in 2020). Nevertheless, a possible worsening of international financing conditions may have a negative impact on demand by non-residents in this market.

Chart I.1.16 • Valuation measures of house prices in Portugal



Sources: European Central Bank and OECD. | Notes: Positive values signal the existence of overvaluation. (a) The residuals from the valuation model result from the estimation of a model of house prices based on their economic fundamentals. (b) The average price deviation is a synthetic measure based on four valuation metrics considering indicators both related to housing demand and to asset pricing methods. The price-to-income ratio corresponds to the ratio between the nominal house price index and nominal disposable income per capita.

The increase in the average rent value in the rental market continued during the pandemic, despite slowing down. The year-on-year growth in average rent fell from 3.3% in the first quarter to 2.0% in the fourth quarter of 2020, and to 1.6% in the first quarter of 2021. In the euro area, where rent growth has been more contained, the slowdown was less accentuated, from 1.4% in the first quarter of 2020 to 1.1% in the first quarter of 2021.

The characteristics of the housing loan portfolio are indicative of the banking sector's resilience to a correction in house prices

A potential correction in residential real estate prices would affect financial institutions' portfolios through the reduction in the value of the collateral in housing loans. However, this impact would be limited by the moderate growth in housing loans in recent years. In December 2020, the stock of housing loans represented 26% of the banking sector's total assets, declining compared to March 2018 (28%). Furthermore, 92% of financial institutions' housing loans portfolio had a loan-to-value (LTV) ratio below 80%, while the median LTV was 53%. These characteristics are indicative of the robustness of the banking sector to a potential correction of residential property prices.

The prices of certain segments of the commercial real estate market have been less resilient

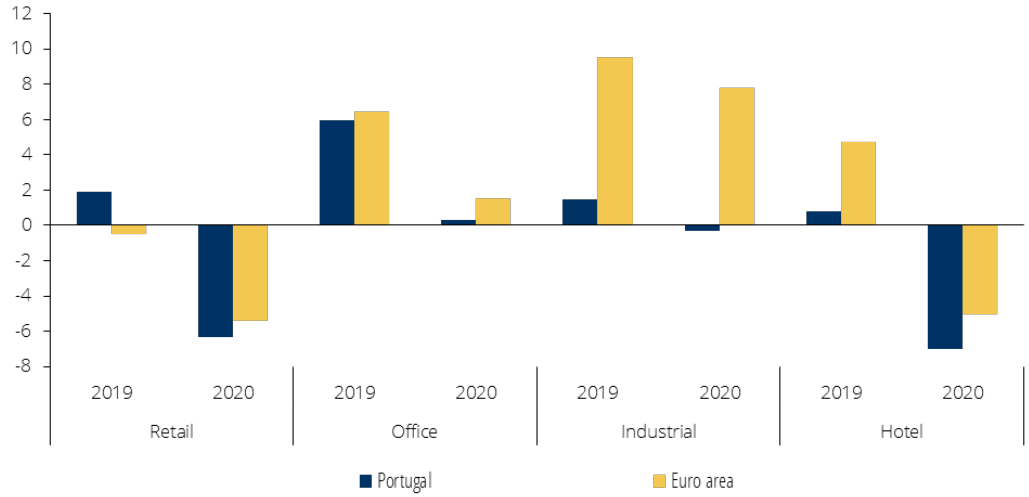
Commercial real estate prices in Portugal have been less resilient to the pandemic shock in comparison to residential real estate prices, despite showing signs of contained developments. According to the Morgan Stanley Capital International (MSCI) index, commercial property prices fell by 3.8% in 2020. In turn, Statistics Portugal's Commercial Property Price Index (*Índice de Preços das Propriedades Comerciais* – IPPC) increased by 1.7% in 2020. This discrepancy may be due to differences in the real estate sample used, which, in the case of the MSCI, is largely composed of retail real estate, typically in prime locations. The methodological differences in the production of the two metrics may also contribute to this discrepancy. The IPPC is calculated on the basis of commercial real estate transaction prices, while the MSCI index corresponds to the appreciation in value of the real estate under analysis.

Despite the fall in the aggregate price index, the effects of the pandemic were heterogeneous across the different segments of commercial real estate (Chart I.1.17). The retail and accommodation sectors devalued in 2020. Industrial and logistics properties showed countercyclical developments, thanks to the expressive growth of e-commerce during the pandemic. In the office segment, the shortage of supply contributed to price and rental resilience, despite the uncertainty introduced by the possibilities of new distance-working practices. In 2020, about half of new office construction was pre-rented, with a similar dynamic observed in 2021.

Notwithstanding the pandemic, investment in commercial real estate in 2020 was significant, totalling €2.7 billion (about half of which was invested in the first quarter). International investors continued to account for a volume of investment greater than that of Portuguese investors: 80% of invested capital is foreign.

A correction in commercial real estate prices should have a reduced impact on the stability of the banking sector considering that the on-balance sheet exposure is limited and considerably lower than that of residential real estate.

Chart I.1.17 • Developments in commercial real estate assets valuations per segment | Per cent



Source: Morgan Stanley Capital International.

1.3.3 Non-financial corporations

Non-financial corporations have proved resilient, with the help of support measures

Non-financial corporations (NFCs) have proved resilient, sustained by support measures and a sounder financial position at the time when the pandemic hit.

NFC net borrowing dropped by 0.8 p.p. in 2020 to 2.4% of GDP, as a consequence of the 0.4 p.p. reduction in investment (12.8% of GDP in 2020), the 0.5 p.p. decrease in savings (8.8% of GDP in 2020) and the 0.9 p.p. increase in capital transfers (1.7% of GDP in 2020). However, investment and savings remained above the levels seen during the sovereign debt crisis (9.8% and 8.4% of GDP between 2011 and 2013 respectively). The decrease in savings as a percentage of GDP resulted from a break in GVA, albeit mitigated by an increase in subsidies and the stabilisation of compensation of employees (-3.7 p.p., 1.1 p.p. and 0.0 p.p. respectively).

The impact of the crisis was heterogeneous across sectors of activity. Restrictions on mobility were particularly damaging for the trade, accommodation and food services sector, whose GVA fell by 12.8% in aggregate terms in 2020.

The main risks and vulnerabilities for NFCs are still associated with the effects of the pandemic crisis: credit risk materialisation, high indebtedness ratios and challenges to firms' solvency, particularly in a number of sectors.

Financial institutions should continue to monitor firms' credit risk, particularly as regards credit under moratoria

Firms' credit risk rose with the pandemic crisis, more markedly in the accommodation and food services sector. After peaking in April 2020, credit risk has decreased gradually. However, and as at February 2021, this risk was still higher than that estimated had there been no pandemic crisis (Box 3).

In April 2021, 31.1% of bank loans to NFCs were under moratoria, corresponding to €23.2 billion. The end of the public moratorium in September 2021 should be monitored closely, given its impact on NFC liquidity needs. However, the banking sector seems to have tracked the emergence of difficulties among firms, even those under moratoria, so part of the effect of the end of moratoria should already be reflected in banks' balance sheets.

The end of the moratoria could result in a rise in instalments, as a consequence of unpaid interest capitalisation, but it should be mitigated by the fact that the maturities of credit under moratoria were expanded by one year in the most affected sectors.

NFC debt as a percentage of GDP increased in 2020, contributing to improvements in NFC liquidity

In 2020 the ratio of total consolidated debt as a percentage of GDP, which corresponds to total loans, debt securities and trade credits of firms, rose by 7.0 p.p. from 2019. This increase mostly reflected a reduction in GDP (+5.3 p.p.). The increase in total debt made a +1.7 p.p. contribution, reflecting new lending to NFCs (in particular, State-guaranteed credit lines) and the reduction in the value of repayments due to credit moratoria. New lending was mainly associated with the resident banking system, whose weight in the total financing structure of firms increased for the first time since 2012 (Box 2). In bank lending, credit granted to SMEs, the most affected sectors and, to a lesser extent, the construction and real estate activities sector grew notably.

Firms' currency and deposits also increased over this period and more markedly in firms in the sectors of activity least affected by the pandemic, in microenterprises and small-sized enterprises and in firms that used credit moratoria and State-guaranteed credit lines. In December 2020, firms' currency and deposits stood at 28.3% of GDP, a 5.1 p.p. rise from December 2019. This increase corresponds to a substantial liquidity buffer and a mitigating factor for the end of certain support measures, although the heterogeneous impact of the pandemic crisis may have limited the build-up of liquidity in some firms (Table I.1.1).

Table I.1.1 • NFCs' total debt | As a percentage of GDP

	Dec. 13	Dec. 17	Dec. 18	Dec. 19	Dec. 20
Gross debt					
Portugal	122	100	95	92	99
Euro area	88	88	88	87	
1st Quartile	76	64	61	58	
3rd Quartile	126	131	128	124	
Debt net of deposits					
Portugal	103	79	74	69	71
Euro area	69	65	65	64	

Sources: Banco de Portugal and Eurostat. | Notes: Total consolidated debt includes loans, debt securities and trade credits and advances. Euro area figures refer to the total consolidated debt of the 19 countries of the euro area. The quartiles refer to the total consolidated debt ratio figures considering the19 countries of the euro area.

Low interest rates reduce firms' debt service

State-guaranteed credit lines have made it possible to access liquidity at lower costs, longer maturities and with long grace periods, the latter of which were expanded in March 2021 (Section 2.4). These lines are limited to the approved amount in the exceptional temporary scheme for State aid (approximately €13 billion), €10.6 billion of which has been used so far.

Low interest rates in new credit operations, reflecting the ECB's accommodative monetary policy, will continue to promote low debt service for firms (Section 2.4).

Expectations of an asymmetrical recovery indicate that original liquidity risks will progressively make way for insolvency risks, particularly in the most affected sectors of activity. Loss build-up and the reversal of measures may reduce firms' capital.

The negative effects of the pandemic crisis have yet to result in a considerable increase in the number of insolvencies, which in 2020 were below the 2015-19 average (Table I.1.2). The decrease in insolvencies was also common to other euro area countries, as a result of the positive effect of measures supporting business activities and the temporary suspension of insolvency proceedings.

Table I.1.2 • Insolvencies in Portugal | Number of firms

	1st quarter	2nd quarter	3rd quarter	4th quarter
Opening of insolvency proceedings | 2020	677	679	656	629
2015-19 average	*813*	*736*	*639*	*706*
Established insolvency | 2020	529	558	567	455
2015-19 average	*787*	*694*	*630*	*631*

Source: Citius (Banco de Portugal calculations). | Notes: The *opening of insolvency proceedings* corresponds to any act requesting for insolvency proceedings by a creditor or debtor on a judicial court and the *Established insolvency* corresponds to the judicial judgment of insolvency of a debtor by a judicial court.

Further support measures should take into account whether firms are viable and enhance their capitalisation

A solvency crisis could warrant further support measures for creditworthy firms to bolster the future viability of their activities (Box 4). To optimise allocated resources, these measures should take into account the pandemic developments, potential changes to the structure of the economy and the labour market situation. It is key that any new measure will anticipate the main effects of the gradual reversal of the measures already in place and limit incentives to keep non-economically viable firms in business.

These measures will be particularly crucial to support the debt sustainability of viable firms that have increased their indebtedness as a response to the liquidity crisis.

1.3.4 Households

Households' financial situation stabilised due to the measures to support the economy

Measures to support household and business income stabilised households' financial situation in 2020. Despite the fall in economic activity, household disposable income grew by 1.0%, with positive contributions from compensation of employees (+0.7 p.p.) and social contributions and benefits (+0.8 p.p.).

Household savings increased substantially. The savings rate grew by 5.7 p.p. from 2019 to 12.8%, albeit below the euro average in 2020 (20% of disposable income, 6.9 p.p. more than in 2019). Savings accumulated appear to have been more concentrated in higher-income households.

The rise in savings led to an increase in the financial assets of households. The currency and deposits component rose by 7.1%, the highest rate of growth since 2008, corresponding to a net investment of €14.1 billion. Investment in the remaining asset categories was lower, most notably net investment in investment funds and equity, which stood at €1.6 billion and €1.2 billion respectively.

The main risk to the financial situation of households is unemployment. Unemployment has remained close to its pre-crisis levels, and the weight of discouraged individuals in the labour force has also not increased significantly compared to the same period. However, the impact on employment was heterogeneous in 2020, with a more marked fall in employment in the sectors most affected by the pandemic and among workers hired within the previous year. Projections for the unemployment rate have been successively revised downwards, while suggesting a moderate increase in the unemployment rate, especially compared to that seen during the sovereign debt crisis.

The gradual recovery of the economy reduces the credit default risk of households

With the end of the public moratorium in September 2021, household debt service will be re-established, and the materialisation of default among some borrowers is to be expected, particularly those who have experienced significant income losses. In April 2021, 12.1% of loans to households were under moratoria, corresponding to €15.1 billion, 88% of which corresponded to housing loans.

Following the end of the private moratorium provided by the Association of Specialised Credit Institutions (Associação de Instituições de Crédito Especializado – ASFAC), recent defaults weighted more on loan agreements under the moratorium than on those not under the moratorium (8.5% and 3.6% of the total loan amount outstanding on each type of agreement respectively). The increase in default rates in the total loan portfolio of the institutions that joined the ASFAC moratorium was not significant, as the weight of the loans under a moratorium in total credit granted by these institutions was low (Box 1).

The end of the moratorium provided by the Portuguese Banking Association (Associação Portuguesa de Bancos – APB) in March 2021, covering mortgage loans, resulted in the resumption of repayment schedules to a lending volume of €3.7 billion (around 4% of total housing loans). The time elapsed since the end of this moratorium is still too short for an analysis of its impact in terms of credit risk materialisation, a limitation compounded by the fact that until December 2020 borrowers had the possibility of migrating to the public moratorium.

Information available up to the cut-off date for this Report points to a very residual increase in defaults. Only 0.5% of the amount of mortgage credit agreements that were under the APB moratorium corresponded to overdue loans by at least one month between the time of withdrawal from the moratorium (which may be equal to or prior to the end date) and end-April 2021. The distribution of the €3.7 billion across credit risk stages as at March 2021 corresponded to 79% in stage 1, 17% in stage 2 and 4% in stage 3. In March 2021 the share of housing loans that were still

under a (public) moratorium and classified as stage 2 amounted to around 18%. Of the borrowers who have benefited from this moratorium, approximately 15% are still under moratoria on consumer loans - private moratorium ending in June - and on housing loans - public moratorium ending in September. Despite this early evidence of credit risk materialisation, although contained, a considerable share of households continue to benefit from a reduction in their debt service via the public moratorium, focusing on housing loans.

The gradual recovery of the economy will act as a mitigating factor for credit risk materialisation, in addition to the fact that a significant share of households have applied for moratoria for precautionary reasons.

Resilience in mortgage lending has contributed to an increase in household debt

The household total debt ratio as a percentage of disposable income increased by 0.3 p.p. to 95.2% in 2020. After an extended downturn, household indebtedness remained close to the euro area level in 2019 (95%). The reduction in household indebtedness following the sovereign debt crisis (about -27 p.p. compared to December 2013) was very positive from a financial stability standpoint and now places Portuguese households in a more favourable position.

Since the end of 2011, the reduction in aggregate debt reflected a decrease in the median debt of households and a narrowing of the debt service-to-income (DSTI) and debt-to-income (DTI) ratios, with a major contribution from decreasing housing loans. According to the information available in the Portuguese Household Finance and Consumption Survey (*Inquérito à Situação Financeiras das Famílias* – ISFF), from 2010 to 2017 the DTI ratio narrowed markedly across income brackets, in particular in the lowest income quartiles (in aggregate terms, from 224% to 133%). This reduction was also observed in the DSTI ratio, from 20% to 14%, and in median debt, from €54 thousand in 2010 to €35 thousand in 2017.[1]

The main contribution to the increase in the household debt ratio in 2020 was by housing loans (Table I.1.3), whose positive change was associated with the growth of new loans and, to a lesser extent, a decrease in repayment of loans under moratoria. New loans for house purchase grew by 7.3%, as a result of an increase in the third and fourth quarters of 2020, following a decrease in the second quarter. The growth of new loans held in the first quarter of 2021, reaching a peak unseen since the second quarter of 2008. The growth of new business was mainly associated with borrowers entering the credit market.

Continued low interest rates foster momentum in this market (Section 1.3.2). Mortgage lending has continued to be associated with low-risk borrowers, even though there was an increase in the average maturity of these operations, returning to the value observed in 2018 (Section 1.4).

[1] See Box 3, entitled "The financial situation of Portuguese households in pre-crisis periods", *Financial Stability Report*, Banco de Portugal, June 2020.

Table I.1.3 • Households' total debt | As a percentage of disposable income and percentage points

	Dec. 16	Dec. 17	Dec. 18	Dec. 19	Dec. 20
Gross debt	105.2	102.3	98.1	94.9	95.2
Contributions to changes in total debt					
Loans for house purchase	-2.3	-1.2	-0.4	-0.1	1.3
Of which, differed instalments of loans under moratoria					*0.5*
Loans for consumption	0.9	1.7	1.3	1.3	0.3
Change in disposable income	-4.1	-3.2	-4.2	-3.8	-0.9
Other changes[(a)]	-1.0	-0.3	-0.8	-0.6	-0.3

Source: Banco de Portugal and Statistics Portugal. | Notes: Total debt includes loans, debt securities and trade credit and advances. (a) Other changes include loans for other purposes (other than house purchase or consumption), trade credits, accrued interest (regardless of the type of credit), loan write-offs by resident monetary financial institutions and other changes in volume and price.

1.3.5 General government

Despite the significant increase in the public debt ratio in 2020, it is expected to fall from 2021 onwards

In 2020, there was a significant increase in public debt across the main advanced economies, due to the support measures to mitigate the effects of the pandemic crisis. The impact of these measures in Portugal (3% of GDP) and the automatic stabilisers contributed to the worsening of the budget balance (-5.7% of GDP). The public debt ratio increased by 16.8 p.p. in comparison to 2019, rising to 133.6% of GDP and interrupting the adjustment that began in 2017. This increase reflects the double effect of an increase in public debt (contribution of 10.1 p.p.) and a fall in GDP (contribution of 6.6 p.p.) (Table I.1.4). However, part of this increase in debt corresponds to general government deposits, as the public debt ratio net of deposits increased by 11.7 p.p. to 121.8%.

The European Commission's economic forecasts suggest a return to a path of reduction of the public debt ratio in Portugal from 2021 onwards. In 2022, it is projected that this ratio will be only 5 p.p. above that observed in 2019 (pre-pandemic period). However, this development is not shared by a relevant number of euro area countries (Chart I.1.18).

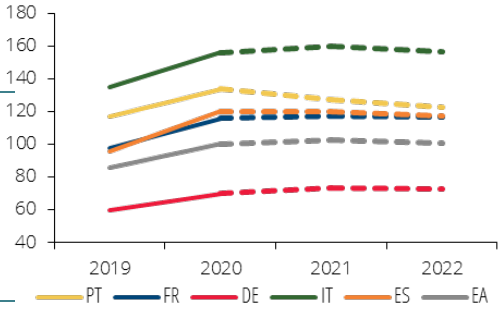
Fiscal support should be temporary and focused on the sectors most affected by the pandemic crisis, without losing sight of the objective of resuming the downward trajectory of Portuguese public debt observed before the pandemic.

Table I.1.4 • Contributions to changes in the public debt ratio | Percentage of GDP

	Cumulative 2014-2018[(a)]	2019	2020
Public debt ratio	121.5	116.8	133.6
Change in public debt ratio	-11.5	-4.6	16.8
Public debt contribution	10.3	0.3	10.1
GDP contribution	-21.7	-5.0	6.6

Source: INE (Banco de Portugal computations). | Notes: (a) The year 2014 corresponds to the maximum value of the public debt ratio between 2011 and 2019. The sum of contributions may not add to the total change due to rounding.

Chart I.1.18 • Public debt ratio projections between 2021 and 2022 | Percentage of GDP



Source: European Commission. | Notes: Spring 2021 Economic forecasts. PT – Portugal, FR– France, DE – Germany, IT – Italy, ES – Spain and EA – Euro area.

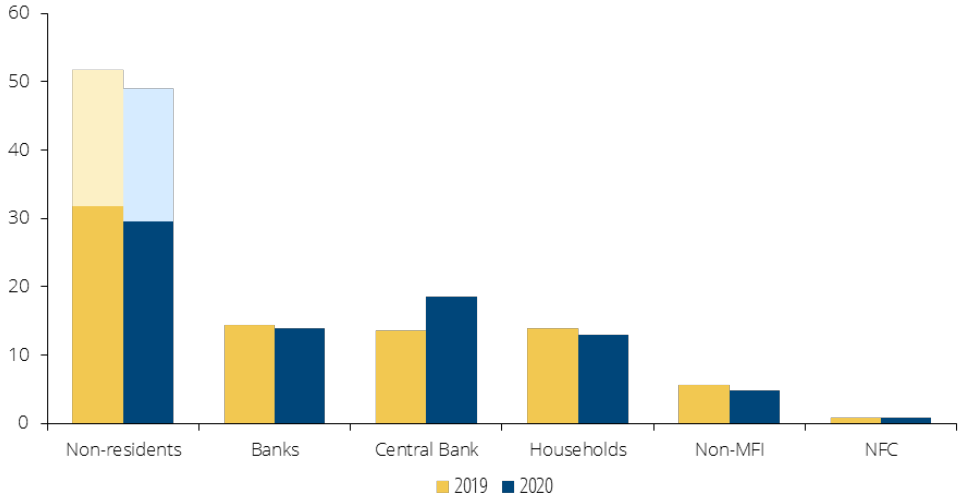
Despite the increase in public debt in 2020, general government interest expenditure maintained its downward trajectory (reduction of 8.6% compared to the end of 2019), standing at 2.9% of GDP and benefiting from favourable financing conditions, reflecting the effects of the ECB's accommodative monetary policy, in particular the PEPP, and Portugal's creditworthiness.

Portuguese government debt yields increased at the beginning of March 2020 with the worsening of the pandemic crisis but fell along the year, stabilising at levels similar to those prior to the pandemic (Chart I.1.4). Despite remaining at historically low levels, in 2021 there was an increase in euro area sovereign debt yields, associated with prospects of a faster economic recovery and an increase in expectations for inflation in the US. In Portugal's case, at the end of May, the 10-year government bond yield had risen 41 b.p. compared to the beginning of 2021, when it was close to zero. The spread against German government bond yields remained relatively stable at levels very close to those prior to the pandemic.

The financial markets' situation has been reflected in the Portuguese State's financing conditions, which remain favourable. Simultaneously, debt issues with longer maturities and bond exchanges were reflected in the average residual debt maturity (excluding loans under the Economic and Financial Assistance Programme (EFAP), which was 7.1 years in April 2021 (an increase of 0.7 years compared to the end of 2020), mitigating potential financing risks.

