FINANCIAL STABILITY REPORT

JUN. 2020

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,
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Contents

Overview

Financial stability hinges on the financial system's ability to ensure the continued provision of financial intermediation services to the economy, namely payment and lending services. This implies that the system is resilient to adverse shocks, regardless of whether they are originated within or outside it, thus allowing households and firms to continue to access financing, even in difficult environments characterised by high uncertainty. The COVID-19 pandemic can be regarded as an extreme example of this type of juncture.

Indeed, the pandemic has given rise to heightened uncertainty, which is particularly challenging to financial stability at national and international level, taking into account the size of the shock to the economy, assessed for its abruptness, intensity, comprehensiveness and, even, its persistence. Contrary to the previous international financial crisis, this shock is exogenous to the financial sector and not directly related to the prior build-up of macroeconomic and financial imbalances. However, the pandemic has substantially triggered a series of risks identified in previous issues of this Report, whose impact may be amplified by pre-existing vulnerabilities.

Note that since the previous international financial crisis, regulatory standards and supervisory practices had been adopted at national and international level leading up to an enhanced resilience of the financial sector. In the case of the banking sector, these standards and practices have translated into, among others, a strengthening of its capital ratios and liquidity position. Moreover, in the wake of the previous economic and financial crisis, several countries, including Portugal, have conducted adjustment processes within their economies that resulted, among other factors, in a strong reduction in the indebtedness levels of firms and households (Boxes 3 and 4). This is particularly relevant in the current pandemic context, given that it reduces vulnerabilities in these economies and, as such, partly mitigates the potential economic impact of the shock.

In addition to the relatively more favourable starting point than in the previous crisis, the impact of the current crisis will tend to be mitigated, at least in the short run, by the magnitude and speed of the national and international authorities' response. Indeed, the widespread scale of the crisis has resulted in unprecedented international action in recent times, comprising a wide range of areas, at government, monetary, regulatory and supervisory level. It should be noted that the effectiveness of the measures will be greater, the stronger their articulation, either across the different authorities' scope or the different countries and economic blocks. Thus, it will be important to create the conditions for countries – even if starting from different positions in terms of responsiveness – to be able to take concerted and proportionate action to face the challenges posed. Should these conditions not materialise, the scale of support granted by Member States could differ substantially, with potential consequences, among other factors, for the pace of recovery of the corporate sector and employment in the various countries and in terms of European integration, by generating an unlevel playing field, most notably among national banking systems, with a negative impact on the functioning of the single market.

Since early 2020, the COVID-19 pandemic has achieved global proportions, with a significant impact on public health and economic activity. Most countries have sought to mitigate the spread of the virus with the use of containment measures and the closure of all non-essential economic activities, leading to a marked downturn in global economic activity. The ensuing shock on supply was associated and interacted with a shock on demand, reflecting, among other factors, a reduction in income and a negative impact on confidence among economic agents, to historical lows, given the high uncertainty about the intensity and duration of the shock.

The immediate impact of the pandemic was reflected in an increase in risk premia and an abrupt devaluation in international financial markets. This occurred when there were already signs of

overvaluation in some market segments, and was compounded, at international level, by the stronger demand for liquidity in certain segments of the financial sector. In fact, it comes after a long period of low interest rates, which was reflected on greater demand for yield worldwide, as discussed in previous issues of this Report. Particularly for financial intermediaries, which, due to their business model, were driven to change their investment strategies, so as to ensure a match between the return on assets and the payment obligations linked to their liabilities, in recent years their exposure to credit and foreign exchange risks increased, as did the maturities of their exposures, while the share of liquid assets in portfolios decreased. In Portugal this type of behaviour is not as material as in other countries, given the relatively low weight of other financial intermediaries in Portugal, most notably investment funds. In addition, in light of a marked increase in the importance of deposits, Portuguese banks have become less sensitive to changes in the risk perception of international investors, given the considerable change in their funding structure since the previous financial crisis.

As risk and liquidity premia rose, most monetary authorities reacted in a forceful and timely fashion, by introducing additional liquidity lines for the banking system and non-financial sectors. The swift and decisive intervention of central banks made it possible, on the one hand, to stabilise overnight markets and, on the other hand, to foster monetary policy transmission, thereby mitigating fragmentation in these markets. In mid-March, the ECB adopted a package of extraordinary measures, which led to a partial reversal of the rise in sovereign debt yields. Among the measures taken, there was the announcement of a new emergency asset purchase programme (pandemic emergency purchase programme), initially totalling EUR 750 billion and, later on, extended to EUR 1,350 billion, which is expected to remain unchanged at least until the end of June 2021. Moreover, the measures taken by the ECB include a temporary flexibility in the eligibility criteria associated with the asset purchase programme and the extension of the private debt purchase programme to commercial paper issued by non-financial corporations. The collateral criteria in the Additional Credit Claims programme were extended to private sector financing, thus ensuring that financial institutions can use those assets in Eurosystem refinancing operations. In April, collateral criteria were eased, having established that market assets meeting eligibility criteria as at 7 April (BBB-) could still be used as collateral within the Eurosystem, provided that any revision of the rating should not downgrade them to a level below BB. With this measure, the ECB aimed at mitigating potential procyclical market dynamics and ensuring that the assets associated with the financing of firms and households continue to be eligible for refinancing operations (Special issue "Policy measures relevant to financial stability in response to the COVID-19 pandemic"). In a swift, sizeable and coordinated action, the central banks also aimed at stabilising financing operations in different currencies, thereby ensuring liquidity for financial institutions and strengthening market confidence more rapidly than during the 2008 financial crisis.

The stabilisation of international financial markets was also driven by the adoption of fiscal stimulus measures by most countries. The high amounts associated with these measures, together with credit moratoria and credit lines with government-backed guarantees for firms, made it possible for investors to revise their expectations, to reverse the selling pressure in the market and thus to overturn part of the losses observed in the first weeks of March.