The pandemic crisis reinforced the interconnections between the banking system and the public sector. Nevertheless, despite the increase in public debt in 2020, mainly in the form of debt securities, the relevance of the resident banking sector in general government debt holdings fell by 0.5 p.p. compared with the end of 2019, corresponding to 14% of the total debt in this sector (Chart I.1.19). The most significant increase, of 4.9 p.p. was observed in the Central Bank's weight, rising to 18.5% under the public debt purchase programmes within the scope of the ECB's monetary policy. Despite the fall compared to 2019 (-2.7 p.p.), the main holders of general government debt continue to be non-residents, with 49% of total debt, including the loans granted by international institutions under the EFAP and more recently, by the EU under the European instrument for temporary Support to mitigate Unemployment Risks in an Emergency (SURE), corresponding to 19.5% of the total debt in 2020 (-0.4 p.p. in comparison to 2019).

Chart I.1.19 • General Government debt holders | Percentage of total debt



Sources: Banco de Portugal and IGCP . | Notes: "Non-residents" sector includes loans granted by non-residents under the EFAP and SURE, identified by a lighter colour. "Non-MFI" corresponds to the non-monetary financial institutions and includes insurance companies and pension funds, and "NFC" to non-financial companies. General government debt is computed under the Maastricht definition and corresponds to consolidated debt.

1.3.6 Banking system

Banks' exposure to the public sector (16.2% of total assets) increased, but exposure to Portuguese sovereign debt stabilised

Banks continued to strengthen their exposure to sovereign debt in 2020, in particular from euro area countries. However, as regards domestic activity, the weight of Portuguese sovereign debt in assets remained stable, at 8% of total assets (Section 2.3).

Given the low interest rate environment and the surplus liquidity in credit institutions, investment in euro area general government debt continues to be attractive taking into account its return and zero risk-weights in capital ratios, as well as the possibility of being used as collateral in monetary policy operations and to meet liquidity ratios. The increase took place primarily on the debt portfolio valued at amortised cost, which accounted for 47% of the total public debt portfolio. This is a mitigating factor in the case of abrupt price changes, since changes in value are only reflected at the time of sale of these securities.

At the end of March 2021, the State-guaranteed credit lines granted due to the COVID-19 pandemic corresponded to approximately 12% of the NFC loan portfolio (Section 2.4). The State's contingent liabilities associated with these credit lines, at the date of the contract, amounted to 3.6% of the 2020 GDP over the same period.

The deterioration in credit quality should be reflected in an increase in NPLs

Portuguese banks set up credit impairments above the euro area average, in terms of both level and rate of change. This follows the guidelines issued by micro- and macroprudential authorities for banks to correctly identify and measure credit risk in order to prevent the late recognition of losses.

In 2020, NPL ratios (gross and net of impairments) remained on the downward path which started in 2016. The fall in the gross ratio stemmed mainly from the reduction in the stocks of NPLs, essentially through NPL sales and asset write-offs. The decrease in the ratio net of impairments reflected the narrowing of the gross ratio as well as the increase in impairment coverage. The increase in the NPL impairment coverage ratio was particularly significant in loans to NFCs operating in the sectors most affected by the pandemic and in loans to households for consumption and other purposes (Section 2.2).

The effects of the pandemic crisis are already being reflected in a number of asset quality indicators, particularly loans covered by a moratorium. Support measures, such as moratorium schemes and State-guaranteed credit lines, have limited the materialisation of defaults, with a positive impact on banks' asset quality.

Proactivity is key in the development and implementation of solutions that contribute to the effective recovery of borrowers in cases where it is viable and/or in the timely recognition of losses resulting from these exposures. In addition to credit risk monitoring and assessment, the system's major banks have undertaken to identify the most vulnerable customers on the basis of internal information and, by means of direct contact, to provide solutions (including the renegotiation and restructuring of credit agreements) that make it possible to tailor borrowers' debt service to their ability to pay.

The banking system's profitability will gradually improve, despite still being low

The pandemic crisis penalised the banking system's profitability in 2020, which fell to close to zero. This was common across the euro area and reflected the marked increase in credit impairments and, to a lesser extent, the reduction in net interest income, which remains under pressure from the low interest rate environment, despite a rise in credit in 2020 (Section 2.1).

The rise in credit impairments resulted in an increase in loan loss charge, which doubled from the end of 2019. The projected recovery in economic activity in the coming years, although gradual in some segments of the economy, will tend to be reflected in the flow of credit impairments, with a positive impact on the banking sector's profitability.

Developments in net interest income are expected to make a positive contribution to profitability, while still being driven by the price effect. In addition, the banks' significant use of TLTRO III in 2020 contributed to reducing the cost of financing. However, the need to issue instruments eligible for compliance with the minimum requirement for eligible liabilities and own funds (MREL), with costs exceeding the current liabilities structure of banks, will tend to reduce net interest income, even if market conditions remain favourable.

Improvements in economic activity may lead to an increase in the contribution of fees and commissions to bank profitability, even if they are limited by increased competition from other entities for certain financial intermediation activities.

Profitability is expected to recover over the projection horizon, although it is likely to remain low. The adjustment process of the banking system's cost structure should continue, in particular amid both the need to digitalise banking activity and increased competition.

The banking system has strengthened its capital position, increasing its resilience

The total capital ratio and the Common Equity Tier (CET 1) ratio rose by 1.2 p.p. and 1 p.p. compared to 2019, to 18.1% and 15.3% respectively, reflecting similar contributions from the increase in CET 1 capital and the reduction in risk-weighted assets. The increase in CET 1 capital was largely the result of the retained earnings, in line with the recommendations issued (Section 2.6.).

Given the macroeconomic scenario published in the June 2021 issue of the Banco de Portugal's *Economic Bulletin*, the resilience of the Portuguese banking system and its capacity to meet credit demand are projected to be maintained. Banks may also use capital buffers to absorb losses and continue to fund the economy, as a result of the flexibility granted by micro- and macroprudential regulatory and supervisory authorities. However, these authorities should give banks enough time to restore these buffers where there is a sustained pick-up in the economy, normalisation of financial conditions, and also take into account the particular circumstances of each bank.

Banking activity digitalisation reinforces the need to mitigate cyber risk

The growing use of digital means has resulted in more cyber-risk incidents. Financial institutions are a prime target, although an event with a systemic impact has yet to occur. In Portugal, banks were the institutions with the most cyber-risk incidents in 2020. Over the next few years, the Portuguese Cybersecurity Observatory projects that this sector will continue to be one of the most affected. In the euro area, significant credit institutions have also reported an increase in cyber-risk incidents, especially those related to external service providers.

A cyber-risk event is a source of systemic risk if disruption in the provision of services and/or financial operations jeopardises the institutions' financial intermediation functions. In addition to losses, these events could also compromise confidence in the financial system and/or among financial institutions. As such, banks must take cybersecurity measures to ensure smooth business continuity.

In April, the Banco de Portugal created the Banking Industry Forum on Cybersecurity and Operational Resilience, an advisory structure that brings together the supervisor, supervised institutions and other relevant entities, to coordinate and pool efforts to ensure the operational resilience and cybersecurity of the financial system.

On 24 September 2020 the European Commission presented the Digital Finance package, which aims to foster and support the potential of digital finance in the financial sector, to mitigate underlying risks, including risks to financial stability. This package includes a proposal for a Regulation on Digital Operational Resilience for the financial sector (so-called DORA), which aims to create a harmonised legislative framework for the digital operational resilience of financial institutions, also covering the supervision of service providers in Information Technologies, such as cloud computing, software and data centre services.

The incompleteness of the Banking Union poses risks

In early 2021, discussions around the Banking Union gathered momentum. As part of the December 2020 Euro Summit, the Council mandated the Eurogroup to present a work plan by June 2021 with the elements necessary to complete the Banking Union.

The High Level Group on the European Deposit Insurance Scheme (EDIS), established by decision of the Eurogroup at the end of 2018, has developed a work plan encompassing, on a holistic and consensual basis, the establishment of the EDIS, the strengthening of the crisis management framework, the promotion of European banking sector integration and the regulatory treatment of exposure to the sovereign. Also at the level of the Council of the European Union, but with a focus on the EDIS, the Ad Hoc Working Party on the Strengthening of the Banking Union (chaired during the first half of 2021 by Portugal) has contributed to the advancement of discussions at technical level.

The proposal to revise the European legislative framework on bank crisis management and deposit guarantee, which the European Commission is due to present by the end of this year, also plays an important role in this context. In this regard, there is a noteworthy possibility that the Commission will propose adjustments to the current legislation on the resolution framework applicable to small and medium-sized credit institutions and/or whose business model is based on deposits.

These initiatives are of particular relevance to financial stability in the context of greater integration of the European banking sector. Too-big-to-fail or too-complex-to-resolve institutions could pose risks to financial stability in an incomplete Banking Union, characterised by a situation in which supervisory and resolution decisions are made at European level, while national authorities are responsible for domestic financial stability.

Only in a complete Banking Union, i.e. with an EDIS that provides for full mutualisation of losses, will it be possible to mitigate the nexus between banks and their sovereign, to ensure the protection of depositors and their confidence in the system, and to achieve a fully-fledged Banking Union that promotes financial stability in the Union and each Member State.

The transition to a low-carbon economy requires a European regulatory response and proactive financial institutions

A comprehensive strategy of economic recovery guided by sustainability objectives is not without risk to financial stability, in particular (i) if in terms of European regulation and supervision the importance of maintaining a risk-based approach based on standard data and metrics is downplayed in light of the urgent need to move forward in setting up a prudential ESG (environmental, social and governance) risk framework, (ii) if financial institutions do not take a proactive approach to the internalisation of transition risks and (iii) depending on the rules and criteria that may be adopted regarding the operationalisation of the European Union funds made available.

It is key that financial institutions adopt a proactive approach in integrating ESG risks, considering them in their decision-making processes and in risk management and pricing policies for financing operations, with no need to wait for the completeness of the overall regulatory and supervisory framework for ESG risks.

Institutions should continue to identify and gauge their degree of exposure to assets that are more vulnerable to climate change risks and consequent risk materialisation, with a potential impact on their financial soundness. In Portugal, the banking system's exposures to NFCs include a

substantial share to climate-policy-relevant sectors, of around 60%, of which 28% correspond to exposures to sectors affected negatively (Section 2.3).

Following the publication of the ECB Guide in November 2020, which sets out supervisory expectations for significant credit institutions covered by the Single Supervisory Mechanism on climate-related and environmental risk management, the Banco de Portugal has extended its application to less significant credit institutions.

In the context of European legislative and regulatory initiatives, the Delegated Act of the Taxonomy Regulation was presented in April, on setting technical assessment criteria to determine on what conditions an economic activity is qualified as contributing to the two climate objectives set out in the Regulation (adaptation to climate change and mitigation of its effects). A proposal has also been put forward to revise the Corporate Sustainability Reporting Directive, which aims to put sustainability reports on an equal footing with financial reports, particularly for large enterprises and listed companies.

Also in this field of ESG risk disclosures, in March the EBA launched a public consultation (open until 1 June 2021) on a draft implementing technical standards for ESG risk disclosure requirements, applicable from 28 June 2022 onwards to large financial institutions with securities admitted to trading on a regulated market in any Member State.

The ECB is conducting a climate stress test to assess the impact of extreme weather events over a prolonged period (30 years). The Banco de Portugal's occasional paper entitled "Assessment of the exposure of the Portuguese banking system to non-financial corporations sensitive to climate transition risks" addresses a first identification of the Portuguese banking system's exposure to non-financial corporations sensitive to climate transition risks.

The Banco de Portugal has strengthened prevention of money laundering and terrorist financing

The adequate prevention of money laundering and terrorist financing (ML/TF) has become increasingly important as a means of ensuring the resilience of the banking sector and of financial stability.

Although primarily the responsibility of institutions, this issue is key and has attracted particular attention from regulatory and supervisory authorities.

In this context, and regarding the period under review in this Report, the Banco de Portugal:

- published Instruction of the Banco de Portugal No 2/2021 of 26 February 2021, which sets out low and high risk factors for money laundering and terrorist financing (ML/TF) and specific simplified or enhanced identification and due diligence measures, and Notice of the Banco de Portugal No 3/2021 of 23 April 2021, which regulates the rules on the registration process applicable to virtual assets service providers subject to the provisions of Law No 83/2017 of 18 August 2017;
- enhanced its interaction with the banking sector, with the publication of two best practice documents – the "Best Practices Relating to the Implementation of Restrictive Measures" and "Best Practices related to videoconferencing as an alternative procedure to verify identification details";
- concluded a thematic cycle of inspections on beneficial owners and the use of complex corporate structures, in order to mitigate the vulnerabilities identified in the ML/TF National Risk Assessment;

- issued approximately 350 supervisory measures and carried out follow-up analyses under the off-site monitoring of ML/TF prevention in supervised institutions.

On the other hand, in compliance with the EBA Guidelines, the Banco de Portugal has participated in supervisory colleges dedicated to the preventive supervision of ML/TF and is working towards the creation of colleges in which it takes on a role of main supervisor.

Finally, the revision of the risk model supporting supervisory action was initiated as part of a project supported by the European Commission.

1.4 Macroprudential policy

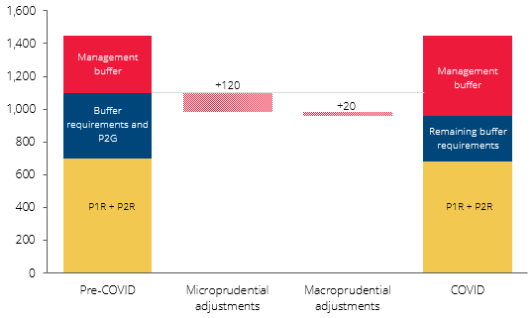
Most macroprudential authorities encouraged the release of the countercyclical capital buffer at the onset of the pandemic crisis to make it possible for institutions to maintain an adequate capacity to finance the economy and to absorb potential losses. Likewise, macroprudential and microprudential authorities jointly enacted capital relief measures to pursue the same objective. Therefore, the ECB, in its capacity as microprudential authority, communicated that it would be flexible in approving the capital conservation plans that the significant credit institutions, subject to its supervision, are legally obliged to present if they decide to operate temporarily below the level set for the combined buffer requirement. Moreover, it allowed institutions to temporarily operate below Pillar 2 Guidance (P2G), and Pillar 2 requirements (P2R) to be met by additional Tier 1 capital (AT1) and Tier 2 capital (T2) and not just with Common Equity Tier 1 (CET1), in anticipation of the entry into force of CRD V in January 2021. The Banco de Portugal extended relief in compliance with P2G and the combined buffer requirement to less significant institutions. Credit institutions have strengthened their capital base in volume and quality, becoming more resilient to shocks in comparison to the previous financial crisis.

The full or partial release of capital buffers had a positive impact on credit granted to the non-financial private sector

In Portugal and the euro area (Charts I.1.20 and I.1.21), the increased availability of capital by banks was achieved mainly through the relaxation of microprudential measures. As at the end of 2019, the countercyclical capital buffer was very low or stood at zero in several jurisdictions due to multiple factors. First, due to the slower recovery of the economy and the banking system after the last economic and financial crisis, various macroprudential authorities chose not to activate the countercyclical buffer. Furthermore, contrary to the previous international financial crisis, this shock was exogenous to the financial sector and not directly related to the build-up of macroeconomic and financial imbalances. In particular, in the run-up to the pandemic, there was no excessive credit expansion in most euro area countries, including Portugal.

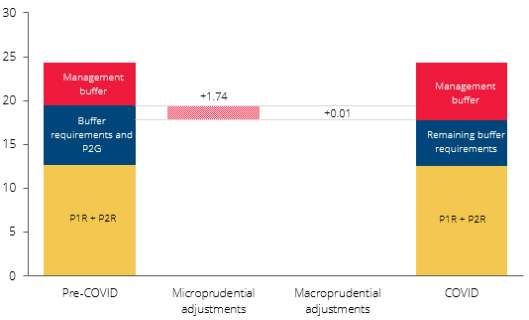
Against this background, the discussion on the various principles that may guide a revision of the regulatory framework for capital buffers has come to the fore. One possible measure under discussion would involve increasing the "releasable" component of capital buffers by rebalancing the components directed towards mitigating structural and cyclical sources of risk. This must be done in a neutral way, i.e. without raising the total capital requirements at the time of introduction, thereby helping to increase the effectiveness of macroprudential policy measures when shocks materialise.

Chart I.1.20 • Quantification, in terms of CET 1, of some COVID-19 pandemic response measures – euro area| EUR billions



Source: Adapted from the European Central Bank.| Notes: The sample consists of significant institutions and less significant institutions, consolidated at euro area level. The pre-COVID period refers to 2019 Q4. Microprudential adjustments include the decision on the relief in the composition of capital for Pillar 2 Requirements and making Pillar 2 guidance temporarily usable. Macroprudential adjustments include the release of the countercyclical capital buffer, the systemic risk buffer and the other systemically important institutions (O-SII) buffer. The decisions to revoke the countercyclical capital buffer and to postpone the phased-in period of implementation of the O-SII buffer are not considered in the calculation of released capital. The chart does not include changes to capital buffers implemented after July 2020.

Chart I.1.21 • Quantification, in terms of CET 1, of some COVID-19 pandemic response measures – Portugal | EUR billions



Sources: European Central Bank and Banco de Portugal. | Notes: The sample is comprised of the seven largest Portuguese institutions, on a consolidated basis, which correspond to 84% of the total assets of the Portuguese banking system. The pre-COVID period refers to 2019 Q4. Microprudential adjustments include the decision on the relief in the composition of capital for Pillar 2 Requirements and making Pillar 2 guidance temporarily usable. Macroprudential adjustments are solely due to the reciprocity arrangement underlying the countercyclical capital buffer. The chart does not include changes to capital buffers implemented after July 2020.

A recent study by Avezum et al. (2021) on lending to households for a sample of EU Member States shows that, in face of a negative shock, buffer releases contributed, on average, to mitigate lower lending to households, specifically for small businesses and the purchase of own residence. However, the effectiveness of these decisions, to maintain an appropriate flow of credit to the economy in adverse moments, is conditional on several factors, notably the initial capitalisation of financial institutions. This element is reviewed in the Special issue "The usability of banks' capital buffers in the context of the COVID-19 pandemic", which shows that in Portugal, during the pandemic, banks with a larger positive difference between their current capital levels and the overall capital requirement (minimum capital requirements – Pillar 1 and Pillar 2R combined buffer requirement) lent more to the non-financial private sector, particularly to NFCs. These institutions were less likely to reallocate credit from riskier segments to less risky segments. The possibility of credit institutions using the public loan guarantees muted the difference in behaviour between more capitalised and less capitalised institutions.

Recommendations on restrictions to the distribution of dividends of financial institutions were extended until September 2021

In December 2020, the European Systemic Risk Board (ESRB) and the ECB extended the recommendations on restrictions to the distribution of dividends until September 2021, while advising institutions to act with extreme caution in their distribution policies. In line with the ECB's macroprudential and microprudential recommendation for significant institutions, the Banco de Portugal issued Circular Letter No CC/2020/00000072 indicating that, until 30 September 2021,

less significant institutions and investment firms must refrain from or limit dividend distribution or ordinary share buy-backs.

Should institutions decide to distribute dividends, the Banco de Portugal has recommended that the proposed distribution comply with the limit corresponding to the lowest of the following: (i) 15% of accumulated earnings for 2019 and 2020 or (ii) a reduction in Common Equity Tier 1 capital of up to 20 b.p. Moreover, it is recommended that institutions experiencing losses in 2020 should not propose dividend distribution and that interim profits for 2021 not be distributed. These recommendations were in line with the position taken by the European Banking Authority and the European Insurance and Occupational Pensions Authority.

This measure encourages credit institutions to preserve their capital, i.e. to abstain from any action that reduces their capital levels in order to maintain an adequate flow of credit to the economy and absorb potential losses. The ESRB recommendation applicable to nearly the entire banking system was aimed at making this measure more effective, given that it mitigates the stigma effect, with potential negative impact on market financing access and conditions.

Dividend payout restrictions reduced total dividends paid by banking groups in 2020, most notably in the case of banking groups operating in Europe. The effects of this type of recommendation on risk perception by market participants are complex. On the one hand, in response to the announcement of dividend payout restrictions, bank equity prices fell overall in the following days. By contrast, the debt market judged this measure in a more positive way, while risk perception, as measured by spreads on credit default swaps (CDS), remained stable or decreased (Hardy, 2021).

Encouraging bank capital increases is key to absorbing potential losses, as it mitigates the deleveraging risk among financial institutions so that they may continue to support the economic recovery process. In an analysis released by the Banco de España, it was concluded that banks that limited their dividend distribution in 2020 granted more credit to NFCs after the recommendation entered into force (Martinez-Miera and Vegas Sánchez, 2021).

The box entitled "Impact of the bank dividend pay-out restriction in conjunction with flexible capital requirements" presents the findings of a simulation of the banking system's response to restriction measures on dividend pay-out and the relief for capital requirements flexibility, and analyses its impact on banks' ability to finance firms and households following a negative shock on productivity. The findings show that the restriction measure on dividend pay-out may have a favourable impact on loans to firms and households. However, these findings do not take into account other monetary and government policy measures taken to mitigate the consequences of the pandemic and which are also passed through by the banking sector. The greatest contribution is still associated with the relief measure for capital requirements, which makes it possible to dampen the GDP fall in the first quarters, thereby ensuring that the banking system continues to support the economy. Dividend payout restrictions make it possible for banks to increase their voluntary capital buffer and, consequently, to mitigate the use of the relief measure for capital requirements.

The gradual withdrawal of support measures should be considered and assessed

As the vaccine roll-out continues, lockdown measures are eased and the economy recovers, the withdrawal of support measures should be considered and assessed. On the one hand, if measures are lifted too early, this could make it difficult for economic agents to service their debt, spilling over into bank losses and credit granted to the economy. On the other, the prolonged, unselective maintenance of such measures may exacerbate some financial imbalances (e.g. over-indebtedness).

A number of factors should be taken into account so that the withdrawal of measures does not jeopardise the positive effects on financial stability seen so far, as analysed in the box entitled "Challenges of the transition to the post-pandemic and strategies to phase out the exceptional measures to support the economy".

Microprudential and macroprudential authorities should preserve the flexibility granted so that credit institutions can use capital buffers to absorb losses and finance households and viable NFCs. Moreover, authorities should allow credit institutions sufficient time to rebuild those buffers. When setting this period, there must be evidence of sustained recovery in the economy and normalised financial conditions.

The Banco de Portugal maintained the countercyclical capital buffer at 0%

The Banco de Portugal maintained the countercyclical capital buffer rate applying to domestic exposures, effective during the second quarter of 2021, at 0% of total risk exposure amount. Developments in cyclical systemic risk will continue to be closely monitored, particularly given the economic impact of the pandemic.

Institutions complied with the guidelines set forth in the macroprudential Recommendation

The third *Macroprudential Recommendation on new credit agreements for households – progress report* was published on 31 March 2021. This measure was implemented in July 2018 and seeks to ensure that credit institutions and financial corporations do not take excessive risk when granting new credit and that borrowers have access to sustainable financing. The Recommendation focuses on credit standards that institutions should comply with when assessing the borrower's creditworthiness, limiting credit to higher-risk borrowers.

Credit institutions complied with the guidelines set forth in the Recommendation. Almost all new business regarding credit for the purchase of own and permanent residence had an LTV ratio below the 90% limit, around 50% of new credit for house purchase had an LTV ratio below 80%, while the amount of new credit agreements with an LTV ratio above 100% was zero.