Expectations of an abrupt, substantial reduction in economic activity were also reflected in commodity prices, most notably oil. Developments in the price of this commodity were also conditioned by trade tensions between Russia and Saudi Arabia, the breakdown of the OPEC+ agreement and the surge in oil production, which triggered a marked downward spiral in prices in early March. Despite some recent recovery, the high uncertainty about the economic upturn pattern continues to negatively affect prices. This puts additional pressure on oil-producing economies, thus increasing counterparty risk for economic agents with relevant exposures, be it direct or indirect, to these geographies. The Portuguese banking system is still exposed, both directly and indirectly, to international activity in certain geographies which are particularly

sensitive to oil price developments. There may be losses in direct exposures to these economies due to the materialisation of (sovereign and private) credit risk, foreign exchange risk and market risk (commodity prices). Other losses may add to these potential losses, stemming from indirect exposures, through the loans granted to firms whose business is exposed to these countries.

Overall, the effects of the pandemic and the consequent abrupt and marked reduction in economic activity, at both global and domestic level, pose additional challenges to non-financial corporations in Portugal, given that the decline in economic activity and the ensuing revenue shortfall lead to increased difficulties for their liquidity position and puts pressure on their ability to meet short-term liabilities, more specifically, servicing their debt, amid still high levels of leverage. The health-related aspect of the pandemic results in more intense and probably more lasting impacts on a number of sectors of activity. As an illustration, containment measures and restrictions on travel and international mobility had a particularly substantial impact on airlines and tourism-related activities, which saw devaluations of more than 40% in March 2020. Despite some recent recovery, it is expected that the normalisation of activity to levels similar to those seen prior to the pandemic will be more gradual and long-lasting for these sectors, which tends to increase its vulnerability. Regardless of the growing importance of tourism-related activities in terms of GVA and employment in the Portuguese economy, the banks' exposure to these sectors has a limited bearing, which mitigates effects from a financial stability standpoint (Box 2). However, the banking sector is more heavily exposed to other sectors also deemed more sensitive in the current environment, such as Administrative and support service activities and Manufacturing, and to firms with liquidity and capital fragilities.

Turning to the financial sector, the scenario resulting from the pandemic is also characterised by major challenges. Indeed, unlike other sectors, which have recently recovered, the European financial system has continued to fall rather markedly (by approximately 40%) since the onset of the COVID-19 pandemic in Europe. The extension of the low interest rates environment on lower-risk assets, coupled with the latest devaluation in assets to which it is exposed, puts additional pressure on the insurance sector. Likewise, additional pressure on profitability and the greater likelihood of simultaneous defaults in the non-financial financial sector also pose further challenges to the banking sector. The loss in market value reflects, on the one hand, expectations that banks' capitalisation levels may decrease in the future. This may result from loss absorption, associated with increased defaults on credit granted to the non-financial private sector. On the other hand, it may also reflect the potential devaluation of government debt portfolios, in particular for the banking sectors most exposed to this type of asset, taking into account the increased general government's net borrowing, in spite of the mitigating effect of the ECB's monetary policy.

The banking sector's resilience is therefore particularly important in the face of an adverse shock, such as that associated with the pandemic. Against a very negative effect on personal and business income generation, the maintenance of regular lending conditions makes it possible to distribute the costs of the pandemic over time. With a view to fostering the banking system's ability to adequately perform that function, and cumulatively with monetary policy measures, the financial regulatory and supervisory authorities have introduced a wide range of measures. These measures include the relief in a broad set of requirements typically applied to institutions. In the case of the banking system, the ECB has allowed directly supervised authorities to temporarily operate below Pillar 2 Guidance and the combined buffer requirement, and with liquidity levels below the liquidity coverage requirement. The Banco de Portugal has extended this measure to less significant institutions under its supervision. The measures taken by authorities will enable institutions, on the one hand, to accommodate the expected impacts on regulatory capital stemming from the current crisis and the consequent rise in impairment losses and, on the other hand, to free up resources to fund economic activity, thus preserving financial stability. The decisions taken also make it possible to mitigate potential negative consequences of the interaction between the various minimum regulatory requirements, current or expected in the near future, with respect to the leverage ratio and the setting up of the minimum requirement for

own funds and eligible liabilities (MREL) (Special issue "Interaction between minimum regulatory requirements and capital buffers"). However, there is no guarantee that banks will use capital buffers, to a large extent, to lend to the economy. Either for strategic reasons, due to the need to ensure either capital levels able to absorb future losses or because of market discipline, banks may choose to use capital buffers in a limited way for that purpose.

It should be noted that the ECB/SSM and the Banco de Portugal have decided to recommend banks not to distribute dividends for the 2019 and 2020 exercises, so as to foster their role as providers of funds to the economy and their ability to absorb potential losses. Although in some cases this distribution had been programmed, major institutions in the system have opted for suspending it, thereby strengthening their ability to respond to the demanding challenges amid high uncertainty.

The Portuguese government has also acted towards supporting firms' and households' liquidity via government-backed guarantees to credit granted to firms and the setting up of a public moratorium applicable to loans, which, in the meantime, was supplemented by similar private initiatives (Box 1). The moratoria are a key action, and aim at reconciling, on the one hand, corporate business continuity following the immediate impact of the health crisis, thus preventing that cash flows issues escalate into insolvency and, on the other hand, at safeguarding the banking system's capacity to fund the economy, while minimising capital consumption. In turn, despite its potential positive impact in the short run, government-backed credit lines are still a contingent liability of the State and result in increased corporate indebtedness, potentially exacerbating their financial vulnerability amid high uncertainty. It is therefore crucial to assess, during this process, the economic and financial viability of firms, as well as to select the most appropriate tools for their funding. The economic recovery profile as well as the expected global impact of the pandemic crisis should be taken into account when designing measures to support firms, which may have to focus on capital and not just on debt, thereby sustainably increasing their loss-absorption capacity.

Also in terms of cost sharing, in this case not over time but across sectors, the Portuguese government, similarly to other governments, has promoted furlough schemes, through which it seeks to preserve employment contracts and thus contribute to a swifter resumption of economic activity.