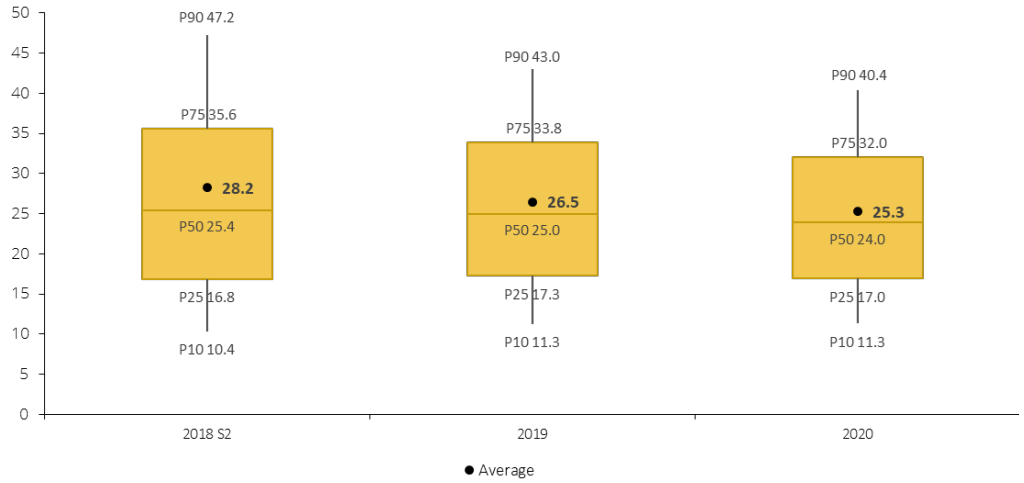
The DSTI ratio set out in the Recommendation mitigated a potential rise in household indebtedness[2] by incorporating in its calculation interest rate increases in credit agreements with a variable or mixed rate. Between July 2018 and December 2020, the share of new credit agreements with borrowers with a DSTI ratio above 50% dropped by 18 p.p. In 2020, around 93% of total new business regarding credit for house purchase and consumer credit was granted to borrowers with a DSTI ratio of 50% or less. In addition, only 5% of new credit agreements were

[2] The DSTI ratio is the ratio of the total amount of monthly instalments of a borrower's total debt to his/her monthly income less taxes and compulsory social security contributions. The calculation of the DSTI ratio should assume that the instalments of the new credit agreement are constant and consider the impact of an interest rate rise according to maturity in the case of variable and mixed interest rate agreements and a reduction in income in the case of a borrower aged 70 and over at the planned expiry of the agreement, except if at the time of the creditworthiness assessment the borrower is already retired.

associated with borrowers with a DSTI ratio between 50% and 60% (which is much lower than the exceptions provided for) and 2% of new credit was granted with a DSTI ratio of over 60% (within the 5% exception provided for).

In the second half of 2018, the monthly debt service on new credit agreements with households accounted on average for 28% of net monthly income, down to 25% in 2020 (Chart I.1.22). Moreover, 90% of new loans to households had a debt service lower than or equal to 40% of net monthly income in 2020 (in the second half of 2018, it stood at 47%). In 2020, 75% of loans to households had a debt service lower than or equal to 32% of net monthly income (36% in the second half of 2018).

Chart I.1.22 • Distribution of the actual DSTI ratio for new loans to households | Per cent



Source: Banco de Portugal. Notes: Based on Central Credit Register data. Actual DSTI ratio (excluding shocks on the interest rate and income). The chart represents the distribution of quartiles of the actual DSTI ratio, where the lower and upper ends correspond to the 10th percentile and to the 90th percentile respectively.

The limits to the maximum maturity established in the Recommendation were generally complied with during 2020. However, although the Recommendation provided for a gradual convergence of the average maturity of new credit agreements for house purchase towards 30 years by the end of 2022, the analysis showed an increase in the average maturity of new credit for house purchase compared to 2019, which stood at 33 years in 2020, a figure similar to that recorded at the time of implementation of the Recommendation in July 2018.

As in 2019, there was a high degree of compliance with the regular payments requirement during 2020.

The introduction of the Recommendation has increased the resilience of the banking system by lowering borrowers' probability of default, by reducing the amount of credit losses to be borne by institutions in the event of default, with the consequent positive impact on the capital of financial institutions.

With regard to the impact of the macroprudential Recommendation on aggregate lending in the six-month period after its introduction, and although it does not intend to influence its growth, the findings presented in the box entitled "The short-term aggregate effects of the macroprudential Recommendation on new loans for consumption and for house purchase" suggest that the Recommendation contributed to containing growth in new business regarding consumer credit and credit for house purchase four months after its introduction.

The COVID-19 pandemic brought regulatory shortcomings in the investment fund sector to the forefront, particularly as regards money market funds

The market turmoil in March 2020 highlighted the vulnerabilities in the investment fund sector in Europe, in particular the liquidity problem for money market funds (MMFs). The participation units issued by MMFs are perceived by the market as having a liquidity risk very close to that of deposits. However, these funds typically invest in assets, such as commercial paper, which usually have relatively higher maturities than their liabilities, thus operating with high liquidity mismatch. The leading role played by these funds in funding banks and NFCs in several European countries, by purchasing commercial paper and bonds, has put emphasis on the need to develop a macroprudential approach for MMFs, in particular, and for investment funds, in general.

However, in Portugal the share of the investment fund sector in GDP is negligible. Indeed, and as Chart I.1.9 shows (as mentioned in Section 1.3.1), in the fourth quarter of 2020 the investment fund sector accounted for a share of 122.6% in the euro area, compared to 10.4% in Portugal.

In Europe, although a number of investment funds have taken exceptional measures to deal with the effects of the COVID-19 pandemic, such measures were insufficient to address liquidity risk, from the perspective of the financial system as a whole. As such, central bank intervention through monetary policy operations has proved decisive for financial market stability. It has also prevented a rise in the volume of asset sales by the funds. However, central bank intervention has also raised concerns about the behaviour of the banking system, which could lead to excessive risk-taking (moral hazard). More specifically, if fund managers believe that in crisis situations monetary authorities will continue to implement extraordinary monetary policy measures to stabilise financial markets, this would reduce the incentive for prudent risk-taking management.

Despite the consensus that macroprudential policy should be the first line of defence for financial stability, the current regulatory framework for MMFs has been largely developed from an investor protection perspective. Although fund managers have liquidity risk management tools in place, such as limits to liquidity mismatch and the possibility of suspending redemptions, there is often an inaction bias problem, as these managers fear the stigma effect associated with the use of such instruments. Also, when used during moments of financial stress, such instruments tend to be procyclical, thus amplifying the negative effects of a shock. It should be noted that the use of ex post instruments, such as suspension of redemptions, may have adverse effects if applied in a crisis scenario, as it negatively affects investor confidence, thus disrupting financing in some market segments. Moreover, liquidity management tools are not generally available to authorities, so it is not possible to mitigate this risk from an ex ante perspective.

As such, it is urgent to develop macroprudential policy tailored for the investment fund sector which takes into account the link between the various segments of the financial system and of this system with the real economy. The purpose is to mitigate the build-up of vulnerabilities and to strengthen the ability of investment funds to absorb rather than amplify adverse shocks, thereby ensuring adequate financing to the economy.

This new regulatory framework should focus on the development of ex ante measures, provide a flexible structure that can be adjusted according to risk, have a broader regulatory approach to the system and finally, given the global nature of capital markets, ensure effective international coordination. The new regulatory framework could also benefit from more ex post policy instruments available to fund managers and macroprudential authorities.

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2 Banking system

The health and economic crisis linked to the COVID-19 pandemic marked 2020. The unfavourable environment for banks' activity was reflected in the reduction of their profitability to close to zero, interrupting the growth trend observed since 2016. These developments, also observed in Europe, were constrained by the increase in credit impairments, reflecting the increased credit risk perceived by institutions and, to a lesser extent, by the drop in net interest income, mainly driven by the price effect. In Portugal, the level and increase of credit impairments as a percentage of assets were above the euro area average. Portuguese banks' action follows the guidelines of the micro- and macroprudential authorities to prevent late recognition of losses.

However, operating costs continued to be reduced by decreasing staff costs and other general administrative expenses, with positive consequences for operational efficiency. This profit and loss item has been declining as a percentage of assets since 2005, largely reflecting the restructuring programmes undertaken by institutions. Last year's developments are not only due to the cost structure adjustment in domestic activity, but also to the reduction in international activity and may also be linked to the change in the operational environment due to the COVID-19 pandemic.

Despite improved operational efficiency, recovering profitability remains one of the biggest challenges that the European banking sector faces. Prior to the pandemic crisis, banks operating in Portugal showed lower profitability than in the period before the global financial crisis. This situation is related to a protracted environment of very low interest rates. Thus, reduction in costs combined with the announcement by some banks of additional adjustments is particularly relevant, also given the emergence of new competitors in the financial intermediation function.

Progress achieved by the banking system since the last crisis, in terms of solvency, financing structure and non-performing asset reduction, and swift action by the authorities has made it possible to preserve the economy's financing.

In domestic activity, the annual rate of change in bank credit to non-financial corporations (NFCs) amounted to 6.8% in 2020, following a period of gradual increase between 2015 and 2019, mainly reflecting new State-guaranteed loans. Between March 2020 and March 2021, these operations accounted for around 30% of the amount of new loans to NFCs and, in March 2021, about 12% of the stock of loans to NFCs, with an average interest rate of 1.2% (compared with 2.3% for unsecured loans). The weight in the NFC credit portfolio of the sectors most affected by the pandemic increased from year-end 2019 to 22.2% at the end of 2020. A higher increase in stock of loans was posted in the accommodation and food, trade and manufacturing sectors. Credit granted to small and medium enterprises (SMEs) recorded an annual rate of change of 11%, where bank credit granted to large enterprises continued to decline, showing, nevertheless, a less negative annual rate of change in 2020 than in December 2019.

In turn, loans to households for house purchase increased by 2.0% in 2020, reflecting the buoyancy of new loans and the reduction in repayments due to the moratoria schemes. The annual rate of change in the consumer credit segment declined significantly to 0.6% at the end of the year. Year on year, the decline was more pronounced in personal loans than in car loans, with more significant declines in the consumer credit segment in the second and fourth quarters of 2020 and the first quarter of 2021, the latter characterised by further containment measures.

Non-performing loans (NPLs) continued to decline throughout 2020, mainly as the result of write-offs and sales, with the gross NPL ratio reaching 4.9% at the end of the year. The reduction effort in this type of asset began in June 2016, corresponding to an NPL reduction of around €36 billion since then (-72%). The NPL ratio net of impairments stood at 2.2% at the end of 2020, reflecting both the reduction in the gross NPL ratio and the increase in impairment coverage. The difference

between this ratio and the euro area median also continued to narrow throughout the year (by around 1 p.p. until September 2020). The increase in NPL coverage by impairments was particularly significant in the NFC segment operating in the sectors most affected by the pandemic and in the segment of loans to households for consumption and other purposes. This increase allowed for a widening of the positive differential compared with the euro area median.

However, the adverse effects of the pandemic on the financial situation of economic agents started to be reflected in some quality indicators of the banking system's assets. The gross amount of stage 2 loans increased by 21,6% in 2020 (52,5% in the NFC segment), mainly in the fourth quarter of the year. In the NFC segment, around half of stage 2 loans were covered by a moratorium. The ratio of loans classified as stage 2 covered by a moratorium increased to 25% in the last quarter of 2020, well above the corresponding ratio for total loans. In turn, the gross NPL ratio of loans covered by a moratorium stood at 7.2% (10.6% for firms).

According to the most recent data published by the EBA for a sample of banks, Portugal is one of the countries with the highest share of loans covered by a moratorium. For firms, this share has been slightly reduced and no significant impact has been observed in connection with the possibility of further application of the public moratorium between January and March 2021 – mainly benefiting the accommodation and food services sector. A reduction in loans covered by a moratorium has also been observed for households, especially loans for house purchase, largely reflecting the end of private moratoria (ASFAC private moratorium and ABS private moratorium for mortgage loans).

The relative importance of the customer deposits vis-à-vis market instruments in the financing structure continued to increase, reducing the system's vulnerability to changes in the risk perception of international investors. As a result of developments in credit and deposits, the loan-to-deposit ratio has decreased since the beginning of the previous crisis, standing at 84.8% at the end of 2020. The postponement of consumer decisions linked to the COVID-19 pandemic, also for precautionary reasons, and credit moratoria have probably contributed more recently to the increase in deposits.

Larger banks have significantly and broadly used targeted longer-term refinancing operations (TLTRO III). In December, the funding obtained from central banks reached 7.8% of assets, increasing 3.4 p.p. from the end of 2019. The increase in cash balances at central banks and exposure to sovereign debt securities has enabled liquidity to be enhanced, although in the latter case it also contributes to the increase in indirect interlinkages of the financial system and the link between banks and sovereigns. In domestic activity, and although exposure to Portuguese sovereign debt securities did not change significantly compared with 2019, there was an increase in exposure of the Portuguese banking sector to Spanish and Italian sovereign debt securities, the yields of which tend to be positively correlated with those on Portuguese sovereign debt securities. However, the proportion of sovereign debt securities valued at amortised cost has risen, mitigating the impact of a potential increase in yields on the banking sector.

Capital ratios continued to increase, enhancing banks' ability to finance the economy and absorb losses. The rise in the Common Equity Tier 1 (CET 1) ratio was due to an increase in retained earnings and the proportion of assets with a lower risk weight, such as cash balances at central banks, sovereign debt securities and State-guaranteed loans.

Based on Banco de Portugal's projections (macroeconomic scenario) published in the June 2021 issue of the *Economic Bulletin*, the Portuguese banking system will probably maintain its resilience and its capacity to meet the economy's credit demand.

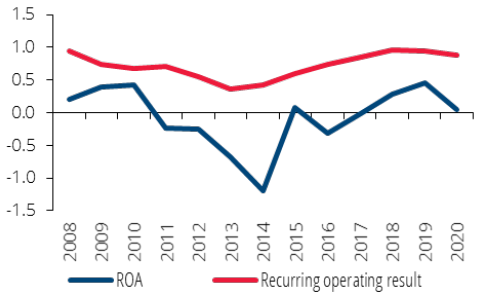
2.1 Profitability

Profitability of the banking system has fallen to close to zero, mainly due to increased credit impairments

The pandemic strongly affected the banking system's profitability. Return on assets (ROA) declined by 0.41 p.p. from 2019, to 0.04%. This decline interrupted the growth trend observed since 2016 (Chart I.2.1). Recurring operating income, which includes the most stable income components, posted a lower decrease, standing at 0.89% of average assets. The reduction was broadly based across most institutions in the banking system. In December 2020, return on equity stood at 0.46% (-4.41 p.p. compared with 2019).

The decrease in profitability was mainly due to the significant increase in net provisions and impairments – reflecting the increase in the perceived credit risk – which contributed 0.49 p.p. to the reduction in ROA (Table I.2.2). Therefore, the loan loss charge rose by 0.51 p.p. from 2019 to 1.03% (Table I.2.1).

Chart I.2.1 • ROA and Recurring operating result | Per cent



Source: Banco de Portugal. | Notes: The return on assets (ROA) is calculated as the net result as a percentage of average assets. Recurring operating result corresponds to net interest income plus net fees and commissions less operational costs.

Table I.2.1 • Provisions, impairments and loan loss charge

	Average 2011 to 2014	Average 2015 to 2019	2019	2020
Net provisions and impairments[a]	1.61	0.93	0.38	0.84
Credit impairment	1.08	0.64	0.33	0.62
Provisions	0.15	0.09	-0.04	0.13
Non-financial assets impairment	0.14	0.10	0.09	0,08
Other financial asset impairment	0.24	0.10	0.00	0.01
Memorandum:				
Loan loss charge[b]	1.61	0.97	0.52	1.03

Source: Banco de Portugal. | Notes: (a) Percentage of average assets. (b) The loan loss charge corresponds to the flow of credit impairments as a percentage of total average gross credit granted to customers.

To a lesser extent, the decrease in ROA reflected the decrease in net interest income, net fees and commissions and income from financial operations against a background of an increase in average assets. The decrease in profitability was mitigated, among other factors, by the reduction in operating costs.

Table I.2.2 • ROA – Level and contribution to its variation | As a percentage and percentage points of average assets

	Banking system	ROA below median	ROA equal or above median
ROA 2019	0.45	-0.30	1.06
Net interest income	-0.07	-0.01	-0.11
Net fees and commissions	-0.03	-0.05	-0.02
Income from financial operations	-0.03	-0.12	0.05
Other operating income	0.06	-0.01	0.11
Operating costs	0.08	0.07	0.08
Net provisions and impairments	-0.49	-0.37	-0.58
Other effects on profit or loss[(a)]	0.08	0.09	0.08
Average assets	-0.01	0.01	-0.04
ROA 2020	0.04	-0.70	0.63

Source: Banco de Portugal. | Notes: The return on assets (ROA) is calculated as the net result as a percentage of average assets. (a) Includes other elements of profit or loss, namely the share of the profit or loss of investments in subsidiaries, joint ventures and associates accounted for using the equity method and profit or loss from non-current assets and disposal groups classified as held for sale not qualifying as discontinued operations.

Decrease in ROA is observed in the two sets of institutions divided by the weighted median of the system in 2020. Institutions with ROA equal to or above the median post a more negative contribution from net interest income and net provisions and impairments. These institutions show a positive contribution made by other operating results by dissipating the base effect related to losses on non-financial assets recorded in 2019. In contrast, the contribution made by average assets was negative due to more significant increases in deposits with central banks, loans to customers and debt securities.

Net interest income decreased by 4.3% due to a greater decrease in interest income than the decrease in interest expense, excluding derivatives used for hedge accounting from the analysis (Table I.2.3). These developments were constrained by the compression of the differential between interest rates (price effect). Interest income decreased more significantly in loans granted to customers and in sovereign debt securities. On the liability side, the largest positive contribution to the ROA is made by interest paid on customers' deposits. The decline in net interest income was also mitigated by the positive impact of funding obtained from central banks (net of investments and claims), notably TLTRO III, with negative rates.

Net fees and commissions decreased by 4.5%. These developments stem from a reduction in fee and commission income greater than the decrease in fee and commission expense, in view of the lower volume of transactions and the reduction in financial intermediation, particularly card-based transactions and related payment networks, bank transfers and points of sale.

Income from financial operations contributed to a reduction in ROA. These developments mainly reflect the decrease in income associated with debt securities and negative results in capital-based instruments. In contrast, the results associated with liabilities represented by securities made a positive contribution.

Operating costs decreased by 5.2%. Lower staff costs and other general administrative expenses contributed to this result. These developments reflect the cost structure adjustment in domestic activity and the decline in international activity. The change in the operational environment due to the COVID-19 pandemic may also have contributed to reducing operating costs (e.g. higher prevalence of remote work). This reduction in costs combined with the announcement by some banks of additional adjustments is particularly relevant given the emergence of new competitors in financial intermediation (e.g. fintech credit).

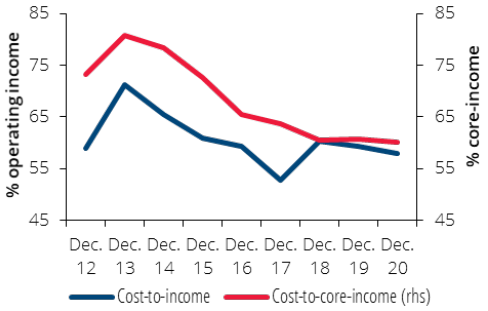
The efficiency of the banking system, as measured by the cost-to-income ratio, increased. This ratio decreased 1.3 p.p., to 58.0%, maintaining the trend observed in the last years (Chart I.2.2). The reduction in operating costs made a 3.1 p.p. contribution to reducing the cost-to-income ratio, while the decrease in total operating income had an opposite impact of 1.9 p.p.

Table I.2.3 • Net interest income – Contributions to changes in ROA in 2020
| In percentage points of average assets

	Price effect	Volume effect	Change in ROA
Net interest income[a]	-0.06	0.01	-0.05
Interest income[a]	-0.24	0.01	-0.23
Debt securities	-0.07	0.02	-0.05
Customer loans	-0.10	-0.01	-0.11
Other assets [b]	-0.07	0.00	-0.07
Interest expense[a]	0.18	0.00	0.17
Customer deposits	0.10	-0.01	0.06
Debt securities issued	0.01	0.00	0.01
Other liabilities [c]	0.08	0.01	0.09

Source: Banco de Portugal. | Notes: (a) does not include interest from derivatives used for hedge accounting that contribute in net terms -0.02 to the change in ROA. (b) Includes interest from trading derivatives, loans to central banks, loans to credit institutions, and other assets. (c) Includes interest from deposits from central banks, deposits from credit institutions, trading derivatives and other liabilities.

Chart I.2.2 • Cost-to-income and cost-to-core-income ratios



Source: Banco de Portugal. | Notes: The cost-to-income ratio corresponds to the ratio between operational costs and total operating income. The cost to-core-income ratio corresponds to the ratio between operating costs and the sum of net interest income and net commissions (core-income).

The Portuguese banking system's ROA is in line with the euro area average

In the first three quarters of 2020, the Portuguese banking system's ROA was similar to the euro area average (Table I.2.4). However, the relative position of the Portuguese banking system worsened year on year, with the increased recognition of provisions and impairments being decisive. Portuguese banks follow the guidelines of the micro- and macroprudential authorities so that banks correctly identify and assess credit risk. As a percentage of average assets, net interest income and net fees and commissions remain above the euro area average. Similarly, operating costs remain lower in Portugal. The Portuguese banking system showed a lower return on equity (ROE), but also less leverage.

Table I.2.4 • ROA, ROE and leverage – international comparison

	2019 Q1-Q3				2020 Q1-Q3			
	Min EA	Max EA	Average EA	Portugal	Min EA	Max EA	Average EA	Portugal
Net interest income	0.70	2.25	1.22	1.65	0.69	2.07	1.12	1.53
Net fees and commissions	0.32	1.01	0.65	0.75	0.33	0.91	0.60	0.69
Operational costs	-2.06	-0.89	-1.39	-1.43	-1.96	-0.80	-1.22	-1.32
Recurring operating result	0.17	1.33	0.48	0.96	0.28	1.16	0.51	0.89
Provisions and impairments	-0.95	0.18	-0.22	-0.36	-2.10	-0.02	-0.44	-0.72
Other	-0.34	0.50	0.16	-0.03	-0.15	0.80	0.09	-0.02
ROA	**0.19**	**1.47**	**0.42**	**0.57**	**-0.38**	**1.29**	**0.16**	**0.15**
Accounting leverage	7.1	17.6	14.4	10.9	7.8	17.6	15.0	11.2
ROE	**2.9**	**17.4**	**6.0**	**6.2**	**-3.2**	**12.8**	**2.4**	**1.7**

Sources: Banco de Portugal and European Central Bank. | Notes: net interest income, net fees and commissions, operational costs, recurring operating result, provisions and impairments, and other represent contributions for the change in return on assets (ROA). The 'Other' item includes negative goodwill, appropriation of income from subsidiaries, joint ventures and associates, and income from non-current assets held for sale and not qualifying as discontinued operations. The ROA is calculated as the net result as a percentage of average assets. The return on equity (ROE) is calculated as the net result as a percentage of average equity. Accounting leverage corresponds to the ratio between equity and total assets (measured in per cent).

2.2 Asset quality

Gross and net of impairments NPL ratios continued to decrease

The banking system's gross NPL ratio decreased by 1.3 p.p. to 4.9% (Table I.2.5). In view of the progress made by the institutions that were furthest away from the maximum benchmarks established by the supervisor, the range between percentile 5 and 95 of this indicator decreased compared with 2019. Despite the convergence observed in recent years, the ratio continued to stand above the euro area median.

At the end of 2020, the gross NPL ratio of NFCs stood at 9.6%, 2.7 p.p. lower than in 2019. Across the sectors of activity most affected by the pandemic, the reduction in the gross NPL ratio was smaller (-1.2 p.p.), although it is still 1.0 p.p. lower than in the total NFC portfolio. For loans to households for house purchase, the gross NPL ratio declined by 0.5 p.p. from 2019 to 1.9% in December 2020. Similarly, the gross NPL ratio of loans for consumption and other purposes increased by 0.2 p.p. to 8.4%. This change from 2019 reflects an increase in the ratio in the first quarter of 2020, decreasing in subsequent quarters.

Table I.2.5 • Gross NPL ratio | Per cent

	Dec. 16	Dec. 17	Dec. 18	Dec. 19	Dec. 20
Portugal:					
Total gross NPL ratio[a]	17.2	13.3	9.4	6.2	4.9
Percentile 5[b]	7.9	6.2	3.3	2.4	2.0
Percentile 95[b]	35.3	27.9	22.6	11.8	9.4
Non-financial corporations	29.5	25.2	18.5	12.3	9.6
Most affected sectors[c]	21.4	17.5	12.8	9.8	8.6
Households	8.7	7.1	5.1	3.7	3.4
House purchase	7.0	5.7	3.8	2.4	1.9
Consumption and other purposes	16.2	13.1	10.5	8.2	8.4
Euro area:					
Percentile 25	2.6	2.1	1.9	1.7	1.9[d]
Median	4.6	3.5	3.1	2.9	2.7[d]
Percentile 75	13.1	9.9	6.0	3.9	5.0[d]

Sources: Banco de Portugal and European Central Bank (*Consolidated Banking Data*). | Notes: Corresponds to the ratio between the gross value of NPLs and the total gross value of loans. The historical maximum of the gross NPL ratio occurred in June 2016. (a) Includes loans and cash balances at central banks and credit institutions, loans to general government, other financial corporations, non-financial corporations and individuals. (b) Percentiles were obtained from the asset-weighted distribution of the gross NPL ratio. (c) Sectors most affected by the effects of the pandemic defined by the European Central Bank (Financial Stability Review, May 2020). (d) September de 2020.

The decrease in the total gross NPL ratio was mainly due to the reduction in the stock of NPLs on balance sheets, notably through write-offs (-0.4 p.p.) and sales (-0.5 p.p.) (Table I.2.6). More than half of the contribution made by NPL sales derives from transactions in the fourth quarter, despite the unfavourable macroeconomic environment. The increase in the denominator also contributed to reducing the gross NPL ratio, particularly reflecting the increase in cash balances at central banks. This increase is associated with the increase in funding from the Eurosystem in 2020.

Table I.2.6 • Gross NPL ratio – contributions to the evolution

	Unit	Total	NFC	Households
Gross NPL ratio, 2019	%	6.2	12.3	3.7
Write-offs	p.p.	-0.4	-0.7	-0.3
NPL sales	p.p.	-0.5	-1.4	-0.1
New NPL, net of cures	p.p.	0.0	0.0	0.1
Other denominator effects	p.p.	-0.4	-0.6	-0.1
Gross NPL ratio, 2020	%	4.9	9.6	3.4

Source: Banco de Portugal. | Notes: NPL sales include securitisations. The 'New NPLs, net of cures' item reflects all the other NPL inflows and outflows, including new NPLs net of cures, amortisations and foreclosures. Other denominator effects reflect changes in the stock of loans that are not related with the NPL stock (e.g. net flow of performing loans).

The NPL impairment coverage ratio increased, especially for loans to sectors most affected by the pandemic crisis and loans for consumption and other purposes

The banking system's NPL impairment coverage ratio increased by 3.9 p.p., to 55.4%, widening the positive differential compared with the euro area median (Table I.2.7). This indicator grew more in institutions with higher coverage ratios, leading to an increase in the range between percentile 5 and 95 compared with 2019.

The coverage ratio increased broadly, with this increase being particularly significant in loans to firms in sectors of activity most affected by the effects of the pandemic (+13.6 p.p.), to 75.9%, and in loans for consumption and other purposes (+8.0 p.p.) to 66.8%.

Table I.2.7 • Gross NPL impairment coverage ratio | Per cent

	Dec. 16	Dec. 17	Dec. 18	Dec. 19	Dec. 20
Gross NPL impairment coverage ratio	45.3	49.4	52.0	51.5	55.4
Percentile 5[(a)]	33.9	35.7	37.5	35.7	35.3
Percentile 95[(a)]	61.1	60.1	57.9	58.6	63.0
Euro area median	41.0	42.5	43.7	43.2	43.7[(b)]
Non-financial corporations	48.9	53.9	56.5	56.5	56.9
Most affected sectors[(c)]	50.0	55.9	57.9	62.4	75.9
Households	35.4	37.1	40.7	42.3	50.7
House purchase	21.0	22.8	27.1	26.3	30.7
Consumption and other purposes	63.2	62.6	59.8	58.8	66.8
Memorandum items:					
Net NPL ratio[(d)]	9.4	6.7	4.5	3.0	2.2
Euro area median	2.6	2.1	1.9	1.4	1.5[(b)]

Sources: Banco de Portugal and European Central Bank (*Consolidated Banking Data*). | Notes: Corresponds to the ratio between the accumulated impairments on NPLs and the gross value of NPLs. (a) Percentiles were obtained from the asset-weighted distribution of the gross NPL impairment coverage ratio. (b) September de 2020. (c) Sectors most affected by the effects of the pandemic defined by the European Central Bank (Financial Stability Review, May 2020). (d) Corresponds to the ratio of NPLs net of impairments to total gross loans.

The decrease in the stock of NPLs on balance sheets contributed to the increase in the coverage ratio, offsetting the negative contribution made by the decrease in accumulated impairments due to sales and write-offs of NPLs. This evolution occurred in loans to NFCs and households for house purchase. For loans for consumption and other purposes, the increase in the coverage ratio was due to the positive contribution by accumulated impairments, as NPLs increased in this segment.

The NPL ratio net of impairments decreased from 2019 by 0.8 p.p. to 2.2%, while the trend of narrowing the gap to the euro area median continues (from 1.6 p.p. in 2019 to 0.6 p.p. in 2020).

Loans to enterprises covered by moratoria and classified as stage 2 increased significantly compared with the previous quarter

The adverse effects of the pandemic on the financial situation of economic agents started being reflected in some quality indicators of the banking system's assets. The response measures to the pandemic crisis, such as moratoria and State-guaranteed credit lines, have prevented an increase in NPLs of NFCs and households in credit agreements with the banking system.

In the second half of 2020, the ratio of forborne loans decreased more sharply in the NFC segment (Table I.2.8). However, the ratio of forborne loans in loans under moratoria increased for firms and households.

Table I.2.8 • Forborne and stage 2 loans | Per cent

	Total			NFC			Households		
In percentage of total gross loans:	Dec. 19	Jun. 20	Dec. 20	Dec. 19	Jun. 20	Dec. 20	Dec. 19	Jun. 20	Dec. 20
Forborne loans ratio	5.2	5.0	4.7	10.3	10.1	9.4	3.1	3.3	3.2
of which: under moratoria[a]	n.d.	1.1	1.4	n.d.	2.6	3.4	n.d.	0.6	0.6
Stage 2 loans	9.4	8.8	10.6	12.6	11.9	17.5	7.7	7.5	7.5
of which: under moratoria[a]	n.d.	2.7	4.1	n.d.	5.1	8.7	n.d.	2.1	2.8
Loans under moratoria[a]:	Dec. 19	Jun. 20	Dec. 20	Dec. 19	Jun. 20	Dec. 20	Dec. 19	Jun. 20	Dec. 20
Forborne loans ratio	n.d.	6.4	8.3	n.d.	9.1	11.6	n.d.	3.5	4.1
Stage 2 loans	n.d.	15.2	25.0	n.d.	17.6	29.9	n.d.	12.3	18.6
Stage 2 loans impairment coverage ratio	n.d.	4.2	5.8	n.d.	5.1	7.5	n.d.	2.7	2.4
Goss NPL ratio	n.d.	5.4	7.2	n.d.	8.1	10.6	n.d.	2.4	3.0
NPL impairment coverage ratio	n.d.	35.3	42.6	n.d.	38.5	45.4	n.d.	29.9	28.2

Source: Banco de Portugal. | Notes: (a) The information on loans in default for June 2020 refers only to the eight largest institutions in the banking system. The December 2020 information excludes only branches of credit institutions, which do not report information under Instruction 19/2020 - Reporting and disclosure of information on exposures subject to measures applied in response to the COVID-19 crisis as per EBA guidelines (EBA /GL/2020/07). (b) Stage 1 includes all loans for which a significant increase in credit risk has not occurred. Stage 2 comprises loans for which a significant increase in credit risk has been observed. Stage 3 includes loans where the counterparty is already in default. For more details on the classification of assets by impairment stage, see: Special issue 2 "IFRS 9 – Main changes and impacts anticipated for the banking system and financial stability", *Financial Stability Report*, June 2017.

The gross amount of stage 2 loans increased by 21.6% in 2020 (52.5% in the NFC segment), mainly in the fourth quarter of the year. This resulted in an increase in the share of stage 2 loans to 11.2% (18.6% in the NFC segment), reflecting an increase in perceived credit risk by banks.

In the NFC segment, around half of stage 2 loans were covered by a moratorium. Loans under moratoria and classified as NPL mainly correspond to situations where, while no credit is more than 90 days past due, the debtor is assessed as unlikely to pay their obligations in full without collateral enforcement. Nevertheless, the gross NPL ratio in loans under moratoria stood at 7.2%, 2.4 p.p. above the banking system's gross NPL ratio and 1.8 p.p. higher than in June 2020. The gross NPL ratio in loans to NFCs under moratoria rose by 2.5 p.p. to 10.6% in the same period.

The impairment coverage ratio of NPLs under moratoria was around 12.8 p.p. lower than for total loans (11.5 p.p. lower for NFCs) at the end of 2020. This reflects the higher share of loans

considered unlikely to pay in loans covered by a moratorium, which also show a lower coverage ratio in the total portfolio.

2.3 Concentration of exposures

The weight of the most affected sectors in the portfolio of loans to NFCs increased and exposure to the real estate sector as a percentage of assets declined

The banking sector's exposure to firms from the sectors most affected by the pandemic crisis increased by 8.5% from December 2019 (€1.3 billion). The increase in loans to these sectors was more significant between March and June 2020, as a result of measures supporting firms' liquidity, particularly State-guaranteed loans. As a result, the weight of the most affected sectors in the NFC credit portfolio increased from 2019 by 1 p.p. to 22.2% (Table I.2.9), albeit remaining unchanged as a percentage of assets (4%). These sectors' representativeness is particularly significant for firms in the accommodation and food services, wholesale and retail trade, and transportation and storage sectors, notably the increase in the share of the former in the stock of loans to the most affected sectors (from 34% in 2019 to 39% in 2020).

The banking system's exposure to the real estate sector as a percentage of assets maintained the downward path observed since 2016, standing at around 36%, of which 26 p.p. relate to exposure to loans to households secured by real estate (Table I.2.10). At the end of 2020, 92% of the stock of loans to households for house purchase had a loan-to-value ratio (LTV) of 80% or less (63% had a ratio below 60%) and the average and median value was 53% (Chart I.2.3). The distribution of the LTV ratio of the loan portfolio for house purchase allows the Portuguese banking sector to accommodate a potentially significant fall in residential real estate prices without incurring high losses.

Table I.2.9 • *Stock* of loans to NFC – domestic activity | As a percentage of the portfolio

	2019	2020
Less affected sectors	78.6	77.8
Most affected sectors	21.4	22.2
Accommodation and food service activities	7.2	8.6
Wholesale and retail trade	6.3	6.2
Transport and storage	4.8	4.1
Other	3.1	3.4

Source: Banco de Portugal. | Notes: : The most affected sectors (CAE-Rev 3 double-digit) are those that recorded a reduction of turnover of more than 40% in the 2nd quarter of 2020 (compared to the expectable situation in a scenario without a pandemic, based on the results of the Fast and Exceptional Enterprise Survey - COVID-19 (COVID-IREE)).

Table I.2.10 • Exposure to real estate | As a percentage of assets

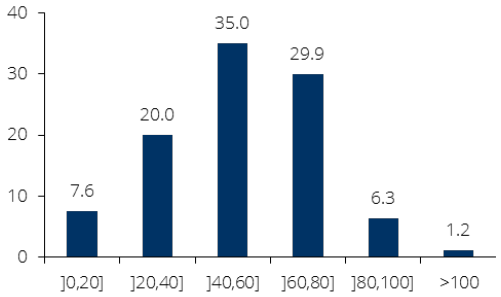
	Dec. 15	Dec. 16	Dec. 17	Dec. 18	Dec. 19	Dec. 20
Loans to households collateralized by RE	26.8	28.1	27.9	27.5	27.1	26.1
Loans to NFC of construction and RE sectors[a]	5.4	5.4	5.2	5.1	4.9	4.5
Loans to NFC collateralized by RE[b]	3.0	3.3	3.2	3.4	3.5	3.4
Real estate funds[c]	1.7	1.6	1.5	1.3	1.1	1.0
Real estate owned[d]	1.7	1.9	1.9	1.5	1.1	0.9

Source: Banco de Portugal. | Notes: (a) It does not exclude loans granted to projects not related to the real estate sector, such as public works; (b) excludes loans to NFCs in the construction and real estate activities sectors; (c) includes loans and mutual funds shares; (d) gross values.

Exposure of assets to sovereign debt securities as a percentage of assets maintained an upward trend, notably Spanish sovereign debt

The sovereign debt securities portfolio accounted for 16.2% of assets, a 0.7 p.p. increase from the end of 2019. This change reflected the increase in debt securities valued at amortised cost, whose value changes are recognised in the balance sheet only at the time of sale of these instruments, which now account for 7.6% of assets (Table I.2.11). The share of this component of sovereign debt securities has been increasing since 2017, standing at 47% in the banking sector's total portfolio. In terms of the share of the exposure to sovereign debt securities on assets, heterogeneity across institutions increased in 2020.

Chart I.2.3 • Current LTV of housing loans stock in 2020 | As a percentage of the portfolio



Source: Banco de Portugal. | Notes: Indicator based on granular data at the loan level (Central Credit Register). Whenever the date of the last valuation of the property is prior to 2020Q3, its current value is estimated using Statistics Portugal Housing Price Index.

Table I.2.11 • Sovereign debt securities by portfolio | As a percentage of assets

	Dec. 18	Dec. 19	Dec. 20
Total	15.3	15.5	16.2
Percentile 10	10.5	10.9	9.7
Percentile 90	18.6	20.3	22.9
At amortised cost[a]	4.9	5.4	7.6
Percentile 10	1.0	0.5	0.9
Percentile 90	7.4	10.9	13.1
Fair value through equity[b]	8.7	8.4	7.5
Percentile 10	1.2	2.9	0.9
Percentile 90	15.9	15.6	14.5
Fair value through profit or loss[c]	1.7	1.7	1.1
Percentile 10	0.0	0.0	0.0
Percentile 90	6.1	6.5	3.5

Source: Banco de Portugal. | Notes: (a) Includes debt securities recorded in assets held to maturity and other accounts receivable (IAS39), as well as amortized cost (IFRS9); (b) Includes debt securities held for trading (IAS39), as well as debt securities at fair value through Other Comprehensive Income (IFRS9); (c) Includes debt securities recorded as held for trading and at fair value through profit or loss (IAS39/IFRS9), as well as non-trading assets at fair value through results (IFRS9).

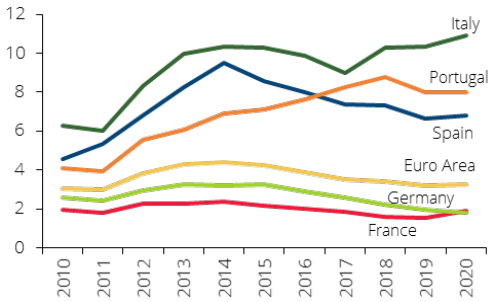
In domestic activity, exposure to Portuguese sovereign debt securities stood at around 8% of total assets, remaining unchanged from 2019 (Table I.2.12). Exposure to domestic sovereign debt securities is higher than that of the euro area average, although it is lower than in 2018 (Chart I.2.4). In turn, exposure to Spanish and Italian sovereign debt securities increased, standing at 3.3% and 2.4% of assets, respectively. A sensitivity analysis shows that a possible 100 b.p. rise in the government yield curve in Portugal, Spain and Italy would negatively impact the common equity tier 1 (CET 1) ratio by around 0.7 p.p., on a consolidated basis, among the main Portuguese banks.

Table I.2.12 • Sovereign debt securities – domestic activity | As a percentage of assets

	Dec. 15	Dec. 16	Dec. 17	Dec. 18	Dec. 19	Dec. 20
Portugal	7.1	7.6	8.3	8.8	8.0	8.0
Spain	1.2	1.2	1.4	2.1	2.5	3.3
Italy	1.3	1.6	1.6	1.6	2.3	2.4
Others	0.1	0.1	0.4	0.6	0.9	1.0

Source: Banco de Portugal. | Notes: The series refers to the reporting on an individual basis of the other monetary financial institutions resident in Portugal. Exposure by country is expressed as a percentage of other monetary financial institutions' total assets.

Chart I.2.4 • Sovereign debt securities – International comparison | As a percentage of assets



Source: European Central Bank (Banco de Portugal calculations). | Notes: The series refers to the reporting on an individual basis of the other monetary financial institutions resident in each country.

Direct interlinkages between banks (other monetary financial institutions) and the financial system continued to decrease in 2020. In terms of assets held by banks (deposits, debt securities, loans, shares and other investment funds' holdings and listed shares), exposure to the financial sector's counterparties stood at 16.6% of banks' assets, accounting for a decrease from 2019. The decline to 3.4% in debt securities and loans to other financial intermediaries (excluding investment funds) contributed to the aforementioned decrease. In contrast, exposure among resident banks increased to 8.4%, due to an increase in debt securities.

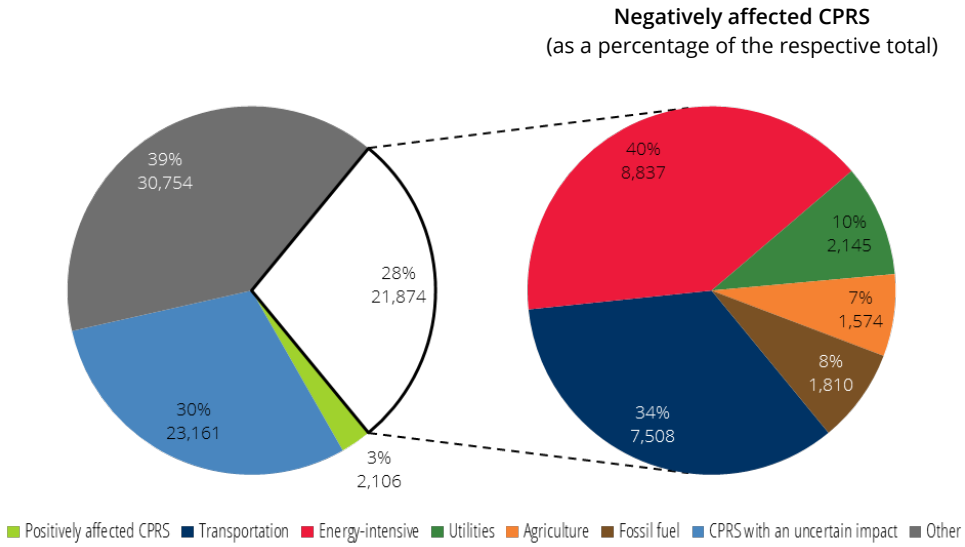
About 60% of the banking system's exposures to NFCs are in climate-policy-relevant sectors, with negatively affected sectors accounting for 28% of exposures

The banking system is exposed to the materialisation of credit risk and the devaluation of financial assets arising from climate transition risks. These risks reflect possible impacts of structural changes to the economy and society from reducing greenhouse gas (GHG) emissions in order to comply with the Paris Agreement.

In 2019 around 60% of the banking system's exposures to NFCs were in climate-policy-relevant sectors (CPRS). More carbon-intensive sectors or sectors indirectly responsible for a high volume of GHG emissions accounted for 28% of the banking system's total exposures to NFCs (Chart I.2.5). These sectors will likely be the sectors most adversely affected by the climate policy measures to be adopted to meet the GHG emission reduction targets.

In turn, there is low exposure (3%) to firms producing or using renewables, which should benefit from the transition to a low-carbon economy. In addition, sub-sectors with a more uncertain impact and which account for around 30% of total exposure to NFCs, may also be isolated. For these, uncertainty lies in the fact that such sectors are not directly affected by the introduction of a carbon tax or because they carry out ancillary activities, where the impact will depend on progress made by the sectors that will be directly affected by the increase in carbon costs.

Chart I.2.5 • Exposure to NFCs of climate-policy-relevant sectors (CPRS), by type of impact (2019) | Per cent, EUR millions



Source: Banco de Portugal. | Notes: The positively affected CPRS correspond to the 'Utilities' (renewable) and 'Transportation' (railways) sub-sectors; the negatively affected CPRS correspond to CPRS 'Fossil-fuel', 'Agriculture' (crops, animal and other), 'Energy-intensive', 'Transportation' (roads, air, water) and 'Utilities' (fossil-based, waste, water, and sewerage); the CPRS with an uncertain impact refer to CPRS 'Buildings' and the other CPRS sub-sectors not included in the previous categories. For further information, see Marques & Carvalho (2021) "Assessment of the exposure of the Portuguese banking system to non-financial corporations sensitive to climate transition risks", Banco de Portugal *Occasional Papers*.

2.4 Credit standards

Measures supporting households and firms resulted in an increased stock of loans

The portfolio of loans to customers (net of credit impairments) increased by 2.1% between December 2019 and December 2020, and was chiefly due to the increase in loans to NFCs and households, with contributions of 1.5 p.p. and 0.6 p.p., respectively. Loans to the non-financial private sector reflect the increase in performing loans (3.0%) and the decline in non-performing loans (20.3%). Developments in credit to the non-financial private sector reflected, among other factors, support measures adopted such as moratoria and State-guaranteed credit lines. These measures become particularly relevant in the current pandemic crisis, as banks have reported a tightening of credit standards in the Bank Lending Survey (BLS) as a result of increased risk perceptions.