Available evidence indicates that these measures are contributing to a mitigation in the short-term costs of the pandemic. However, there is the challenge of articulating the time frame of the measures and the economic activity's recovery profile overall and, more specifically, within the various sectors. Following a very severe shock caused by the pandemic, a scenario of more gradual recovery of the economy,[1] resulting in more lasting revenue-reducing effects, may deteriorate the capital position of firms, to the point of giving rise to insolvency, and the ensuing termination of their operation, particularly in sectors more affected by the pandemic and/or whose resumption of business is limited for a longer period of time. In this scenario, the rising default on loans and the deterioration in the firms' risk profile will have a substantial impact on banks' asset quality and, consequently, their profitability and capital. This situation highlights the importance of measures taken by authorities to prevent cliff effects at this level, after removal of the support measures, by acting to make this transition less abrupt. However, these measures will tend to be in force over a limited period of time. Otherwise, the transfer of costs across sectors may originate or exacerbate

[1] An example of this type of scenario is described in the June 2020 issue of the *Economic Bulletin*, in Box 4 – "A more severe scenario for the Portuguese economy". It corresponds to the scenario for the Portuguese economy underlying the severe scenario for the euro area published in early June by the ECB under the Eurosystem's projection exercise, therefore sharing the corresponding assumptions, and takes more adverse developments in the spread of the virus as a starting point – both in Portugal and the rest of the world. In this adverse scenario, following such marked halts in activity, the upturn will tend to be more muted compared to that assumed in the projections presented in the Bulletin.

vulnerabilities for those sectors bearing the costs of the pandemic. Sovereign debt is a clear example of a restriction that may become material if there is no safety net and the costs of the pandemic are not shared at European level.

In the context of the pandemic crisis, conditions for the continued decrease in non-performing loans (NPLs) are expected to be compromised, either due to the difficulty in proceeding with the sale and workout of existing NPLs, or due to the foreseeable increase in default, and are therefore likely to negatively affect the institutions' profitability.

The economic activity's recovery profile should also be reflected in banking business developments. A weak recovery scenario in terms of new lending, together with the foreseeable prolonged very low interest rate environment in the euro area, should also condition banks' profitability, thus preventing their internal capital build-up. This highlights the importance of the flexibility granted to institutions to temporarily operate with lower capital levels.

In this context, institutions' expectations for the second quarter of 2020, underlying the April 2020 Bank Lending Survey results, are the first available indicator on the potential impacts on credit supply and demand stemming from the COVID-19 pandemic. Surveyed institutions expected, for the second quarter of 2020, on the one hand, a tightening in credit standards, most notably in the case of households and, to a limited extent, non-financial corporations (NFCs). On the other hand, they expected a rise in credit demand by NFCs and a reduction in demand by households. Credit demand by NFCs is set against a background of liquidity stress stemming from the pandemic, and a substantial increase is anticipated, most notably in short-term loans, which may reflect the use of credit lines previously contracted with credit institutions to meet working capital requirements.

In turn, institutions expected a substantial reduction in credit demand by households, and had already reported a slight reduction in the first quarter due to a decrease in consumer confidence and a deterioration in expectations for housing price developments. Unfavourable developments in these factors may be exacerbated, in a context of severe economic recession, higher unemployment and a very uncertain outlook for economic upturn.

Data on the first four months of 2020 signal the influence of the COVID-19 pandemic crisis on demand, namely due to the reduction of economic activity in March. New loans to households for house purchase decelerated over the first four months, moving down from a year-on-year growth rate of 31% in January to 3% in April. In new loans to households for consumption, the deceleration was even more substantial, moving from year-on-year growth of 16% to a 65% decrease over the same period. Conversely, in line with that anticipated by institutions, growth in annualised gross flows of new loans to NFCs rose, from 10% in January 2020 to 26% in April 2020.

The banking system may also be affected by developments in the real estate market. The current environment, characterised by high uncertainty, the marked reduction of economic activity and the adverse impact on labour market conditions and household income, may exacerbate recent developments in this market, thus contributing to a correction in prices, which had showed signs of overvaluation. Moreover, slower economic recovery worldwide is likely to result in lower tourism flows and reduced demand by non-residents, two factors which over the past few years have largely been behind the hike in residential real estate market prices. The public and private moratorium regimes applied to housing loans, to the extent that they prevent defaults and the ensuing foreclosures, should minimise, in the short run, impacts on this market. In addition, the effects of real estate market developments on the banking system will tend to be mitigated by a number of factors. On the one hand, residential real estate market developments over the past few years were not accompanied by a substantial recovery in the stock of housing loans, with the share of transactions financed with domestic credit stabilising at a much lower level than that seen prior to the sovereign crisis. On the other hand, the risk profile of borrowers has improved since the entry into force of the macroprudential Recommendation on new credit agreements for consumers in July 2018 (Box 7). Moreover, at the end of 2019, only 10% of the housing loan portfolio had a LTV ratio of more than 82%. These factors are expected to make the banking

system more resilient to potential effects of negative shocks on the value of collateral associated with loans backed by real estate.

The current macroeconomic environment may also put negative pressure on commercial real estate market prices, although their developments over the past few years have been more muted than in the residential real estate market. This segment of the real estate market has greater cyclical sensitivity compared to the residential segment, and may also be negatively affected by lower demand by non-residents, which have dominated real estate transactions over the past few years, and even by residents, given the likely increased recourse to remote work in the services sector.

The value of government debt securities may also be negatively impacted by the effects of the pandemic crisis. This type of instrument is relatively important for the asset portfolios of the Portuguese financial sector. As this is a common exposure across sub-sectors, it acts as an indirect interlinkage channel among them. This channel adds to that associated with the existence of direct exposures across sub-sectors, and is a source of vulnerability, given that it can result in the amplification of risks arising from financial markets and/or the real economy (Box 5). Moreover, exposure to government debt securities generates a direct channel where sovereign risk propagates to the banking sector due to market risk materialisation. To mitigate the ensuing potential impacts, it is important that institutions suitably articulate the management model of this portfolio with their voluntary capital buffers, i.e. their ability to absorb losses arising from the materialisation of such risks, and that securities-issuing countries are properly diversified, by focusing on sovereigns whose yields do not present a high positive correlation and/or whose securities rating is high. As mentioned above, one of the first effects of the pandemic on financial markets was the widening in risk premia, leading to a devaluation of these securities. Monetary policy action made a decisive contribution to the partial reversal of these developments. However, it cannot be ruled out that, in time, additional shocks of a similar nature could occur. Indeed, to the extent that the fiscal stimuli announced in the euro area are funded by each Member State, they result in rising domestic public debt, liable to lead to the repricing of risk in international financial markets. The reassessment of risk premia could be particularly harsh for countries that, on the one hand, see their economic activity drop drastically in the wake of the pandemic crisis and, on the other hand, had posted high levels of public indebtedness over the previous period. Accordingly, the rising public indebtedness in Europe can once again raise concerns surrounding debt sustainability in a number of countries, thus contributing to the risk of sovereign debt market fragmentation.