In domestic activity, after a gradual rise between 2015 and 2019, the annual rate of change in bank credit to NFCs amounted to 6.8% in 2020 and remained at a similar level in March 2021 (Table I.2.13). The increase in credit was more significant from the second quarter of 2020 onwards, with a contribution by State-guaranteed loans to firms operating in the sectors most affected by the pandemic. By activity sector, there was a larger increase in the stock of loans in the accommodation and food services, trade and industry sectors. By firm size, credit granted to SMEs recorded an annual rate of change of 11.0%, with a slight increase to 11.7% in March 2021. In bank

credit to large companies, the annual rate of change was -4.1% in 2020 (-5.4% in March 2021), albeit less negative than in December 2019.

Loans to households for house purchase increased by 2.0% in 2020 (2.7% in March 2021), which has not been the case since 2010. It is estimated that the annual rate of change would be only 1.1% in the absence of moratoria, because these reduce redemptions. There was a 0.6% growth in the consumer credit segment at the end of 2020, accounting for a significant deceleration throughout the year, which contrasts with the high rates recorded since 2016. In the first quarter of 2021, the annual rate of change in this segment reached negative values (-1.1% in March) for the first time since early 2015.

Table I.2.13 • Bank credit – Annual rate of change | Per cent

	Dec. 15	Dec. 16	Dec. 17	Dec. 18	Dec. 19	Mar. 20	Jun. 20	Sep. 20	Dec. 20	Mar. 21
Non-financial corporations	-0.3	-1.6	-0.9	1.6	0.0	1.6	5.4	6.6	6.8	6.9
Industry	3.2	3.7	3.2	2.4	1.8	3.8	7.2	7.6	7.6	10.3
Construction and real estate	-5.1	-5.7	0.1	1.9	-0.5	-0.8	2.4	3.8	5.0	5.5
Accom. & food s. and Trade	1.6	2.3	2.6	-0.7	3.0	5.1	12.1	13.5	14.2	12.5
Households	-2.4	-1.7	-0.3	0.8	1.1	1.2	1.1	1.3	1.6	2.0
Loans for house purchase	-3.1	-2.8	-1.7	-0.6	0.1	0.4	0.9	1.4	2.0	2.7
Loans for consumption	3.3	9.2	10.7	11.0	8.2	7.6	4.6	2.7	0.6	-1.1

Source: Banco de Portugal. | Notes: Annual rates of change were calculated on the basis of an index constructed using adjusted transactions, i.e. changes in end-of-period outstanding amounts adjusted for reclassifications, write-offs, price and exchange rate revaluations and, where relevant, for the effect of securitisation and sales. Bank credit to NFC includes debt securities held by banks. Credit granted by monetary financial institutions resident in Portugal to residents in the euro area. Activity on an individual basis. 'Industry' includes Manufacturing and Mining and quarrying; "Accom. & food s. and Trade" includes the sectors of Accommodation and food services and Wholesale and retail trade; repair of motor vehicles and motorcycles.

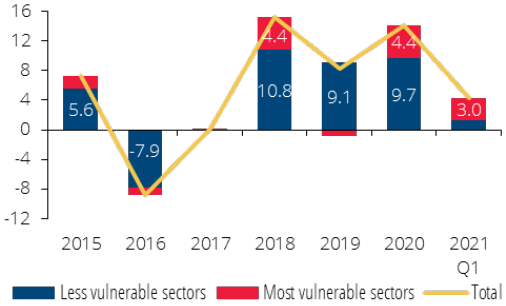
The most affected sectors contributed by 4.4 p.p. to the 14.1% increase in new bank loans to firms

The increase in the stock of loans to firms partly reflected the increase in new loans. In 2020, the annualised gross flow of new bank loans to NFCs increased by 14.1% (8.3% in 2019) (Chart I.2.6). The increase of the annualised gross flow of new bank loans to the sectors most and least affected by the pandemic crisis amounted to 33.3% and 11.1%, respectively. These developments resulted in contributions of 4.4 p.p. and 9.7 p.p. to the total change in new bank loans to NFCs. In 2020, for the sectors most affected by the crisis, those that contributed most to the increase in new loans were accommodation and food services (20 p.p.), trade (7 p.p.) and manufacturing (7 p.p.), with an opposite contribution made by new loans to the transportation and storage sector (by 6 p.p.).

The year-on-year rate of change in the annualised gross flow of new bank loans to NFCs was 4.3% in the year that ended in the first quarter of 2021. This is a decline of the growth observed in 2020, reflecting the contribution made by new loans to NFCs from less affected sectors. The year-on-year rate of change in new loans to these sectors was 1.5%, contrasting with 23.3% in the sectors most affected by the effects of the pandemic crisis.

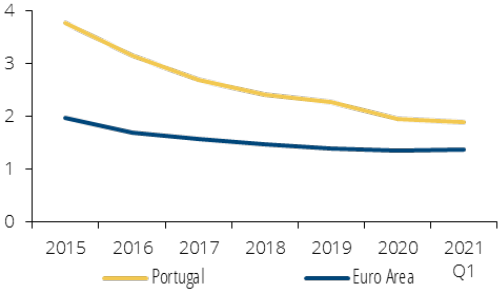
The downward trend in the interest rate on new loans to NFCs, whose annual average stood at 2% in 2020, was maintained, narrowing the differential to the euro area average (Chart I.2.7).

Chart I.2.6 • Year-on-year rate of change of the annualised gross flow of new bank loans to NFCs | Per cent and percentage points



Source: Banco de Portugal. | Notes: The annualised gross flow of each loan was calculated by multiplying the loan amount, for loans with maturity of less than one year, by its annualised maturity (ratio of the number of days in a loan and 365). The most affected sectors (CAE-Rev 3 double-digit) are those that recorded a reduction of turnover of more than 40% in the 2nd quarter of 2020 (compared to the expectable situation in a scenario without a pandemic, based on the results of the Fast and Exceptional Enterprise Survey - COVID-19 (COVID-IREE)).

Chart I.2.7 • Interest rate on new bank loans to NFCs | Per cent



Sources: Banco de Portugal and European Central Bank. | Notes: Interest rate annual average weighted by the amounts of new loans. Interest rates on new loans granted by monetary financial institutions resident in Portugal (excluding the central bank) to residents in the euro area. The series refer to the reporting on an individual basis of the other monetary financial institutions.

The State-guaranteed credit lines that were contracted between March 2020 and March 2021 contributed to the downward trend in interest rates, as they were associated with lower rates. In fact, the average interest rate on State-guaranteed loans contracted during this period was 1.2%, which compares with 2.3% for new loans without guarantee. Despite the legal restriction to the maximum spread of State-guaranteed credit lines, the low interest rate is consistent with the lower risk incurred by the institutions. Loss given default is lower due to the guarantee, since the State reimburses the institution for the guaranteed part, between 80% and 90% of the loan amount. In addition, the conditions of access to State-guaranteed credit lines favour the firms with a lower risk profile. The provision of State-guaranteed loans has narrowed the gap between banks in terms of their level of capitalisation, making banks' lending capacity more homogeneous (Special issue "The usability of banks' capital buffers in the context of COVID-19 pandemic"). State-guaranteed loans are further characterised by longer maturities, with around 90% of contracts having maturities between four and six years (65% with 6-year maturities).

In 2020 and until March 2021, 30% of the amount of new loans to firms involved a State guarantee

Of the amount of new loans to NFCs between March 2020 and March 2021, 30% were covered by a State-guaranteed credit line (totalling €9 billion, corresponding to about 12% of the stock of loans to NFCs in March 2021). In aggregate terms, 47% of the amount of new loans to the sectors most affected by the pandemic were State-guaranteed. In line with its objective, the use of these lines was more significant in small and medium enterprises (SMEs) than in large firms (34% and 15% of total new loans, respectively). There was also greater recourse to State-guaranteed credit lines by firms showing a lower credit risk before the pandemic (34% and 22% for firms with lower and higher risk, respectively). This result stems from the good pre-pandemic credit quality of the firms from the sectors most affected and from the fact that eligibility criteria for granting State-guaranteed loans had allowed access only to enterprises without any outstanding credit events

with banks or the Mutual Guarantee Scheme at the date of the agreement (Table I.2.14). In recent years, the share of loans to lower-risk NFCs has increased.

Among the seven main banking groups, the differentiation of new loan spreads to NFCs based on the credit risk decreased from 2019. The risk premium for class 2, with a probability of default of 1%-5%, vis-à-vis class 1, with a probability of default of 1%, is estimated to have decreased by 17 b.p., to 0.4 p.p., and the premium for class 3, with a probability of default higher than 5%, vis-à-vis class 1 is estimated to have decreased by 12 b.p. to 1.2 p.p. This partly relates to the reduction in spreads of State-guaranteed loans, which was more significant for class 2 firms.

Credit standards for loans to firms have become more restrictive according to the BLS, most notably the tightening of long-term loans in the second and fourth quarters of 2020. Similarly, in the first quarter of 2021, credit standards for loans, mainly to SMEs, were tightened. Risks associated with the situation and outlook of specific sectors and firms, with the general economic situation and the lower risk tolerance are identified as factors contributing to such tightening. The tightening of credit supply reported by banks reflects the perceived risk of loans that are not State-guaranteed loans.

Table I.2.14 • New loans to NFCs by size, sector and risk class | As a percentage of new loans to NFC granted between march 2020 and march 2021

		By size		By impact of the pandemic		By level of risk before the pandemic	
	Total	SMEs	Large firms	Most affected sectors[(a)]	Less affected sectors	With higher risk[(b)]	With lower risk
Loans with state guarantee	30	34	15	47	26	22	34
Loans without state guarantee	70	66	85	53	74	78	66

Source: Banco de Portugal. | Notes: All loans between march 2020 and march 2021 (inclusive) are taken into account, including undrawn loans (potential credit). (a) The most affected sectors (CAE-Rev 3 double-digit) are those that recorded a reduction of turnover of more than 40% in the 2nd quarter of 2020 (compared to the expectable situation in a scenario without a pandemic, based on the results of the Fast and Exceptional Enterprise Survey - COVID-19 (COVID-IREE)). (b) Included in this category are enterprises with a pre-pandemic credit risk below the median for total enterprises, as measured by the probability of default. Credit risk is based on credit ratings available in the In-house Credit Assessment System of Banco de Portugal (ICAS).

In April 2021, 31% of the stock of loans was under moratorium

In April 2021, 31.1% of the stock of loans to NFC was under moratoria (€23.2 billion) (Table I.2.15). In the fourth quarter data of the EBA's *Risk Dashboard*, referring only to a sample of banks, Portugal was one of the countries with the highest proportion of loans to firms under moratoria: 29% compared with 3% in the euro area.

Table I.2.15 • Loans to NFCs under moratoria

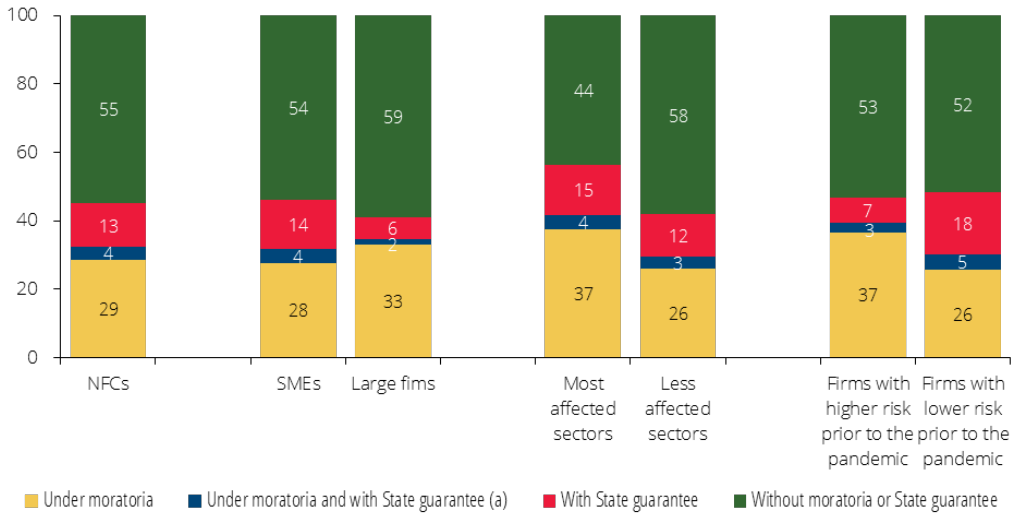
	Mar. 20	Jun. 20	Sep. 20	Dec. 20	Mar. 21	Apr. 21
EUR millions						
Total	2.2	23.6	25.2	24.8	24.6	23.2
As a percentage of total loans to NFC						
Total	3.3	32.5	34.1	33.6	33.0	31.1
Manufacturing	0.6	6.1	6.6	6.3	6.2	5.6
Construction and real estate activities	0.5	7.4	7.7	7.6	7.0	6.6
Wholesale and retail trade	0.8	4.7	4.7	4.4	4.4	4.1
Accommodation and food services	0.4	4.7	4.8	5.1	5.6	5.6
Other sectors	0.8	9.7	10.3	10.1	9.8	9.2
SMEs	2.6	27.4	28.5	28.3	27.8	26.5
Large firms	0.6	5.1	5.6	5.3	5.2	4.6
As a percentage of total loans in each category						
Manufacturing	3.4	31.7	34.2	33.3	31.0	28.1
Construction and real estate activities	2.2	31.5	33.1	33.0	31.7	30.2
Wholesale and retail trade	4.8	25.7	26.5	24.8	24.6	22.9
Accommodation and food services	5.6	56.0	57.2	57.2	59.1	57.1
SMEs	3.2	32.6	33.9	33.3	32.9	31.4

Source: Banco de Portugal. | Notes: Loans on the portfolio of entities of the financial sector supervised by Banco de Portugal (domestic activity).

The highest proportion of loans under moratoria was observed in September 2020, when it accounted for 34.1% of total loans to firms (€25.2 billion). Since then there has been a slight reduction in the amount of loans under moratoria. The possibility of applying for the public moratorium between January and March 2021 had a residual impact. The decline in the stock of loans under moratoria between December 2020 and April 2021 was broadly based across the main sectors of activity, with the exception of the accommodation and food services sector where an increase of 10% was observed. The sectors of activity most affected by the pandemic crisis made greater use of this support measure, particularly the accommodation and food services sector where 57.1% of its bank loans were under moratoria (€4.2 billion), corresponding to 5.6% of total loans to NFCs.

The proportion of loans under moratoria was similar between SMEs and large firms (Chart I.2.8). SMEs had €19.8 billion in loans under moratoria, which accounted for 26.5% of the total loans to NFCs.

Chart I.2.8 • Use of support measures by size, sector and risk class | Share of the loan stock in March 2021



Source: Banco de Portugal. | Notes: See notes to Table I.2.14 for more information on the sectors more affected by the pandemic and the risk of enterprises prior to the pandemic shock. (a) Loans under moratoria and backed by a State guarantee includes only those that were granted before the onset of the Pandemic, i.e. the contracts that are not covered by Decree Law No. 22-C/2021, which extended the grace periods of capital in loans with state guarantee contracted after March 27, 2020.

New loans for house purchase continued to grow

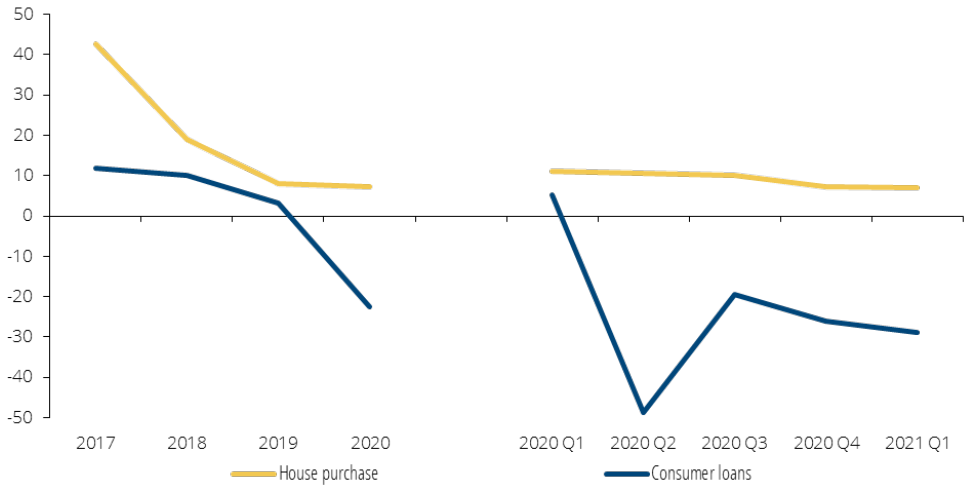
New bank loans for house purchase increased 7.3% in 2020 as a whole (Chart I.2.9), while the annual rate of change in the euro area was 5.8%. In intra-annual terms, the annual rate of change in new loans for house purchase in Portugal decreased from 11.2% in the first quarter of 2020 to 7.0% in the first quarter of 2021. In the first half of 2021, the annual rate of change was 7% in Portugal and 3% in the euro area average.

In 2020, the average interest rate on new loans for house purchase declined to 1.0%, below the euro area average (1.4%), reflecting the higher share of new floating-rate loans. New bank loans for house purchase with an initial rate fixation period of up to one year accounted for 68%, compared with 16% in the euro area average. However, although the annual percentage rate of charge (APRC) also decreased in 2020, it is above the euro area average (2.1% vs. 1.7%).

New consumer loans decreased by 22.5% from 2019. While all segments posted a negative year-on-year rate of change, the decline was more pronounced in personal loans (30.2%) than in car loans (15.1%). As for intra-annual developments, more significant declines in consumer credit were observed year on year in the second and fourth quarters of 2020. In the first quarter of 2021 there continued to be a negative year-on-year rate of change (-28.9%), reflecting the decline in personal loans by 31.1% and in car loans by 27.8%, in a period characterised by further confinement measures.

The average annual interest rate on new consumer loans and the annual average APRC fell to 6.6% and 8.9%, respectively (5.3% and 5.8% in the euro area).

Chart I.2.9 • Year-on-year rate of change in new loans for house purchase and new consumer loans granted to households | Per cent



Source: Banco de Portugal. | Notes: Information on housing loans concerns Instruction of Banco de Portugal No 25/2014, of monetary financial institutions. Information on consumer loans concerns Instruction of Banco de Portugal No 14/2013, which includes non-monetary financial institutions. The series refer to the reporting on an individual basis of the other monetary financial institutions resident in Portugal.

The borrowers' risk profile associated with new loans to households continued to improve, reflecting institutions' compliance with the ceilings recommended by the Banco de Portugal for LTV and debt service-to-income (DSTI) and maturities. According to the BLS, the credit standards for loans to households were tightened in 2020, mainly in the segment of consumer credit and other purposes. In the first quarter of 2021, only a tightening of consumer credit and other purposes was observed and this was due to a higher perception of risk associated with the economic situation. Going forward, banks anticipate slightly tighter credit standards for loans to households in the second quarter of 2021.

In April 2021, 12.1% of total loans to households were under moratoria (€15.1 billion), of which 87.9% were loans for house purchase, down from their peak of 17.1% (€21.1 billion) in September 2020 (Table I.2.16). Portugal is one of the euro area countries with the highest uptake of credit moratoria by households, with the average proportion of loans under moratoria in the euro area standing at 2% in December 2020. Around 282,400 thousand borrowers had loans under moratoria in April 2021.

There has been a decline in the stock of loans under moratoria of households, notably loans for house purchase. This drop largely reflected the end of moratoria, such as the ASFAC private moratorium in December 2020 (September 2020 for entities that did not apply for an extension) and the APB private moratorium (mortgage credit) in March 2021. Despite the decline observed in stock of loans for house purchase under moratoria, around 13.6% of loans for this purpose continued to benefit from this measure in April 2021.

Table I.2.16 • Loans to households under moratoria

	Mar. 20	Jun. 20	Sep. 20	Dec. 20	Mar. 21	Apr. 21
EUR million						
Total	1.4	20.3	21.1	20.1	17.1	15.1
As a percentage of total loans to households						
Total	1.1	16.6	17.1	16.2	13.8	12.1
House purchase	0.9	13.8	14.3	13.8	12.0	10.7
Consumption and other purposes	0.2	2.8	2.8	2.4	1.8	1.5
As a percentage of total loans in each category						
House purchase	1.2	17.8	18.5	17.8	15.3	13.6
Consumption and other purposes	0.8	12.6	12.6	10.8	8.1	6.7

Source: Banco de Portugal. | Notes: Loans on the portfolio of entities of the financial sector supervised by Banco de Portugal (domestic activity). Includes sole proprietors and non-profit institutions serving households.

2.5 Liquidity and funding

The financing structure of the banking system was based more on customers' deposits and central bank funding

The banking system's structural liquidity position strengthened in 2020, with the loan-to-deposit ratio declining to 84.8% (Chart I.2.10). This decrease reflects an increase in customer deposits and an increase in loans to customers. The postponement of consumption linked to the COVID-19 pandemic, including for precautionary reasons, and credit moratoria have probably contributed to the increase in deposits.

As a result of the challenges associated with the pandemic crisis, the ECB intervened in the course of 2020 on a large scale aiming to ensure the regular flow of funding to the economy and, in particular, to SMEs. Portuguese banks have significantly and broadly used TLTRO III, made available by the ECB. As a result, funding obtained from central banks increased by 3.4 p.p. year on year, accounting for 7.8% of assets in December 2020. This is in line with evidence for the euro area.

More recently, in 2021, TLTRO III continued to support the financing of the banking system. According to the BLS, four of the five reporting banks participated in the March operation and at least one admits to making use of future operations. The attractive conditions associated with these operations and, to a lesser extent, their contribution to minimising current and/or future financing difficulties justify the institutions' participation. Given the three-year maturity of these operations, this type of financing will probably remain on the institutions' balance sheet until 2024, if the total amount of the operations is not repaid early. The ECB also maintained the temporary flexibility measures for requirements imposed on collateral used by banks in funding from central banks, preserving the capacity to use TLTRO and thus supporting lending to the economy.

In contrast, the fall in the share of market instruments in institutions' balance sheet reduced the system's vulnerability to changes in the risk perception of international investors. The share of liabilities represented by securities accounts for 3.5% of assets. However, the share of market funding could increase over the medium term, reflecting compliance with MREL requirements.

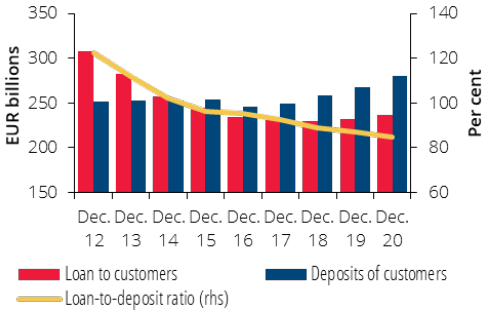
From January 2022 onwards, most institutions will have to comply with intermediate targets, with the transition period ending in January 2024.