The pandemic crisis is a macroeconomic shock with substantial impacts on the business cycle, but also with damaging consequences in the long run. In fact, the current crisis will tend to imply permanent losses in productive capacity against a counterfactual no-pandemic scenario. This result will be associated with the destruction of or decrease in physical and human capital accumulation and the disruption of commercial and knowledge networks. The magnitude of the macroeconomic shock caused by the pandemic in the short run, its potential implications for potential growth, as well as the asymmetrical impact among economic agents and regions, require the adoption of unprecedented fiscal stimulus measures by public authorities. The aforementioned different fiscal capacity of Member States warrants a joint response from the European Union, so as to prevent an asymmetrical economic recovery, with likewise asymmetrical consequences for the domestic banking sectors.

The European Commission has put some initiatives in place thereunder, by mobilising available resources from the EU budget, temporarily suspending the rules of the Stability and Growth Pact and approving an exceptional temporary scheme for State aid. At EU Council level, measures were also approved allowing Member States to use EU funds channelled to mechanisms for Support to mitigate Unemployment Risks in an Emergency (SURE) and to access European Stability Mechanism loans to cover extraordinary expenditure in health systems associated with the COVID-19 pandemic, as well as allowing SMEs to access European Investment Bank funds with the purpose of supporting their liquidity. More recently, the Commission introduced the Next Generation Plan,

with a view to fostering economic recovery in the European Union after the recession caused by the COVID-19 pandemic, supporting the necessary investments and reforms for a robust economic recovery, promoting cohesion between Member States and encouraging the digital and green transitions. According to the proposal, the funds, totalling EUR 750 billion, will have a two-third grant component, while the remainder is earmarked for loans to the Member States. From a financial stability perspective, support towards protecting employment and household income, as well as incentives to mobilise private investment towards the capitalisation of firms, are expected to make a positive contribution to the maintenance of debt servicing by economic agents.

Despite some headway in that direction, perhaps encouraged by the widespread scale of the effects of the pandemic, the current pandemic crisis has brought to the forefront the need to strengthen coordination and risk-sharing mechanisms in the Economic and Monetary Union, whereby risks generated in the banking systems of each Member State are also shared. Although the common supervision of banks is well-established and a common resolution fund is currently being set up, an agreement has yet to be reached in respect to a fully mutualised European deposit insurance scheme (EDIS). This would be an important step towards the internalisation of costs and benefits of decisions regarding banks at EU level. Should government measures supporting the non-financial private sector prove insufficient in light of the duration and magnitude of the pandemic crisis, or if they are withdrawn in an impromptu way, the rise in defaults (credit risk materialisation) may trigger the need for direct intervention on the financial sector at European level. However, the legal framework governing this type of intervention is fairly restrictive, in terms of both State aid rules and the Bank Recovery and Resolution Directive (BRRD). If the current measures aimed at supporting firms and households prove insufficient and financial stability is jeopardised, it will be crucial to assess possible adjustments to the current regulatory framework at European level providing for the direct intervention on financial institutions without it posing additional challenges to financial stability.

As mentioned above, the European Commission's Next Generation Plan will foster digital transition and the transition to a more sustainable economy. The digitalisation of information systems and financial service provision means was already under way, both by traditional operators in the sector and due to the entry into the market of new operators (e.g. BigTechs), but the importance of the digitalisation of financial intermediation activities has become all the more clear over the past few months, with the increase in online transactions and the transition to remote work by a large share of workers in the services sectors, including in the financial sector. To the extent that these developments become permanent, either as a result of changes in consumer habits or as a means to prevent new public health crises, financial institutions must take the necessary steps to ensure smooth business continuity, particularly as regards technological security, thereby minimising cyber risk (Box 6).

The COVID-19 pandemic has generated a wide-ranging debate on its potential links to climate change and economic sustainability. In particular, the pandemic crisis contributes to creating more favourable economic and political conditions for the transition to a sustainable low-carbon economy. The European Commission's Next Generation Plan, dedicated to the recovery in European economy following the pandemic crisis, is in line with the goals of the European Green Deal. The funds channelled through the European budgetary tools should not only focus on investment in projects compatible with the goals of the Paris Agreement but also be partly funded by the revenue generated by the scheme for greenhouse gas emission allowance trading and customs duties on carbon (still to be determined). A recovery strategy guided by sustainability objectives is not without risk to financial stability, particularly if the so-called transition risks are not properly factored in. On the one hand, funds aimed at economic recovery, possibly intermediated by the financial system, will tend to be associated with some type of conditionality, regarding the alignment of these projects with the European Green Deal. This could lead the financial system to introduce positive discrimination when allocating funds in favour of projects that contribute to reducing greenhouse gas emissions and to the detriment of other projects or sectors of activity,

which would then risk seeing their ability to meet their commitments towards the financial system hampered. On the other hand, the possible funding of the European recovery fund via carbon taxes should penalise more polluting activities and, as such, more carbon-intensive sectors could face larger obstacles to borrowing and the generation of profitability. In this context, financial institutions more exposed to these sectors may be forced to bring forward the recognition of losses on some exposures.

The pandemic caused by the novel coronavirus has placed an additional burden on supervisors and supervised institutions alike to ensure that the risk of money laundering and terrorist financing, exacerbated by the health crisis, is properly monitored. Indeed, international sources show that the incidence of computer-related crimes and fraud related to the COVID-19 pandemic has surged, as well the resale of sparsely available products at speculative prices by criminal networks. It is therefore more important to ascertain the origin of unexpected financial flows from customers in sectors that have experienced or are yet to experience impacts from the economic deceleration or the mitigation measures applied as a response to COVID-19. For that purpose, the Banco de Portugal, in addition to redirecting its supervisory activities without undermining their effectiveness, has warned financial institutions about the need to keep on putting in place effective systems and controls so as to guarantee that the financial system is not used as a tool for money laundering and terrorist financing, including against risks stemming from the pandemic juncture. In terms of its work, the Bank intends to carry on with the strengthening of its supervisory action in the prevention of money laundering and terrorist financing pursued over the past few years. In addition to its on-site supervisory work heretofore performed, the Banco de Portugal will continue to assess internal control systems dedicated to the prevention of financial crime, in the context of the traditional off-site monitoring of supervised institutions. The Bank will also continue to monitor the response measures adopted by financial institutions against the risks which have emerged following the work carried out by civil society organisations (particularly the data releases by investigative journalist consortia).

To sum up, the pandemic crisis has given rise to a highly uncertain environment, which is particularly challenging to financial stability at national and international level. Although there are some mitigating factors, it is to be expected that the pandemic crisis will have a substantial impact on the Portuguese financial sector and, therefore, will be a test to its resilience. The nature and implications of the pandemic crisis require a coordinated response at European level.

I Financial stability outlook

1 Vulnerabilities, risks and macroprudential policy

1.1 Vulnerabilities and risks

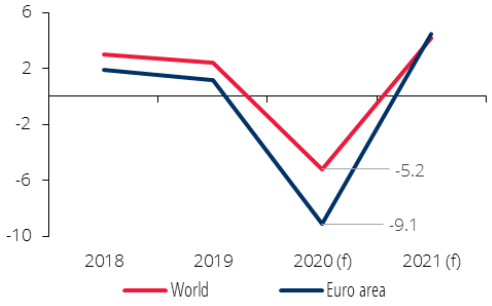
The economic and financial environment of the Portuguese economy is largely determined by the euro area framework. The year 2020 has been marked by the effects related to the COVID-19 pandemic, whose impact can be amplified by the pre-existing vulnerabilities of the Portuguese economy identified in previous editions of the *Financial Stability Report*. However, the adjustment observed in some Portuguese institutional sectors in recent years could, at least in part, mitigate this impact. The high degree of economic and financial integration of the euro area in the world economy leads to an overall extent of the risks listed in this Report. These risks may interact, reinforcing each other.

The effects associated with the COVID-19 pandemic crisis are the source of the main risks to financial stability in the coming years

The outbreak of COVID-19 was initially identified in December 2019 in Wuhan Province in China. Since then, the epidemic has achieved global proportions, with significant impacts on public health and economic activity. Most countries have sought to gradually mitigate the spread of the virus resorting to containment measures and the closure of all non-essential economic activities.

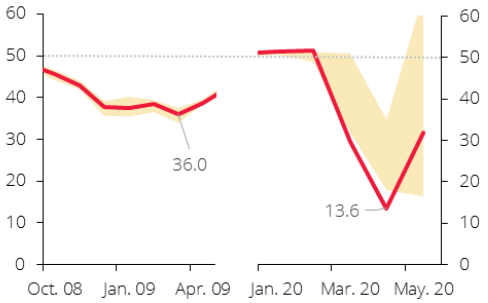
The first effects of the pandemic crisis and the measures adopted for its mitigation indicate a very significant contraction in global economic activity in 2020 (Chart I.1.1). Unlike previous events, the current crisis originated outside the financial sector, and the first economic impact was reflected in the disruption to global distribution and production chains. The containment measures adopted by government authorities and the fall in the confidence of economic agents, associated with uncertainty on how the pandemic crisis will evolve, caused a shock in demand in a second phase. Thus, the current crisis differs from the previous ones by the almost simultaneous shocks on supply and demand and by the amplification potential resulting from the interaction between them. In this sense, the confidence of economic agents reached historical lows, standing below market expectations (Chart I.1.2).

Chart I.1.1 • GDP growth in 2018-19, forecasts for the period 2020-21 | Per cent



Source: World Bank. | Notes: *Global Economic Prospects – June 2020 (The World Bank).* (f) – forecast. Published on 8 June 2020.

Chart I.1.2 • Euro area composite Purchasing Managers Index | Index



Sources: IHS Markit and Refinitiv. | Notes: A value below (below) the threshold (PMI=50) are in contraction (expansion) comparing to the previous period. The market expectations are shown in yellow. The period between September 2008 and May 2009 represents the historical minimum. Latest observation: May 2020.

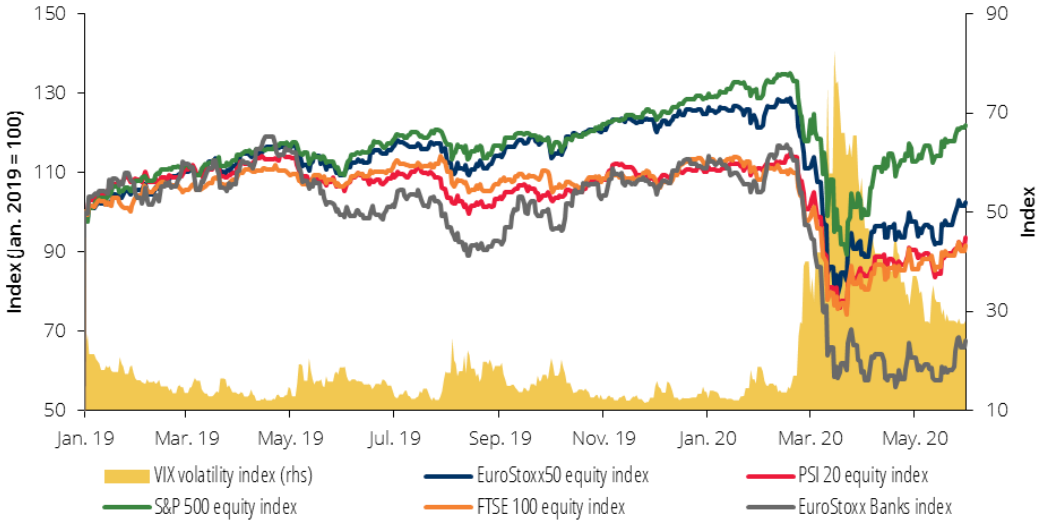
The spread of the virus on a global scale triggered an abrupt reassessment of the risk in international financial markets followed by some correction

As the spread of the SARS-COV-2 virus has reached a global dimension, uncertainty and expectations on the economic effects are reflected in an increase in risk premiums and an abrupt devaluation of financial assets[2] (Chart I.1.3). The immediate impact of this shock on international financial markets has been amplified by pre-existing vulnerabilities, namely those resulting from search-for-yield behaviours, as identified in earlier issues of this Report. In fact, the speed and scale of the correction between February and March 2020 partly reflected the overvaluations observed in some market segments.[3] This effect was especially noticeable in higher-risk assets, namely lower credit quality stocks and debt securities, as the pressure to sell these instruments and liquidity shortages was reflected in a volatility increase to historical peaks.