Favourable financing conditions and high liquidity promote the banking system's lending capacity

The liquidity coverage ratio (LCR) stood at 245,9%, increasing 27,4 p.p. from 2019 (Chart I.2.11), with an increase in the dispersion of this indicator among institutions. Developments in the LCR were based on an increase in the liquidity buffer (a 50,1 p.p. contribution), against a background of an increase in net liquidity outflows (a -22,6 p.p. contribution). A 69% increase in reserves in central banks and an 11% increase in unencumbered sovereign debt securities contributed to the developments in the liquidity buffer. The share of reserves in central banks increased by 8.9 p.p. to 33.7% of unadjusted liquid assets, while the share of sovereign debt securities decreased by 7.4 pp to 60.1%.

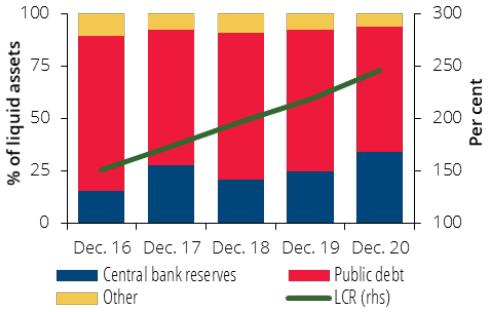
The asset encumbrance ratio, i.e. the share of total assets and collateral received that is used as collateral for obtaining liquidity, increased by 2.1 p.p., to 17.2%, from December 2019. Among the unencumbered assets and collateral available for encumbrance, the eligible fraction for monetary policy operations remained stable, standing at 26% in December 2020, although significant heterogeneity was observed in the system. Lower dependence on market funding means lower asset encumbrance resulting from this type of financing, standing at 35.4% of the funding obtained with asset encumbrance at the end of the year (-20.1 p.p. compared with 2019).

Chart I.2.10 • Loan-to-deposit ratio



Source: Banco de Portugal. | Notes: The loan-to-deposit ratio corresponds to the ratio of loans to customers net of impairment to customer deposits. Customers are households, non-financial corporations, general government, and other financial corporations (excluding credit institutions).

Chart I.2.11 • Liquid assets and liquidity coverage ratio (LCR)



Source: Banco de Portugal. | Note: The liquidity coverage ratio corresponds to the ratio of available liquid assets and net cash outflows calculated under a 30-day stress scenario.

2.6 Capital

The own funds ratios increased, enhancing banks' ability to finance the economy and absorb losses

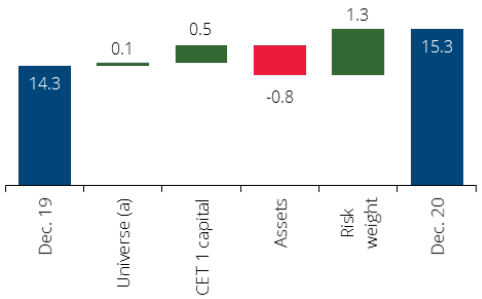
The ratio of total own funds to risk-weighted assets increased by 1.2 p.p. from the end of 2019, reaching 18.1%. The Common Equity Tier 1 (CET 1) ratio increased from 14.3% to 15.3% (Chart I.2.12). This increase stems from similar contributions from the increase in CET 1 capital and the reduction in risk-weighted assets (RWAs). The reclassification of an institution in the second quarter, from subsidiary to branch, also contributed to the increase in capital ratios, particularly due to the reduction in RWAs used to calculate the banking system's capital ratios.

CET 1 capital rose by 3.2%, making a 0.4 p.p. contribution to changes in the CET 1 ratio. This increase was mainly due to retained earnings, in line with the recommendations from the Banco de Portugal, the European Central Bank and the European Systemic Risk Board for a non-distribution of income by institutions until September 2021 (Section 1.5). This measure, by allowing capital to be maintained, makes it possible to reconcile the financing of the economy with a higher capital ratio (Box 6).

RWAs decreased by 4.0%, making a 0.6 p.p. contribution to the increase in the CET 1 ratio. The change in the RWAs reflects the 4.5 p.p. decrease in the average risk weight, offset by a 6.1% increase in total assets. These trends reflect an increase in exposures to general government and central banks (Table I.2.17), as mentioned above (Sections 2.3 and 2.5), and the increase in exposure to corporate and retail segments (including SMEs), related to State-guaranteed credit lines (Section 2.4). In June 2020, the change in the supporting factor for exposures to SMEs under the CRR quick fix also contributed to the reduction in the RWAs. In the seven largest banking groups operating in Portugal, this regulatory change would have positively impacted the CET 1 ratio by around 0.2 p.p. from 2019.

The decrease in the RWAs was observed in most euro area countries, to a greater or lesser degree, with the Portuguese banking system maintaining an average weight of 49%, which is above the euro area median.

Chart I.2.12 • CET 1 ratio – level and contribution to change | Per cent and percentage points



Source: Banco de Portugal. | Notes: (a) It quantifies the impact on the banking system's aggregate CET 1 ratio arising from the reclassification of an institution from subsidiary to branch, which was thus became exempt from reporting own funds for prudential purposes. The CET 1 ratio corresponds to the ratio between Common Equity Tier 1 capital and risk-weighted assets.

Table I.2.17 • Change in original exposures and risk-weighted exposures | Million euros

	Original exposures	Risk-weighted exposures
Central gov. or central banks	22,749	-360
Corporates	4,200	-1,209
Retail	5,192	-171
Exposures in default	-1,840	-1,096
Other	-5,113	-2,620

Source: Banco de Portugal. | Notes: Exposures aggregate the portfolios associated with the Standardized Approach and the Internal Ratings Approach. The variations were calculated in relation to the comparable basis for 2019, that is, disregarding in 2019 the institution that became a branch and thus exempted from reporting own funds for prudential purposes.

The prudential leverage ratio, measured as the ratio of Tier 1 capital to total exposure, stood at 7.7%, decreasing from 2019. At the end of 2020, the banking system's leverage ratio was above the minimum benchmark defined by the Basel Committee on Banking Supervision (3%). This requirement will become mandatory as of 28 June 2021. Thus, the temporary exclusion of exposures to central banks from the leverage ratio calculation, which the SSM allowed until March 2022, had no material impact on compliance with this requirement for institutions in the Portuguese banking system.

Maintaining adequate levels of solvency is essential to preserving the capacity to finance the economy. During the pandemic, banks further away from the Maximum Distributable Amount (MDA) increased their growth rate of credit to the non-financial private sector more sharply, in particular to NFCs (see Special issue "The usability of banks' capital buffers in the context of COVID-19 pandemic").

Box 1 • Post-moratorium household credit risk: first evidence following the end of the ASFAC moratorium

The end of the private moratorium of the Associação de Instituições de Crédito Especializado (Association of Specialised Credit Institutions – ASFAC) in December 2020 (September 2020 for some of its associates), covering consumer credit agreements, provides a first opportunity to analyse the economic resilience of the households that requested it to be applied as the instalments associated with these loans became due again. The increase in default in the total loan portfolio of the institutions that joined the ASFAC moratorium was not significant as the share of loans that benefited from a moratorium on the total lending provided by these institutions was small.

This box documents (i) default in the amount of outstanding loans that were under this private moratorium, compared to the amount of outstanding loans from the same institutions and which were not under moratoria (either private or public) and (ii) the measures implemented for renegotiation/contractual changes in these loans.

In March 2021, consumer credit granted by institutions that joined the ASFAC moratorium accounted for 49% of total consumer credit (this box only takes personal and car credit into consideration), corresponding to 7% of total credit to households. On the same date, consumer credit that was under the ASFAC moratorium totalled around €500 million, accounting for only 5.7% of the credit stock of the institutions that joined the moratorium (Table B1.1).

Around 8.5% of the amount of the agreements that were under moratorium was recently in default, i.e. posting credit past due for at least one month between the moratorium exit date (which may be equal to or earlier than the end date) and March 2021. In contrast, only 3.6% of consumer credit that was not under moratoria posted recent default.

Given the weight of consumer credit under moratoria, the amount of consumer credit related to these loans and recently in default is low and significantly lower than that recorded since the beginning of the second half of 2020 for loans that were not under moratoria.

Table B1.1 • Amount of consumer credit granted by institutions that have joined the ASFAC private moratorium and recently defaulted | As a percentage

	Consumer credit			Personal credit			Car credit		
	Total portfolio	Without moratorium	With moratorium	Total portfolio	Without moratorium	With moratorium	Total portfolio	Without moratorium	With moratorium
As a percentage of the total credit of each portfolio	**3.9**	3.6	8.5	**5.3**	4.8	11.1	**3.3**	3.1	6.6
As a percentage of the total consumer/ personal/car credit	**3.9**	3.3	0.5	**5.3**	4.4	0.9	**3.3**	2.9	0.3
Memo item: Share of credit subject to a moratorium		**5.7**			**8.0**			**4.8**	

Source: Banco de Portugal. | Notes: The recent default analysis (credit past due for at least one month) covers the beginning of the second half of 2020 and March 2021, for agreements that have never been under a moratorium (either public or private), and the months between the exit date (equal to or prior to the end date of the moratorium) and March 2021, for the agreements that had been under the ASFAC moratorium.

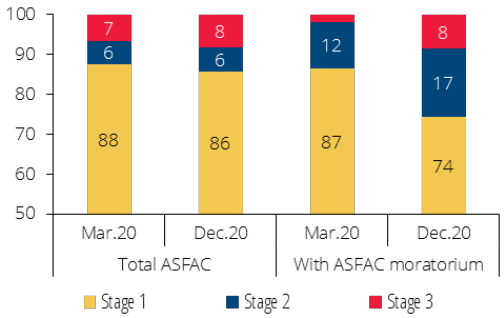
In December 2020, 21% of the amount of consumer credit that was under the ASFAC private moratorium had benefited from deferral or renegotiation measures implemented to address borrowers' financial difficulties, which contrasts with 7% of agreements that were not under moratoria.

Of the outstanding amount of credit under moratoria, 10% was subject to deferral and/or renegotiation measures after its expiry. The remainder was associated with agreements that had already been subject to such measures before being under moratoria.

There was an increase in the stock of consumer credit that was under the ASFAC moratorium on higher-risk stages between March and December 2020, with stage 2 and stage 3 credit accounting for 17% and 9% respectively, in December 2020 (Chart B1.1). However, in view of the low share of credit under the moratorium in these institutions, the contribution of these amounts to the proportion of stage 2 and stage 3 credit in the total credit portfolio of these institutions (6% and 8% in December 2020 respectively) was low. In December 2020, for the banking system in aggregate terms, the share of consumer credit and other purposes under this moratorium and classified as stage 2 amounted to 29%. Thus, despite the signs of heightened risk for the credit that was under the ASFAC moratorium, the impact on total consumer credit granted to households by these institutions is not significant.

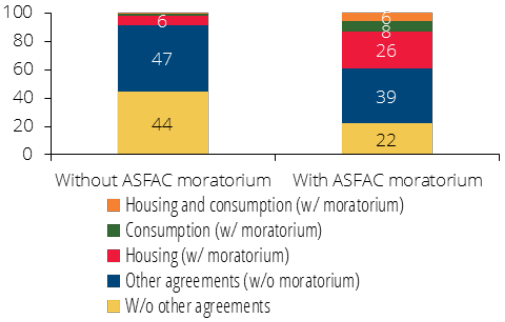
At the end of March 2021, 32% of households with loans granted by institutions that joined the ASFAC moratorium still benefited from temporary debt service relief as they had loans for house purchase under a public moratorium. This may be a relevant factor for households that are unable to recover their income levels because borrowers consider paying the instalments of credit agreements for house purchase to be a priority (Chart B1.2).

Chart B1.1 • Amount of credit per impairment stage, with and without ASFAC moratorium | As a percentage



Source: Banco de Portugal. | Notes: Information from the Central Credit Register. "Total ASFAC" means "Total of the institutions that joined the ASFAC moratorium".

Chart B1.2 • Borrowers with credit agreements with institutions that have joined ASFAC private moratorium | As a percentage



Source: Banco de Portugal. | Notes: Information from the Central Credit Register. It takes into account the borrowers who had at least one agreement under the ASFAC moratorium, using information from March 2021 on other loans they held.

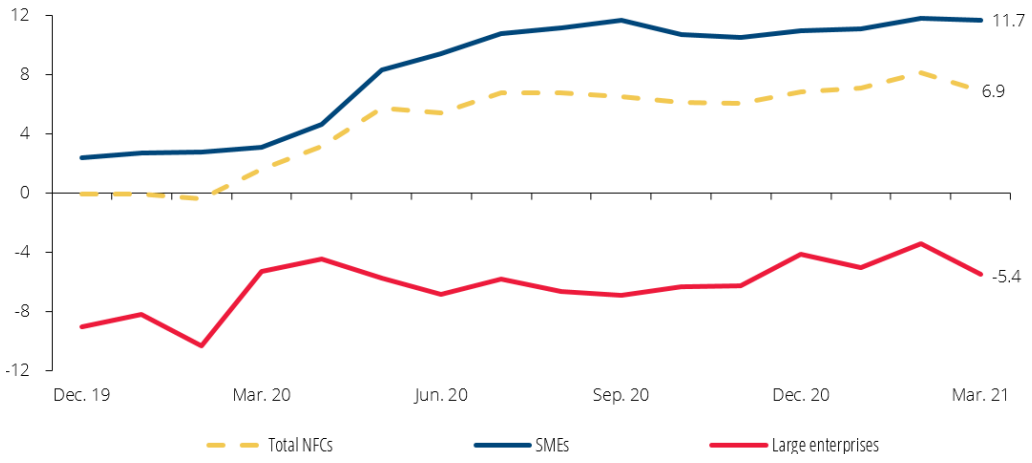
Box 2 • Developments in credit to non-financial corporations in the context of the COVID-19 pandemic

The pandemic crisis led to an increase in firms' liquidity needs, with an impact on credit demand.

The increase in bank lending was most pronounced in smaller firms and in the sectors of activity most affected by the pandemic. In 2020 the increase in bank lending to non-financial corporations in the form of loans and debt securities increased by 6.8% (annual rate of change of 6.9% in March 2021), compared with virtually no growth in the same period a year earlier (Chart B2.1). This increase was observed in particular in lending to small and medium-sized enterprises (SMEs) (annual rate of change of 11.7%) and to the accommodation and food and trade sectors (annual rate of change of 14.2%). The annual rate of change in lending to the construction and real estate activities sector also accelerated in 2020 (annual rate of change of 5% in December 2020, -0.5% in December 2019), in line with the resilience of construction investment during the pandemic.

State-guaranteed credit lines provided an important contribution to support firms' liquidity. With firms' credit risk rising and tighter credit standards, NFC funding benefited from State-guaranteed credit lines. Between March 2020 and March 2021, the stock of loans to firms using State-guaranteed credit lines increased significantly, particularly in firms that did not take up moratoria (49.6%) (Table B2.1). To the contrary, the stock of loans to firms that only took up moratoria or did not use the moratoria or State-guaranteed credit lines fell by 2.4% and 4.3% respectively.

Chart B2.1 • Annual rate of change in bank lending to non-financial corporations, by firm size | Per cent



Source: Banco de Portugal.

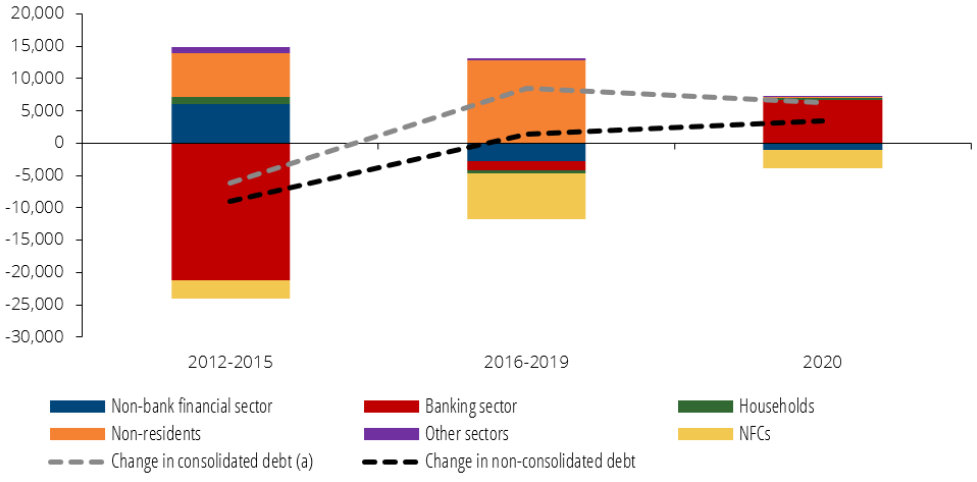
Table B2.1 • Year-on-year rate of change in the stock of financial institution loans to firms in March 2021 | Per cent

	Financing support measures				
	Firms that used State-guaranteed credit lines and did not use moratoria	Firms that used moratoria and did not use State-guaranteed credit lines	Firms that used both moratoria and State-guaranteed credit lines	Firms that did not use moratoria or State-guaranteed credit lines	Total
NFCs – Total	49.6	-2.4	21.7	-4.3	7.7
By size					
SMEs	57.4	-2.0	24.2	-4.0	9.4
Large enterprises and head offices	11.2	-3.5	11.8	-6.3	1.1

Source: Banco de Portugal. | Notes: Banco de Portugal's Credit Register data. Year-on-year rates of change are calculated on the basis of end-of-month outstanding amounts with no adjustments for sales, reclassifications, write-offs or price and exchange rate revaluations. The use of support measures by firms was assessed from March 2020 to March 2021.

Developments in bank lending in 2020 contrasted with those observed in previous years, in particular during the period of the sovereign debt crisis. Lending by non-residents stabilised, interrupting the trend observed in recent years, when this sector took on an important role in the financing of Portuguese firms. A net repayment of loans between NFCs (mainly associated with intra-group transactions) and, to a lesser extent, of loans from the non-bank financial sector were also observed. (Chart B2.2).

Chart B2.2 • Contributions to the change in the flow of NFCs' financial debt, by financing sector | EUR millions

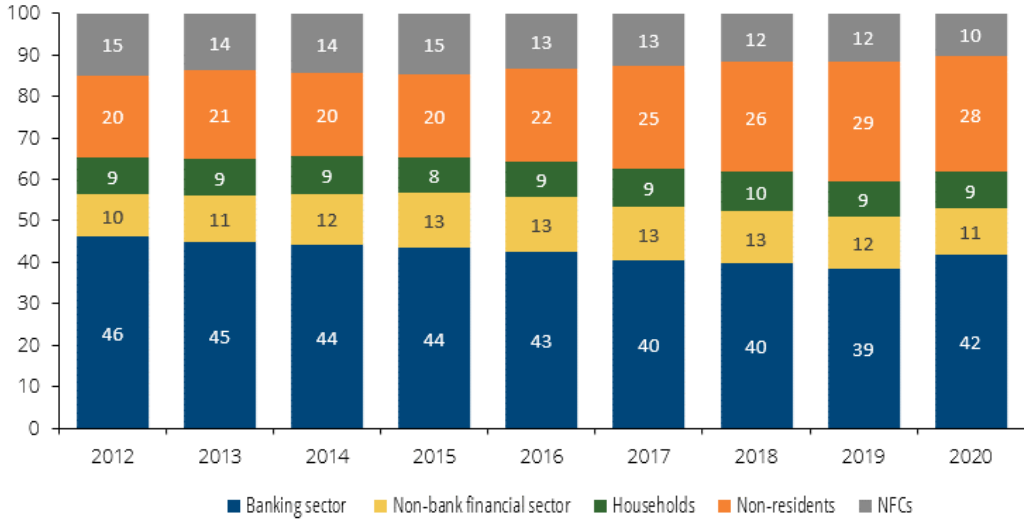


Source: Banco de Portugal. | Notes: National financial accounts data. Financial debt includes loans and debt securities issued. (a) For the purposes of the national financial accounts, consolidated debt is the result of non-consolidated debt minus the stock of financial debt between entities of the same institutional sector. In this case debt between NFCs is excluded.

The share of bank lending in the financing structure of firms increased for the first time since 2012. Firms' financial debt fell between the sovereign debt crisis and the end of the first quarter of 2020 to €205 billion (€182 billion in consolidated terms). Over this period, the share of bank lending in the financing structure of firms declined to 39% by the end of 2019, although it remains

their main source of financing (Chart B2.3). Conversely, there was a gradual increase in the share of non-residents in the financing structure to 29% by the end of 2019. This was interrupted in 2020. The increase in loans granted by the resident banking system was reflected in an increase in the share of bank credit in the financing structure to 42%.

Chart B2.3 • Financing structure of Portuguese firms, by financing sector | Per cent



Source: Banco de Portugal. | Notes: The financing structure shows the share of each financing sector in the total non-consolidated financial debt of NFCs, obtained from data from the National Financial Accounts. Financial debt includes loans and debt securities issued.

Box 3 • Credit risk on firms' loans during the health crisis

The risk of banks' credit portfolios was affected by the health crisis of 2020 and 2021. This Box measures the effect of the crisis on the risk associated with loans to non-financial corporations.

Methodology

The risk is measured by calculating the expected loss and the expected shortfall of the portfolios of each of the seven largest banks operating in Portugal, assessed between December 2019 and February 2021. The expected loss is a measure of the portfolio's average risk and the expected shortfall measures the risk of extreme losses, i.e. it measures the risk of losses in the right tail of the distribution.[3]

To calculate the expected loss and the expected shortfall, a portfolio's loss distribution is obtained by simulating the default state of each firm over a one-year horizon. The default state simulation reflects each firm's probability of default and the correlation between firms' default risk. When a firm is in default, the bank's loss is the product of the firm's credit amount by the loss given default. It then follows that the expected loss computed in this Box is the sum across firms of the product of each firm's credit amount by its probability of default and loss given default.

Scenarios and data

The risk of loan portfolios is measured under two different economic scenarios: a central scenario and a no-crisis scenario. The effect of each scenario on the expected loss and the expected shortfall is captured by the scenario's impact on firms' probabilities of default and loss given default.

In the central scenario, the probabilities of default reflect the economic activity observed in 2020 and the June 2021 expectations for economic activity in 2021 and 2022. In the no-crisis scenario, the probabilities of default reflect the December 2019 expectations for economic activity in 2020, 2021 and 2022. The probabilities of default in the central scenario are higher than in the no-crisis scenario.

The loss given default on loans that benefited from State guarantees granted through COVID-19 credit lines reflects such guarantees only in the central scenario. The loss given default of the remaining loans does not vary between scenarios.

Data on banks' credit portfolios come from the Banco de Portugal's Central Credit Register. Data on probabilities of default prior to the effect of scenarios come from Banco de Portugal's In-house Credit Assessment System.