[2] The S&P 500 index recorded the fastest devaluation of the historical series (20% less in 16 days of trading).

[3] See, for example, Section 1.1 Vulnerabilities and risks of the December 2019 issue of the *Financial Stability Report*.

Chart I.1.3 • Stock markets indices and volatility

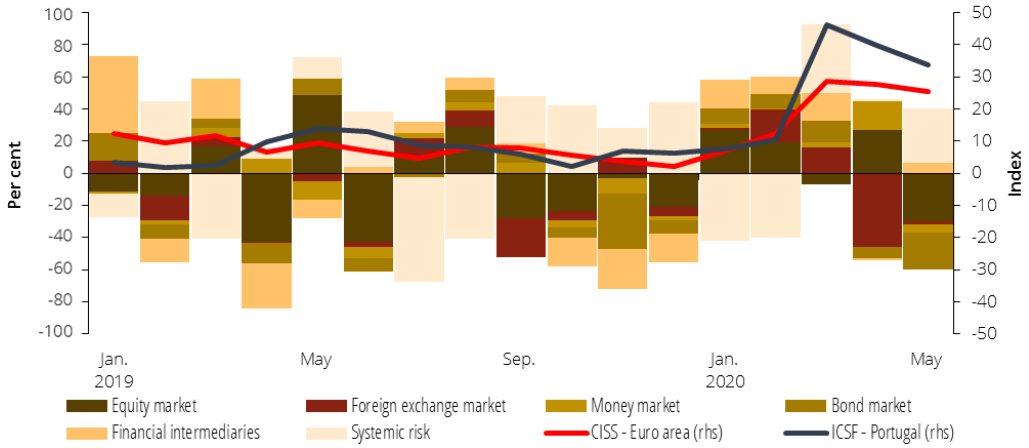


Source: Refinitiv. | Notes: The chart shows the evolution of the stock market indices with the base value set at 100 at 1 January 2019. For the VIX volatility index quotes are shown. Closing market quotes. Last observation: 1 June 2020.

In the European context, the effects of stronger demand for liquidity have put additional pressure on all segments of the financial market during February and March (Chart I.1.4). As mentioned in previous issues of this Report, the protracted very low interest rate environment in recent years has brought increased difficulties in generating profitability in the financial intermediation activity, which promoted stronger search-for-yield behaviours. This challenge was particularly important for the euro area insurance and pension fund sectors, which, in order to ensure a match between their return on assets and the payments underlying their bonds, have increased their exposure to credit and foreign exchange risks by investing in instruments with lower credit quality, some of which outside the euro area. In addition, the significant reduction in high-quality liquid assets in investment fund portfolios[4] has also contributed to the increased impact on asset prices. This effect was especially relevant in money market funds and exchange-traded funds (MMF and ETF) which, in view of the abrupt corrections in the collateral market value and the increase in redemption claims at the end of February, were temporarily pressured to sell part of their portfolios in order to ensure immediate liquidity to their participants. Together, low liquidity levels and similarity in investment strategies contributed to a procyclical effect in the financial system in February and March, with most agents simultaneously selling some of their positions in demand for immediate liquidity. In this context, in Portugal – differently from the euro area – the weight of the other financial intermediaries, especially investment funds, has remained relatively low in recent years (Box 5).

[4] The share of highly liquid bonds in euro area investment fund portfolios decreased from 40% in 2013 to only 30% in June 2019.

Chart I.1.4 • Composite indicator of financial stress for Portugal (ICSF) and Composite indicator of systemic stress (CISS) for the euro area



Sources: Banco de Portugal and ECB | Notes: Bars represents the relative weight of the different CISS components in the euro area. The systemic risk component is calculated based on the correlations between different market segments. For more information please see Braga, J. et.al (2014), "Composite Indicator of Financial Stress for Portugal", *Financial Stability Articles*, Banco de Portugal. Latest observation: May 2020.

Monetary policy measures significantly eased financial markets conditions

Uncertainty and the stronger demand for liquidity were also reflected in the debt market, with risk premiums rising in all market segments, especially for assets perceived as higher-risk assets. Risk-aversion behaviours were particularly acute in the private debt market, but also in the public debt and overnight markets, with risk premiums increasing swiftly and significantly. In the European context, there has been a general increase in sovereign yields in all maturities. This effect was particularly marked in government bonds of countries such as Greece, Italy, Portugal and Spain, for which 10-year yields increased by more than 100 b.p. between 20 February and 18 March.[5] In the short-term market, demand for liquidity was reflected in an increase in overnight rates to levels above 3-month yields, indicating an atypical pressure for immediate liquidity.

This trend was partially offset in the third week of March when most monetary authorities introduced additional liquidity lines for the banking system. The swift and decisive intervention of central banks made it possible, on the one hand, to stabilise overnight markets and, on the other hand, to foster monetary policy transmission, thereby mitigating fragmentation in these markets (Chart I.1.5). In the euro area, the ECB's announcement of a package of extraordinary measures has enabled a partial reversal of the rise in sovereign debt yields (Chart I. 1.6). These measures included the announcement of a new emergency asset purchase programme (Pandemic Emergency Purchase Programme), initially totalling €750 billion and, later on, extended to €1,350 billion, which is expected to remain unchanged at least until the end of June 2021. This measure was particularly relevant, not only because of its size but also because of the announcement

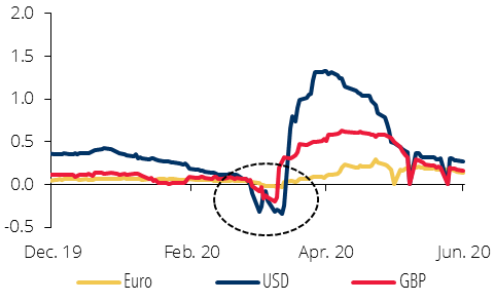
[5] Between 20 February and 18 March, 10-year government debt yields increased by 391 b.p. in Greece, 230 b.p. in Italy, 140 b.p, in Portugal, and 123 b.p. in Spain.

of non-application under this programme of self-imposed limits by the Eurosystem affecting purchases in some jurisdictions. In addition, under the APP, the ECB also extended the corporate sector purchase programme (CSPP) to commercial paper issued by non-financial corporations (NFCs), thus contributing to enhancing liquidity in the credit market and reducing financing costs.