The health crisis increased the risk of firms' loan portfolios

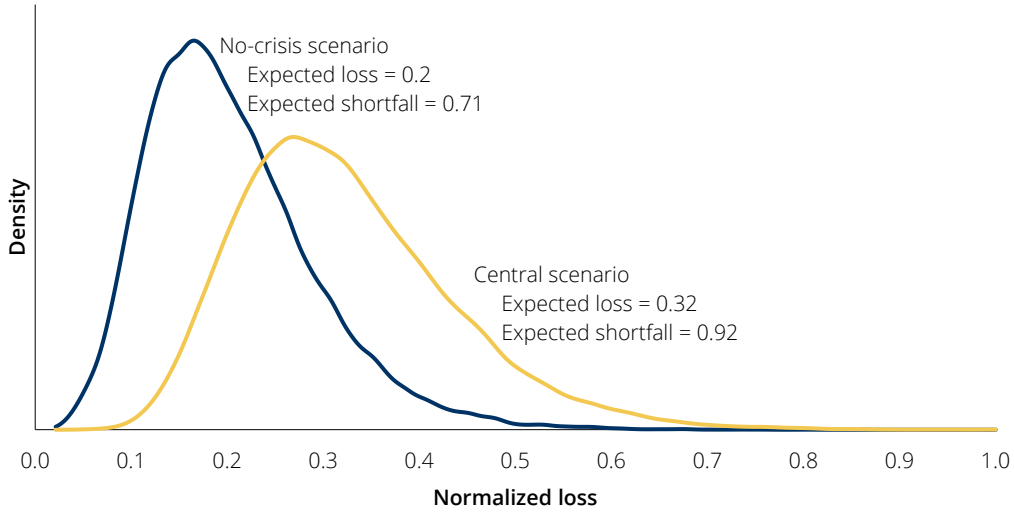
The health crisis increased banks' risk of losses in 2020 (Chart B1.1). The expected loss and the expected shortfall of banks' credit portfolios over a one-year horizon increased, on average, by 59% and 29%, respectively, compared with a scenario with no health crisis.

Banks' credit risk increased more in the accommodation and food services sector

The expected loss and the loan contribution to the expected shortfall increased more in loans to firms in the accommodation and food services sector, and less in loans to firms in the construction, information and communication, and real estate activities sectors (Chart B1.2). The sectoral heterogeneity of the effect of the health crisis explains this result.

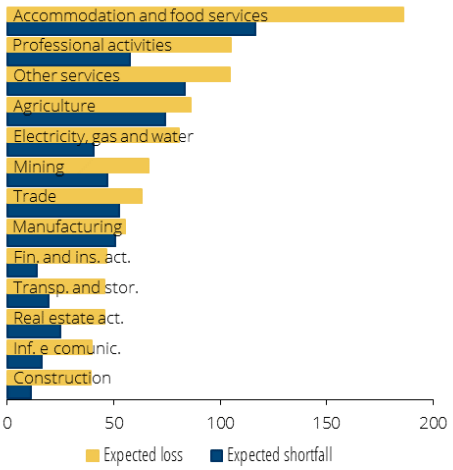
[3] The expected shortfall is the expected loss conditional on the loss being greater than a threshold. The threshold we use in this Box is the 99.9th percentile of the loss distribution.

Chart B3.1 • Distribution of simulated losses on credit portfolios to non-financial corporations in 2020 | Fraction of an arbitrary loss value



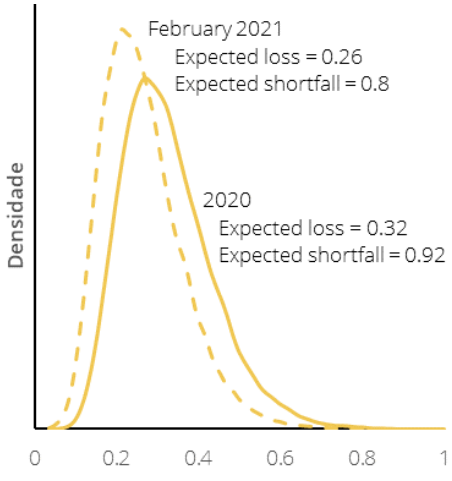
Source: Banco de Portugal. | Note: For each scenario, the chart shows the distribution of simulated losses of loan portfolios to non-financial corporations held by the seven largest banks operating in Portugal in 2020. The loss distribution for each scenario is the average of the loss distributions for each month of 2020. The chart also shows the expected loss and expected shortfall associated with each distribution. Loss values are simulated and do not correspond to actual losses. The values are normalised and have no meaning when assessed individually.

Chart B3.2 • Average increase in expected loss and expected shortfall in 2020 by sector | As a percentage



Source: Banco de Portugal. | Note: The chart shows the increase in the expected loss and the increase in the sector contribution to the expected shortfall in the central scenario relative to the no-crisis scenario.

Chart B3.3 • Distribution of simulated losses in credit portfolios in the central scenario | Fraction of an arbitrary loss value



Source: Banco de Portugal. | Note: The loss distribution in 2020 is the average of the loss distributions in each month of 2020. Loss values are simulated and do not correspond to actual losses. The values are normalised and have no meaning when assessed individually.

The credit risk of firms' loan portfolios decreased after the initial impact of the health crisis

The increase in risk of firms' loan portfolios peaked in April 2020. It has since been diminishing. In February 2021, the expected loss and the one-year expected shortfall are 19% and 13% lower, respectively, than the 2020 average figures (Chart B1.3). The change in the risk of firms' loan portfolios over time follows the change in firms' probabilities of default. Firms' default probabilities increased during the lockdowns of March and April 2020, and of January and February 2021, and declined in the remaining months.

Despite the decline in the risk of firms' loan portfolios after the initial impact of the health crisis, the one-year expected loss and expected shortfall measured in February 2021 are still 30% and 15% higher, respectively, than they would have been in the absence of the health crisis.

Box 4 • Challenges of the transition to the post-pandemic and strategies to phase out the exceptional measures to support the economy

The measures adopted by national and international authorities have been effective in mitigating the adverse impact of the COVID-19 pandemic on the economy. In the April 2021 issue of *World Economic Outlook*,[1] the International Monetary Fund (IMF) refers that, although it is difficult to estimate a counterfactual, the fall in global economic activity could have been three times as large if not for the measures. The complementary measures, adopted in an articulated and timely manner, have limited the destruction of productive capacity, the increase in unemployment, the increase in financing costs and an even more abrupt fall in consumption. The transfer of losses stemming from the economic and financial situation of firms and households to the financial sector has also been limited. In the financial sector, the measures designed to promote the flow of financing to the economy, including monetary policy, micro and macroprudential policies, and initiatives to render European regulations applicable to the banking sector more flexible at the prudential and accounting level should be highlighted.

The design of the policy measures considers, inter alia, their nature, e.g. support to liquidity or solvency, the scope of application, duration, their possible phasing-out and feasibility for conversion into another policy measure. During this transition period, when it is presumed that the vaccination process will resolve the health emergency, uncertainty remains as to the economy's recovery path, especially that of the most affected sectors. It is therefore important to assess critical factors in defining the strategy to phase out exceptional support measures to the economy.

The premature withdrawal of such support measures may jeopardise economic recovery. However, maintaining them for a too long a period may introduce distortions to the functioning of the economy, including in financial intermediation, and generate or amplify the build-up of vulnerabilities.

In the current environment it is particularly important to adopt a strategy to promote the solvency of firms

The prolonging of pandemic-imposed restrictions in some activity sectors increases the likelihood of initial liquidity shortcomings becoming solvency issues. The prospect of impact on the corporate sector becoming of a more permanent nature would make economic recovery more difficult. Furthermore, as the moratoria and State-guaranteed loans were associated with an increase in the indebtedness of economic agents and/or a deceleration of the deleveraging process, it is vital to continue to monitor the sustainability of indebtedness levels. It is relevant to support economic activity in a more targeted way, especially those firms that, albeit in financial difficulties, remain viable, with measures that promote their capitalisation.

The distinction between viable and non-viable firms is a challenge for public policy, and, consequently, the use of the banking sector's capacity to assess borrowers' creditworthiness and the promotion of an effective legal and judicial framework governing corporate restructuring may play an important role. In the case of firms considered non-viable, expediting corporate insolvency and liquidation proceedings takes on particular relevance.

The design of measures that include equity holdings by the State in non-financial corporations, especially small and medium-sized enterprises, poses relevant challenges. The use of hybrid instruments, by way of new supports or by the conversion of State-guaranteed loans into such instruments, has been analysed and proposed at international level. Germany, Spain and France have developed corporate recapitalisation programmes through capital instruments and hybrid capital instruments, under the European Commission's temporary framework for State aid

[1] IMF (2021), *World Economic Outlook*, April 2021: "Managing Divergent Recoveries".

measures to support the economy in the current COVID-19 outbreak. Additional measures to support the capitalisation of non-financial corporations are also planned in Portugal under the recovery and resilience plan.

It is also important to continue ensuring that banks' balance sheets accurately reflect borrowers' credit risk and to guarantee that institutions take measures to avoid a marked increase in non-productive assets, including the timely definition of strategies to manage and dispose of them. Several such measures were already defined and adopted as a result of the previous crisis. Furthermore, the possibility of credit institutions using capital buffers should continue until the economic recovery is more solid, safeguarding that the institutions retain their capacity to finance the economy and reinforce their loss-absorbing capacity for unexpected losses.

In short, the measures should be defined in the context of the evolution of the pandemic, the evolution of the economic recovery and the structure of the economy and labour market. Policy measures should be ever more oriented towards the sectors most affected by the COVID-19 pandemic, with special consideration to the viability of firms, minimising the loss of productive capacity and simultaneously potential distortions caused by the measures themselves.

Box 5 • The short-term aggregate effects of the macroprudential Recommendation on new loans for consumption and for house purchase

In July 2018 the Banco de Portugal, as the macroprudential authority, implemented a measure in the form of a recommendation, aimed at new credit agreements for consumers. The measure aimed to take pre-emptive action given the evidence of an easing in credit standards for consumers and thus increase the resilience of the financial sector to adverse shocks and promote the sustainable financing of households.

For this, the Recommendation sets criteria for assessing the creditworthiness of borrowers when credit is granted, limiting credit granting to borrowers with a higher risk profile. In particular, maximum limits to the LTV and DSTI ratios and to maturity are set, as well as a regular interest and principal payment requirement.

The implementation of such measures, while not targeting overall lending activity, should restrict specific transactions and thus the growth of new credit business. This box, which is based on an article by Abreu and Passinhas (2021), analyses the potential aggregate short-term effects of the Recommendation on the consumer credit market.

Methodology

To identify the short-run effects, a counterfactual analysis was conducted over the six months following the implementation of the Recommendation, i.e. a characterisation of the evolution of new loans granted to households for consumption and house purchase should the measure not have been introduced. Considering that the Recommendation was the main regulatory change affecting the consumer credit market over the six months following its implementation, the difference between the observed values and their counterfactual values reflects the potential impact of the Recommendation. This is a plausible assumption, since no other regulation that could have significantly affected credit and housing markets entered into force in Portugal in this period.

The specification of a counterfactual scenario to study the policy impact on macroeconomic and financial variables is a common approach in the literature. Following Price (2014), the model used to build the counterfactual for new loans for consumption and house purchase in Portugal is a BVAR (Bayesian Vector Autoregression) model estimated with observations prior to the introduction of the Recommendation (March 2003 to June 2018). The counterfactual, consisting of a forecast obtained from this model, reflects the likely behaviour of the variables based on their historical relations, in a scenario where the Recommendation was not introduced.

The endogenous variables considered are (i) new loans for consumption (ii) new loans for house purchase, (iii) the house price index, to capture its interaction with developments in new consumer credit, and (iv) a proxy for developments in economic activity. An increase in housing prices may enhance credit growth, given the increase in the value of real estate, which is the main collateral for credit transactions. At the same time, credit growth may contribute to a further increase in house prices. Thus, there is an interdependence between the two variables that must be taken into account. The BVAR methodology is suitable to modelling this relationship, since each endogenous variable is explained by its lags and by the lags of the other endogenous variables. In addition, to improve the accuracy of the counterfactual, the forecasts were conditioned by the evolution of control variables that also affect the credit and housing markets in Portugal, but are not directly influenced by the introduction of the Recommendation in the short term. The selection of control variables was based on the results of previous studies investigating the main determinants of credit granted to households in Portugal, such as Castro and Santos (2010), and real estate market developments, such as Rodrigues and Lourenço (2017). Based on this literature, the following control variables were selected: (i) residential investment by residents (gross fixed capital formation), (ii) residential investment by non-residents (foreign direct investment in housing including house purchase by non-residents), (iii) the 12-month Euribor, to control for bank funding costs, and (iv) the year-on-year rate of change in euro area GDP to control for the international

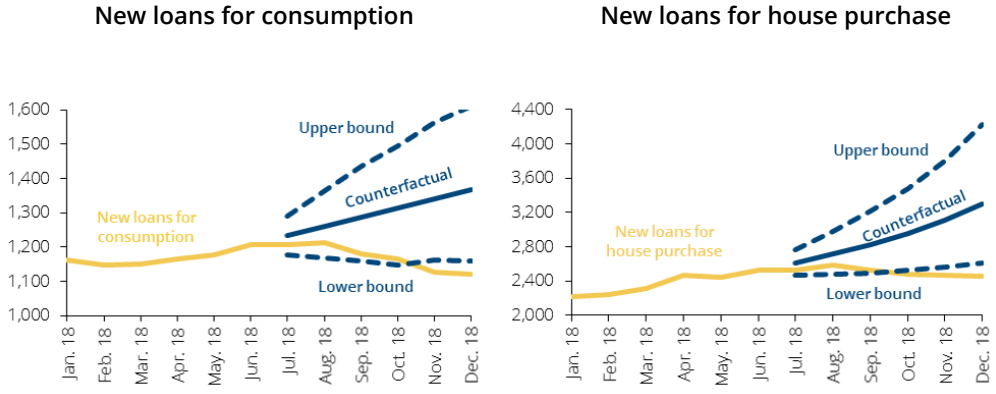
economic environment. Although the purpose of the exercise is to forecast endogenous variables, the adjusted values obtained from the estimated model for the period prior to the introduction of the Recommendation follow the historical behaviour of the variables closely.

Counterfactual exercise

The counterfactual scenario suggests that new loans for consumption and house purchase would continue to increase (Chart B5.1), reflecting the upward trend of credit prior to the entry into force of the Recommendation, in a context of easing of credit granting standards. In contrast, new credit business (consumption and house purchase) slowed down in the second half of 2018, particularly in the consumer credit segment, which recorded negative year-on-year rates of change after October 2018. The results obtained suggest that the Recommendation contributed to curbing the growth of new loans for consumption and house purchase four months following its implementation, a period in which the observed figures lie below the lower bound of the forecast. According to the Banco de Portugal (2019, 2020), there is an improvement in the risk profile of borrowers associated with new credit agreements concluded and coinciding with the introduction of the measure. This suggests that the reduction in the aggregate credit volume mainly reflected the reduction of credit to borrowers with a higher risk profile. This improvement in the risk profile of borrowers also seems to be linked to an improvement in macroeconomic conditions.

The lag in the response of new loans in relation to the Recommendation's introduction may reflect the operational adjustment process that banks had to undergo in order to implement the limits imposed by the Recommendation. In addition, according to the Banco de Portugal (2019, 2020), developments in new loans for house purchase in the first few months after the implementation of the Recommendation partly reflected the granting of credit based on a borrowers' creditworthiness assessment made several months before the Recommendation's entry into force.

Chart B5.1 • Counterfactual (January 2018 – December 2018) | € millions



Sources: Banco de Portugal, Statistics Portugal and OECD. | Notes: The latest observation is for December 2018. The counterfactual corresponds to the median of the forecast distribution given by a BVAR(5). The lower and upper bounds are the 2.5th and 97.5th percentiles respectively, of the same distribution. The value of new loans for house purchase and consumption in each period corresponds to the sum of monthly flows over the most recent three months.

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Box 6 • Impact of the bank dividend pay-out restriction in conjunction with flexible capital requirements

The banking sector has demonstrated its ability to finance the economy, actively contributing to mitigating the negative economic effects of the COVID-19 pandemic. Two measures affecting the banking sector's own funds are contributing to this situation, among others. The first allows institutions to temporarily operate below Pillar 2 Guidance and the combined buffer requirement (hereinafter the flexibility measure). The second, concerning the recommendation not to pay dividends and to refrain from buy back shares, aims to preserve institutions' capital. This recommendation, which is extraordinary and temporary, contributes to strengthening the temporary relief in capital requirements and promotes channelling the funds generated towards lending to the economy.

This box presents the results of a simulation exercise of the effects on credit, investment and output resulting from the implementation of these two measures. Two scenarios are considered in this exercise: one where the measures are not implemented; and another where both measures are in force. A comparison of results between scenarios makes it possible to assess the effectiveness of the measures in promoting the financial intermediation function of the banking sector and in stabilising the economy. However, it is important to stress that the results obtained do not factor in other measures of monetary and government policy adopted to mitigate the consequences of the pandemic, which are also transmitted through the banking sector. Notwithstanding, the purpose of this exercise is to estimate the partial effect of the flexibility and of the dividend pay-out restriction measures in the variables analysed and not to predict the evolution of output and credit. The model used in this exercise is a dynamic general equilibrium model based on Clerc et al. (2015) calibrated for the Portuguese economy.

In order to simulate a supply disruption with the magnitude and dynamics observed in 2020 and 2021, two shocks were considered that negatively affect output and seek to replicate the partial or total closure of firms and business establishments and losses in efficiency that occurred in the two lockdown periods that started in March 2020 and January 2021. Despite being supply-side shocks, they have a considerable effect on demand due to their impact on income. However, as the model does not take into account other measures implemented to mitigate the impact of the pandemic, the response of income to the shock in terms of magnitude may not be the same as that observed.

The banks' response to the flexibility measure is simulated through a rule on the response of the capital ratio to deviations in total credit (households and firms) from the initial steady-state level. This rule enables the goals of the flexibility measure to be mimicked, namely that of ensuring that banks continue to finance the economy. Adding the dividend pay-out restriction gives banks the possibility of not making full use of the flexibility granted to them in terms of capital requirements.

The suspension of dividend pay-out is implemented in the model in the second quarter of 2020, in line with Recommendation ECB/2020/19 adopted on 27 March 2020. This restriction remains active in the model until the third quarter of 2021 as set out in Recommendation ECB/2020/62 adopted on 15 December 2020. In terms of the model, transfers from banks to households in the form of dividends are eliminated and profitability is fully used to provide credit to the economy. It is also implicitly assumed that banks' profitability is always positive over the time horizon of the simulation exercise.

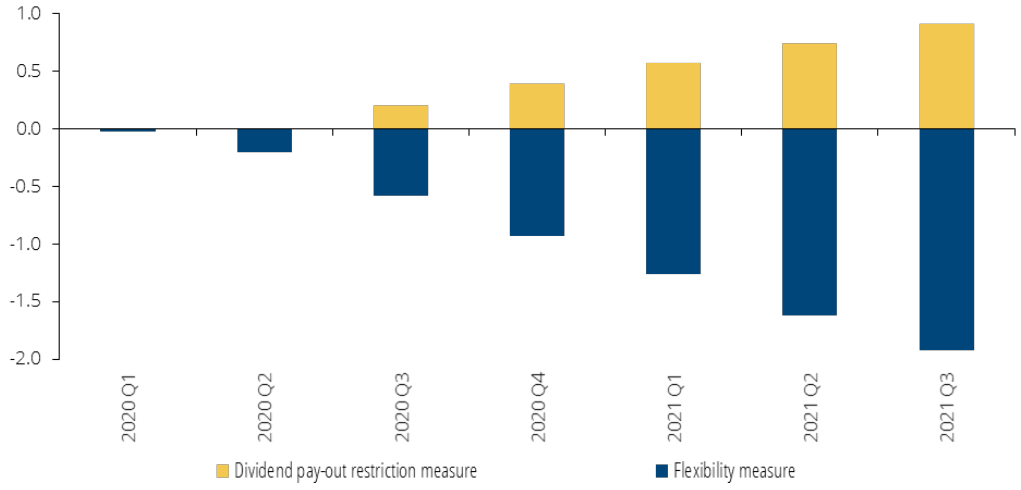
In the scenario where no measure is implemented, the results from the shock simulate an output path characterised by a sharp fall in the second quarter of 2020 followed by a gradual recovery, which is temporarily halted in the first quarter of 2021 as a result of new lockdown measures. Thereafter, a gradual recovery towards steady-state values is simulated, reflecting the dynamics implied by the Banco de Portugal's projections for the Portuguese economy of March 2021. The shock transmission mechanism initially leads to a decline in spending and production that leads to an increase in the default of firms and households. The higher credit risk leads to an increase

in bank spreads and lower lending. The monetary policy measures adopted by the ECB have contributed to the stability observed in spreads on loans to firms and households, but they are not considered in the model. These effects are reflected in the contraction in investment, amplifying the impact of the initial shock on the economy. After the first quarter of 2021, the gradual recovery of the economy starts as the effects of the shock fade away. However, for credit to households and firms, the recovery is protracted.

In the second scenario, banks use the flexibility measure and refrain from distributing part of their profits in the form of dividends. The dividend pay-out restriction allows banks to increase their voluntary capital buffers, becoming more resilient to adverse shocks (Chart B6.1). Strengthening capital ratios in this manner allows banks to have additional resources that are at the outset fully used to finance the economy, which contributes positively to dampening the contraction in credit to households and firms that follows the shock (Chart B6.2). The higher risk weight associated with credit to firms is reflected in the model as banks apply a higher spread to this credit segment, mirrored in the magnitude of the impact of shocks. This leads to the measure having a greater impact on smoothing the decline in credit to firms than in credit to households, i.e. the reduction in the cost of financing for firms is greater than the reduction in the cost of financing for households. The smaller contraction in credit to firms is passed on to the economy through increased investment in physical capital, mitigating the effects of shocks and actively contributing to the faster recovery of GDP against a scenario in which no measures are implemented. The dividend pay-out restriction has the additional effect of reducing the need for banks to use the flexibility measure to mitigate the effects of the shock and keep financing the economy. This outcome reflects how the two measures complement each other and shows that by restricting dividend pay-out, banks have to make a smaller effort to return to the level of capitalisation that existed before the shock materialised. Although the flexibility measure was only partially used, its relative impact on all variables is decisive. The banking sector plays an active role in the economic recovery contributing to a less pronounced contraction in corporate investment compared to the first scenario, which has an impact on the performance of economic activity.