A set of longer-term refinancing operations with rates below the main refinancing rate of the Eurosystem (LTRO-A and PELTRO) was also launched under the Eurosystem's monetary policy, in order to ensure immediate liquidity to banks and relieve the money market conditions during the pandemic period. Together with these new operations, the ECB also adjusted the characteristics of the TLTRO-III operation in order to strengthen incentives for lending during the pandemic crisis. A relevant change in this operation was the relaxation of some eligibility criteria for collateral accepted, particularly in relation to bank loans (extension of the Additional Credit Claims framework).

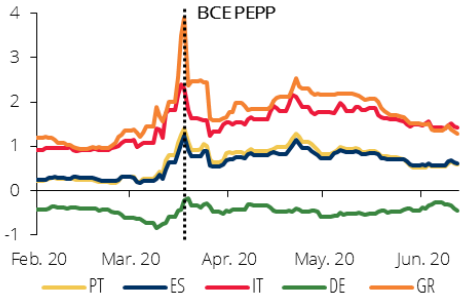
Finally, the ECB announced a more flexible application of the minimum rating requirement accepted, ensuring that assets meeting eligibility criteria as at 7 April (BBB-) could still be used as collateral within the Eurosystem, provided that any revision of the rating should not downgrade them to a grade below BB. With this measure, the central bank aimed at mitigating potential procyclical market dynamics and ensuring that the assets associated with the financing of sovereigns, firms and households continue to be eligible for liquidity-providing operations (Special issue "Policy measures in response to the COVID-19 pandemic of relevance to financial stability").

Chart I.1.5 • Difference between 3-months interest rate swaps and overnight rates | Per cent



Source: Refinitiv. | Notes: The series show the difference between 3-month interest rate swaps and overnight rates. A negative spread represents a liquidity squeeze in the market. Last observation: 1 June 2020.

Chart I.1.6 • 10-years sovereign debt security yields | Per cent



Source: Refinitiv. | Last observation: 1 June 2020.

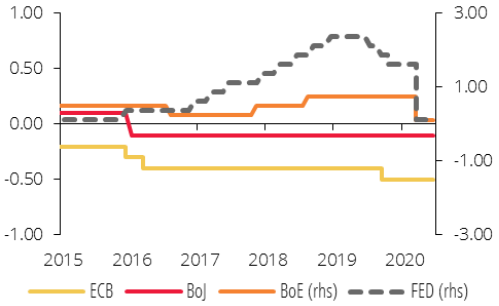
Coordinated action by the monetary authorities has also stabilised the exchange market. In addition to the quantitative easing programmes listed above, some monetary authorities have also reduced the key interest rates (Chart I.1.7) and have established temporary currency swap lines to ensure financing between central banks. In the euro area, the ECB strengthened and established two operations with the FED (TAF and TAF-84)[6] in order to safeguard US dollar liquidity with its counterparties. This swift, sizeable and coordinated action by the central banks allowed to stabilising financing operations in different currencies (Chart I.1.8), thereby ensuring liquidity for

[6] The TAF operation is a daily fixed rate tender with a 7-day term and a USD OIS +25 basis point rate. The TAF-84 operation is a weekly tender with an 84-day term and a fixed rate of USD OIS +25 basis points.

financial institutions and strengthening market confidence more rapidly than during the 2008 financial crisis.

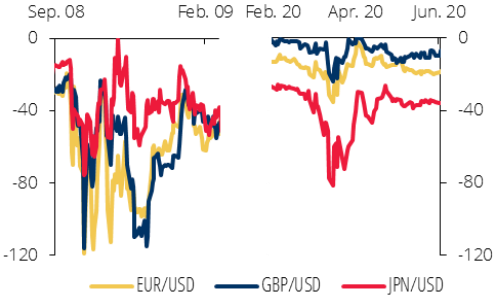
Market sentiment has also improved following the fiscal stimulus measures adopted by most countries (Special issue "Policy measures in response to the COVID-19 pandemic of relevance to financial stability"). Particularly, the high amounts available to these measures, together with credit moratoria and State-guaranteed loans to firms, made it possible for investors to revise their expectations, and thus to reverse the sell-off observed in the market.

Chart I.1.7 • Deposit facility rates
| Per cent



Source: Refinitiv. | Notes: The central banks shown in the chart are the European Central Bank (ECB), Bank of Japan (BoJ), Bank of England (BoE) and Federal Reserve (FED). The dotted lines refer to the average of the Fed Funds (FED). Last observation: 1 June 2020.

Chart I.1.8 • Cross currency basis swap
| Basis points



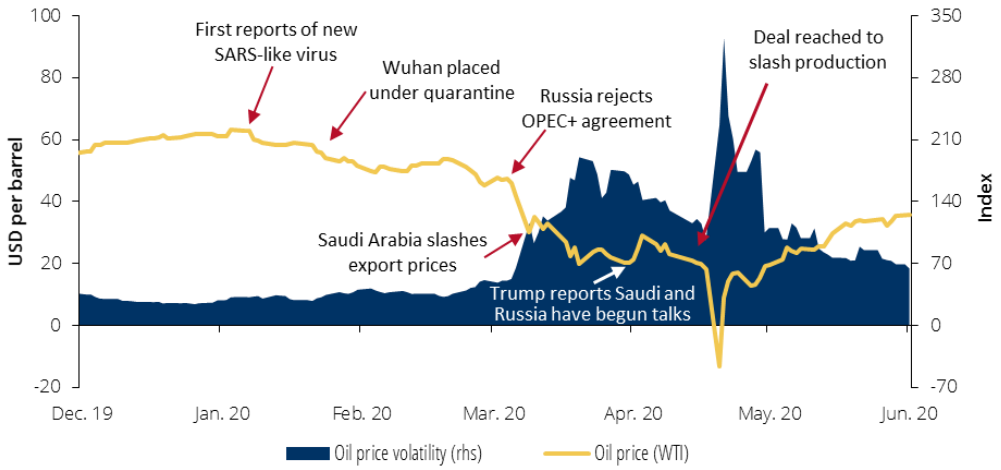
Source: Refinitiv. | Notes: The series show the difference between the 1-year cross currency contracts. Last observation: 1 June 2020.