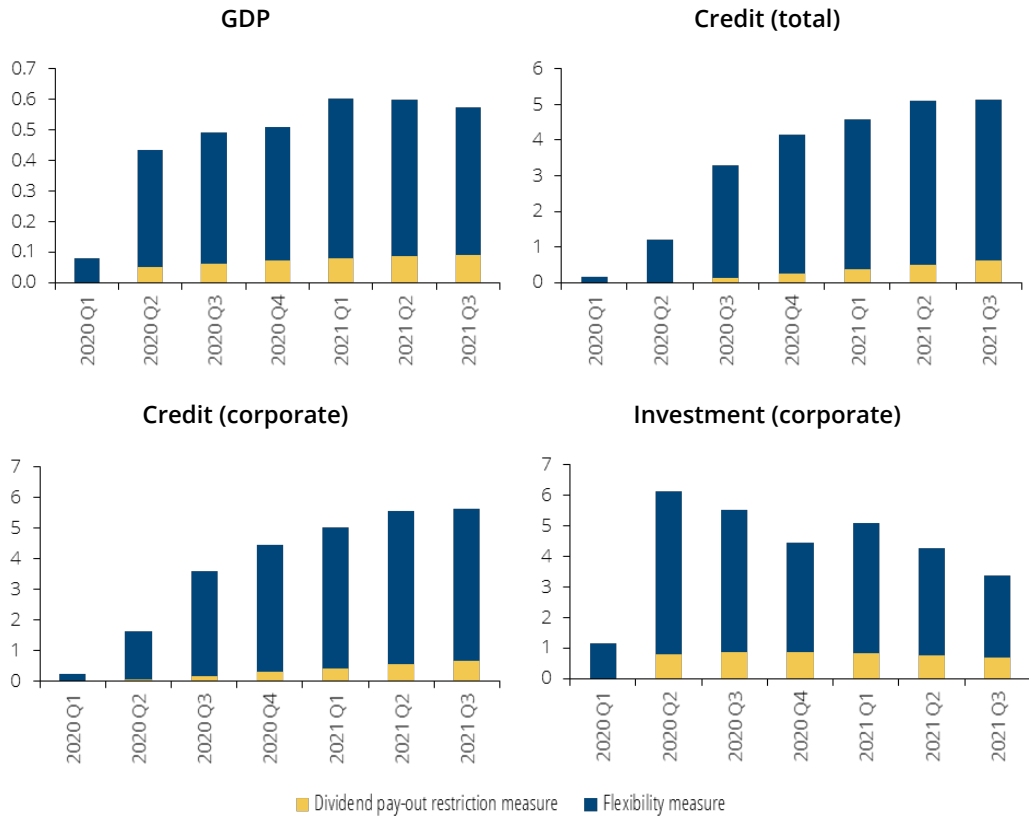
The results of this simulation exercise highlight the complementary effect of the dividend pay-out restriction measure on mitigating the spillover of risk events to the economy. The effects of the two measures analysed in this Box are transmitted to the economy through the credit channel resulting in a faster economic recovery. Finally, it should be noted that the results presented are conditioned by the model assumptions and should not be paired with the projections for the Portuguese economy.

Chart B6.1 • Response of the capital ratio to shocks simulating a GDP contraction in 2020 and 2021 | Percentage points



Source: Banco de Portugal.

Chart B6.2 • Impact of the measures to shocks simulating a contraction in GDP in 2020 and 2021 | Percentage points



Source: Banco de Portugal.

II Special issue

The usability of bank's capital buffers in the context of the COVID-19 pandemic?

The usability of banks' capital buffers in the context of the COVID-19 pandemic

1 Introduction

Capital buffers, introduced in the European regulation following the Basel III Accord, are aimed at enhancing the financial system's capacity to absorb unexpected losses to preserve financial stability. Should banks fail to meet these capital requirements, restrictions are imposed on distributions, and they are required to submit a capital conservation plan to the microprudential supervisory authority. These automatic restrictions on distributions are calculated based on the maximum distributable amount (hereinafter MDA), as a percentage of profits, depending on the severity of the failure to meet these capital requirements (Articles 141, 141A and 141B CRD V).

To avoid penalties, banks seek to maintain a positive distance to the trigger point of the MDA restriction (hereinafter distance to the MDA), corresponding to the difference between the Common Equity Tier 1 (CET 1) capital ratio and the overall capital requirement, which comprises the minimum capital requirements (Pillar 1 and Pillar 2, considering only in terms of CET 1) and the combined buffer requirement. In other words, the distance to the MDA corresponds to the sum of the Pillar 2 Guidance (P2G) and the voluntary capital buffer. In a period of deteriorating economic conditions with a negative impact on capital, banks may choose to maintain a distance to the MDA through a reduction of lending or even a reallocation of their exposures to less risky assets. Banks may also prevent the narrowing of the distance to the MDA trigger by issuing equity or even by reducing dividend pay-outs. However, in a context of crisis, banks' funding costs may rise against a decrease in capital ratios, due to an increase in the risk perceived by shareholders or debt holders (Behn et al., 2020). As a corollary to the mechanism presented, it is expected that, when faced with a negative shock, banks with greater distance to the MDA will have higher growth of lending to the economy than banks with lower distance.

Considering a sample of Portuguese banks, an analysis was performed on the relationship between the distance to the MDA and lending, and the average risk weights (hereinafter referred to as average RW), which correspond to the ratio of total risk-weighted exposures to total exposures.

In the context of the COVID-19 pandemic crisis, as a result of an exogenous shock that has also impacted the financial sector, the European authorities and the national macroprudential authorities permitted a temporary relief in compliance with part of the own funds requirements and the release of some macroprudential buffers. Such an approach was aimed at avoiding potential excessive deleveraging resulting from banks' procyclical behaviour (BCBS, 2011; Borsuk et al., 2020) and increasing the sector's loss-absorbing capacity. However, for capital buffers to act as automatic stabilisers, it is key that banks are willing to use them, thereby maintaining an appropriate flow of funding to the economy.

Evidence to date, in respect of a limited set of banks, points to the distance to the MDA as an important determinant of lending in the pandemic period (ECB, 2021). Amidst significant banks in the euro area, banks with lower distance to the MDA reduced their lending to non-financial corporations (NFCs), in particular to small and medium-sized enterprises, increased exposure to

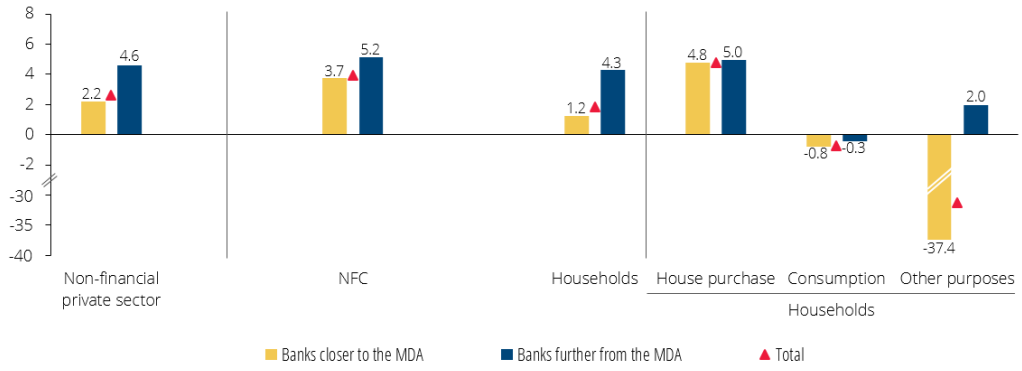
low-risk assets and consequently reduced average RW more strongly, compared to banks further from the MDA.

2 Data

For the purpose of analysing the impact of distance to the MDA on lending and average RW, quarterly data per bank, collected in the FINREP-COREP reporting models, for the period from the first quarter of 2019 to the fourth quarter of 2020, were used. The sample includes twenty institutions on a consolidated basis, where applicable.

In December 2020, the banks in the sample increased lending to the non-financial private sector (NFCs and households), when compared to March 2020 (Chart 1). Credit growth was stronger in banks with greater distance to the MDA, especially in the case of loans to households. For households, the significant difference in the change of credit granted was due to credit granted for other purposes, which encompasses loans to sole proprietors.

Chart 1 • Rate of change in credit to the non-financial private sector in December 2020 against March 2020 by institutional sector | Per cent



Source: Banco de Portugal. | Notes: The banks considered in the sample are grouped according to their position in terms of distance to the MDA against the median with reference to March 2020. The banks closer to the MDA represented in December 2020 83% of the total assets of the banks of the sample. The house purchase, consumption and other purposes segments represented 85%, 11% and 4% of the amount of loans granted to households respectively in December 2020.

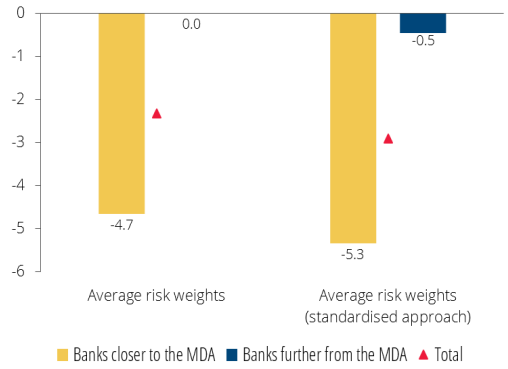
Credit developments cannot be dissociated from the role of government measures in response to the COVID-19 pandemic. Between March and December 2020, government-backed credit lines accounted for around 33% of new lending to NFCs. Furthermore, the credit under moratorium covered approximately 33% of lending to NFCs and 16% of loans to households by the end of December 2020.

In December 2020, the average RW of banks with a smaller distance to the MDA decreased by approximately 4.7 percentage points (p.p.) from March 2020, while the average RW of banks with a capital position further away from the MDA remained unchanged (Chart 2). In addition, the change in average RW for exposures under the standardised approach, which mainly results from the change in the composition of banks' portfolios and not from the risk of exposures implicit in the calculation of risk parameters, was more remarkable for both groups of banks.

In the case of banks closer to the MDA, the decrease in average RW may reflect the increase in exposure to a credit risk class with relatively lower or even nil RW, such as exposures (loans and debt securities) to general government (Chart 3), deposits with the ECB, and government-backed loans. In turn, the lower change in average RW recorded by banks further away from the MDA was

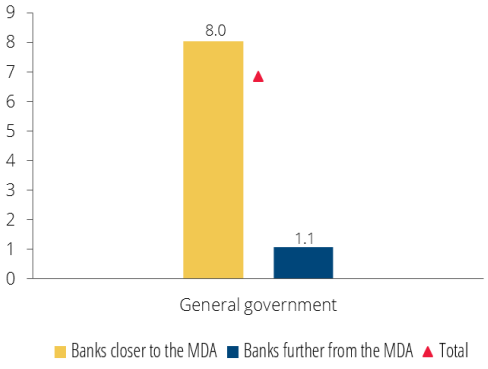
associated with lower growth in credit to general government and a more significant increase in loans to the non-financial private sector not covered by the public guarantee scheme, which mostly includes loans to households.

Chart 2 • Absolute change in average RW in December 2020 against March 2020 | Percentage points



Source: Banco de Portugal. | Notes: The banks considered in the sample are grouped according to their position in terms of distance to the MDA against the median with reference to March 2020. The banks closer to the MDA represented in December 2020 83% of the total assets of the banks of the sample.

Chart 3 • Rate of change of credit to general government in December 2020 against March 2020 | Per cent



Source: Banco de Portugal. | Notes: The banks considered in the sample are grouped according to their position in terms of distance to the MDA against the median with reference to March 2020. The banks closer to the MDA represented in December 2020 83% of the total assets of the banks of the sample.

Thus, throughout 2020, the banks closer to the MDA, as compared to the other group of institutions, increased less their exposure to the non-financial private sector and recorded relatively higher growth in loans to general government. This change in the composition of their portfolio in favour of assets with lower RW translated into a sharper reduction in average RW.

3 Methodology

To analyse the impact of the distance to the MDA (i) on lending to the non-financial private sector and (ii) on average RW, the following model was estimated through a linear fixed-effects regression:

$$Y_{it} = \beta_1 d_{MDA_{it-1}} + \sum_{t \neq 2020T1} \beta_t d_{MDA_{it-1}} Tr_t + \beta_2 d_{MDA_{it-1}} GP_{it} + \beta_3 GP_{it} + \beta_4 Mor_{it} + \beta_5 X_{it-1} + \alpha_i + \delta_t + \varepsilon_{it}$$

The dependent variables of this analysis (Y_{it}) for the bank i in the quarter t are (i) the quarterly growth rate of lending to the non-financial private sector and its component institutional sectors, (ii) the quarterly growth rate of lending to general government, and (iii) the absolute change in average RW for credit risk, considering total exposures or exposures calculated using only the standardised approach.

The lagged distance to the MDA ($d_{MDA_{it-1}}$), calculated on the basis of the difference between the capital ratio and the overall capital requirement, intends to capture the capitalisation of each bank at the previous point in time. Tr_t are binary variables for each quarter of the sample. The effect of

the lagged distance to the MDA is estimated for each quarter of the sample, considering as base period the first quarter of 2020 (i.e., the last pre-pandemic quarter).

Government-backed lending (GP_{it}) is a binary variable that takes the value 1 if the bank has credit lines under this scheme. This variable also interacts with the lagged distance to the MDA, taking into account the relevance of the public guarantee scheme in lending in the pandemic context. Loans under moratorium (Mor_{it}) are expressed as a percentage of loans granted to the non-financial private sector. The lagged control variables (X_{it-1}) include the overall capital requirement, the size of the bank measured by (the logarithm of) total assets, the loan-to-deposit ratio, the cost-to-income ratio, the return on assets, the ratio of exposures in default, and the weight of exposures calculated according to the internal ratings method. Finally, α_i and δ_t are the fixed effects for each bank and quarter.

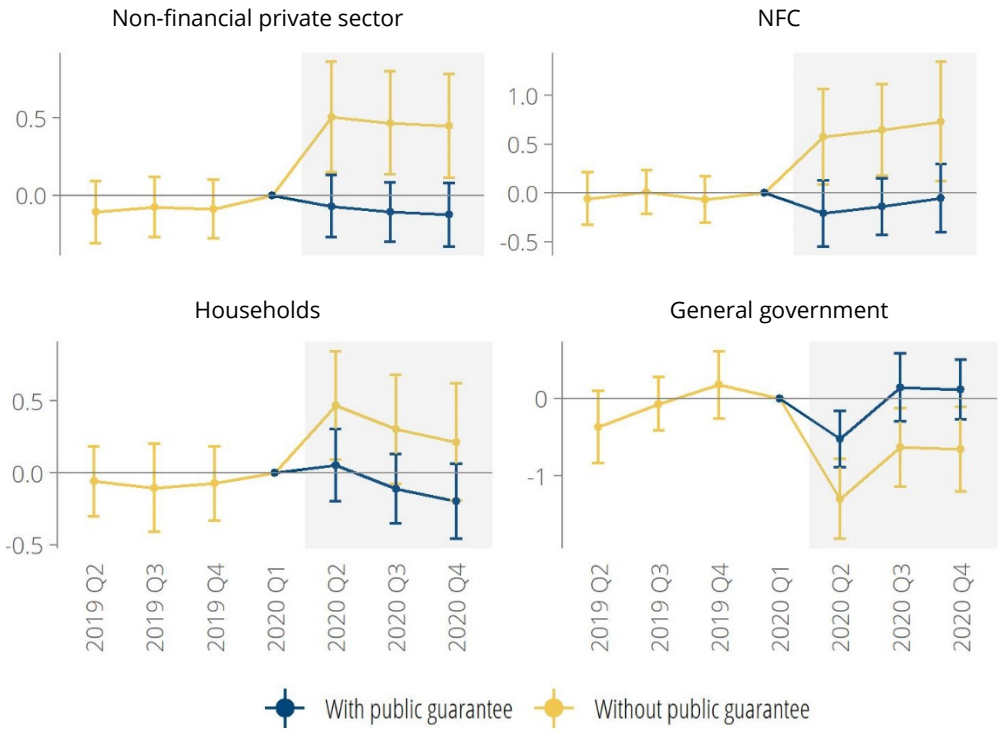
4 The effect of distance to the MDA on credit growth and average RW

Chart 4 shows the evolution of the impact of distance to the MDA on the quarterly credit growth rate, against the impact in the first quarter of 2020. From the second quarter of 2020, among banks that have not granted government-backed loans, those with a greater distance to the MDA, i.e., with a higher level of capitalisation, further increased the credit growth rate to the non-financial private sector compared to banks closer to the MDA. This effect is statistically significant over the whole period. The effect of the distance to the MDA on credit is stronger for loans to NFCs, being statistically significant for the whole period. In the case of households, the effect is only statistically different from zero over the second quarter of 2020. With respect to general government, the distance to the MDA had the opposite effect on the credit growth rate compared to what was observed for the non-financial private sector.

In contrast, government-backed loans eliminated the impact of the distance to the MDA on the credit growth rate to the non-financial private sector. For banks granting loans under this government support scheme, there is no statistically significant difference in the credit growth rate between banks with different distances to the MDA.

Additionally, and similarly to what is observed for the aggregate of loans granted to the non-financial private sector, the granting of government-backed loans eliminated the effect of distance to the MDA for each of the institutional sectors that compose it.

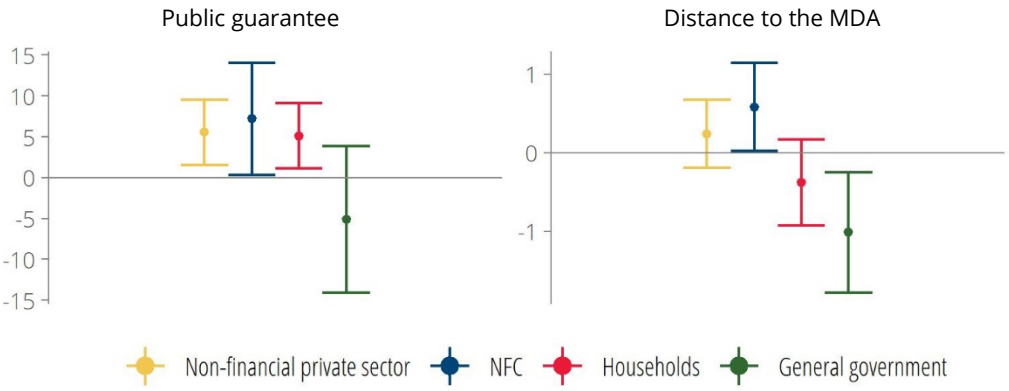
Chart 4 • Impact of the distance to the MDA on the credit growth rate, against the impact on the first quarter of 2020 | Percentage points



Source: Banco de Portugal. | Notes: The chart shows the impact of the distance to the MDA on the credit growth rate, against the impact observed on the first quarter of 2020. The shaded areas correspond to the COVID-19 pandemic period. The yellow points are the estimated coefficients, β_t, for all the quarters in the sample. The blue points are the estimated coefficients, $\beta_t + \beta_2$, for all the quarter during the COVID-19 pandemic. The confidence intervals are obtained by the delta method using standard errors corrected for heteroscedasticity. The presented results are statistically significant at the 5% level if the confidence intervals do not intersect the horizontal line.

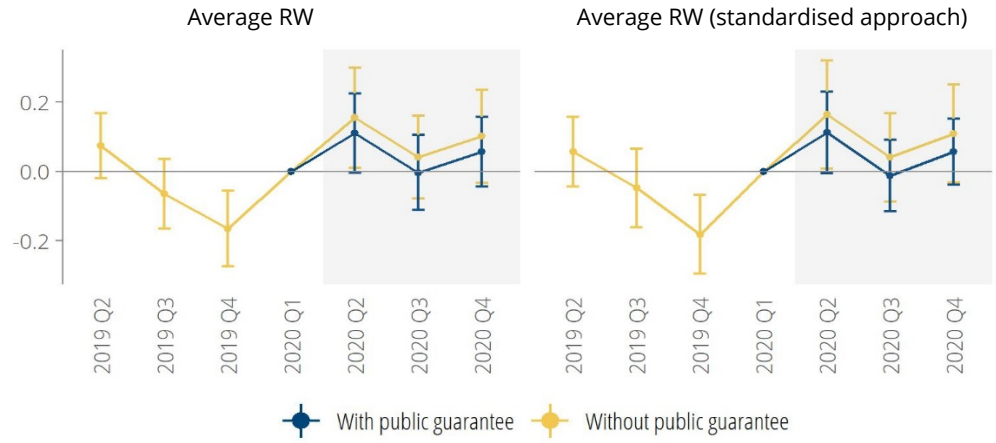
Based on the same model, Chart 5 shows, for the second quarter of 2020, the marginal effect of the 1 p.p. increase in the distance to the MDA and of the granting of government-backed loans, without considering the effect of interaction between these variables on the credit growth rate. Among banks that have not used government-backed credit lines, an increase in the distance to the MDA by 1 p.p. is estimated to have resulted, on average, in an increase in the growth rate of credit to NFCs of 0.6 p.p. in the second quarter of 2020. In the case of NFCs, and unlike households, the marginal effects for each variable are positive and statistically significant. These results reflect the fact that granting government-backed loans, by reducing capital consumption, allowed banks closer to the MDA to grant credit at a growth rate similar to that of banks further from the MDA. Thus, in addition to distance to the MDA, the public guarantee is also a factor in encouraging lending in a context of economic deterioration.

Chart 5 • Estimated marginal effect of the distance to the MDA and of the government-backed loans on the credit growth rate on 2020 Q2 | Percentage points



Source: Banco de Portugal. | Notes: The chart on the left shows the difference on the credit growth rate, in percentage points, between banks that granted loans with public guarantee and banks that did not (β_3). The chart on the right shows the impact of a 1 percentage point increase of the distance on the MDA on the credit growth rate on the second quarter of 2020 among the banks that did not grant loans with public guarantee ($\beta_1 + \beta_{2020T2}$). The confidence intervals are obtained by the delta method using standard errors corrected for heteroscedasticity. The presented results are statistically significant at the 5% level if the confidence intervals do not intersect the horizontal line.

Chart 6 • Impact of the distance to the MDA on credit growth rate, against the impact on the first quarter of 2020 | Percentage points



Source: Banco de Portugal. | Notes: The chart shows the impact of the distance to the MDA on the absolute change in average RW, against the impact observed on the first quarter of 2020. The shaded areas correspond to the COVID-19 pandemic period. The yellow points are the estimated coefficients, β_t, for all the quarters in the sample. The blue points are the estimated coefficients, $\beta_t + \beta_2$, for all the quarter during the COVID-19 pandemic. The confidence intervals are obtained by the delta method using standard errors corrected for heteroscedasticity. The presented results are statistically significant at the 5% level if the confidence intervals do not intersect the horizontal line.

During the second quarter of 2020, the distance to the MDA had a positive impact on the change in the average RW (Chart 6). Taking into account that, on average, the average RW decreased in the pandemic context, this result points to a smaller decrease in the average RW for the banks further from the MDA. This effect is visible both for the total loan portfolio and for exposures calculated using the standardised approach. No significant differences can be observed in the impact of the distance to the MDA between banks that did or did not grant government-backed loans, although the effect of the distance to the MDA is not statistically significant at the 5% level for the latter.

After the second quarter of 2020, the impact of the distance to the MDA on the absolute change in average RW is no longer statistically significant. Thus, during the period of the COVID-19 pandemic, the impact of distance to the MDA on the change in the average RW appears to largely reflect the impact on the growth rate of credit granted to general government, which was mitigated from the third quarter of 2020 onwards. In sum, while the distance to the MDA had a positive effect on lending to the non-financial private sector in a period of deteriorating economic conditions, there is no long-lasting effect on the change in the average RW of the Portuguese banking system.

5 Conclusions

The analysis of the relationship between the distance to the MDA and (i) lending and (ii) the change in average RW shows that:

- During the pandemic, banks with greater distance to the MDA increased further the growth rate of credit to the non-financial private sector, especially the NFC sector. Government-backed lending narrowed the differences between banks in terms of distances to the MDA, making lending capacity to NFCs more homogeneous.
- In the second quarter of 2020, the distance to the MDA had a positive impact on the change in average RW, both for the total loan portfolio and the exposures calculated using only the standardised approach. The change in average RW mostly reflects the evolution of the growth rate of credit to general government.
- While the distance to the MDA had a positive effect on lending to the non-financial private sector in a period of deteriorating economic conditions, there is no long-lasting effect on the change in average RW of the Portuguese banking system.

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