The global economic recession has reinforced the pressure to reduce oil prices

Expectations of an abrupt and substantial reduction in economic activity were also reflected in oil prices. Since the beginning of 2020, when the first cases of COVID-19 were identified, a very significant reduction in oil prices has been observed (Chart I.1.9). This trend was reinforced when Wuhan Province was quarantined and the market entered a situation of contango[7] by discounting a very negative impact on economic activity in China. In March, trade tensions between Russia and Saudi Arabia led to a first breakdown of the OPEC+ agreement and the surge in oil production, which triggered a marked downward spiral in this commodity price. In mid-April, investors' concerns and storage limitations were reflected in an abrupt fall in oil prices and, for the first time in history, the trade of a negative WTI futures contract reached a minimum price of -$40/barrel. This trend was partially reversed during May, although high uncertainty surrounding the economic recovery profile continues to exert negative pressure on the price of this commodity.

[7] Contango is a situation in which the price of the future of a commodity is higher than its spot price.

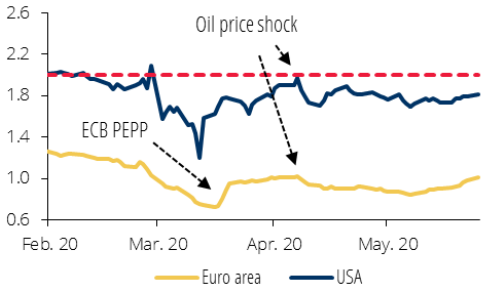
Chart I.1.9 • Crude oil price (WTI) and volatility



Source: Refinitiv. | Notes: The chart shows the evolution of West Texas Intermediate (WTI) futures contracts. Closing market quotes. Last observation: 1 June 2020.

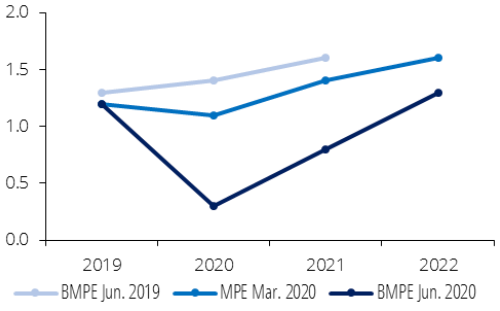
In fact, in addition to the usual volatility underlying the maturity of these agreements, the market movement observed in April was clearly amplified by the current pandemic context, leading to a significant decrease in demand, together with an increase in supply and increasing constraints on oil storage. This trend also reflects market expectations of a contraction in economic activity that is more marked and prolonged than initially expected, particularly in sectors such as air transport and manufacturing. A fall in oil prices probably leads to a reduction in production costs with favourable effects on net importing countries of this commodity. However, despite recent stimuli, this framework may create additional challenges for conducting the monetary policy, due to deflationary impacts on price expectations in the euro area (Charts I.1.10 and I.1.11). Likewise, a significant reduction in oil prices also puts additional pressure on oil-producing economies, thus increasing counterparty risk for economic agents with high exposures, be it direct or indirect, to these geographies.

Chart I.1.10 • Inflation expectations in euro area and USA | Per cent



Source: Refinitiv. | Notes: Inflation expectations implicit in the 5y5y inflation swaps in the euro area and USA. Closing market quotes. Last observation: 1 June 2020.

Chart I.1.11 • HICP projections | Per cent

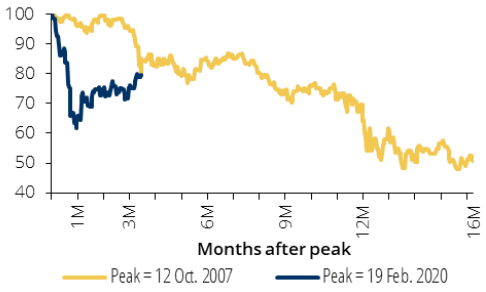


Source: ECB Macroeconomic projections (MPE). | Published on 4 June 2020.

Market prospects point to a mixed impact of the pandemic crisis by sector of activity

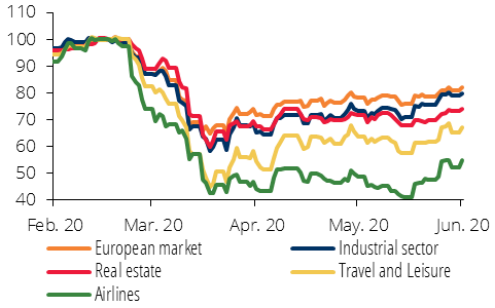
The initial impact of the pandemic crisis on international financial markets was comparatively stronger than that of the previous international financial crisis. However, the rapid action and size of the stimuli adopted by the monetary authorities stabilised market liquidity and mitigated the pressures for the sale of financial assets globally (Chart I.1.12). In any case, expectations of a more extended contraction in economic activity have been reflected in a differentiated appreciation of risk premiums for the sectors of activity and market segments which are more vulnerable to the effects of the COVID-19 pandemic (Chart I.1.13). Containment measures and restrictions on travel and mobility had a particularly substantial impact on airlines and tourism-related activities, which saw devaluations of more than 40% in March 2020, with limited recovery more recently.

Chart I.1.12 • Eurostoxx50 since the peak: 2020 and 2007 compared | Index



Source: Refinitiv. | Last observation: 1 June 2020.

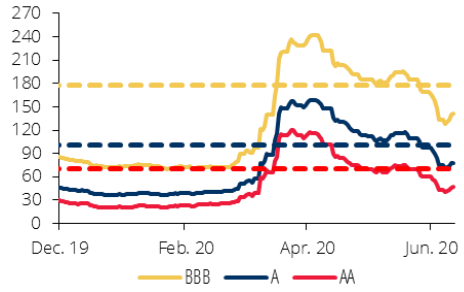
Chart I.1.13 • Main European sectors | Indices (17 Feb. 2020 = 100)



Source: Refinitiv. | Notes: The chart shows the market valuation for the main European companies by economic sector, respectively, Europe 600 Travel & Leisure, Industrial Goods & Services, Real Estate e Total Market Airlines. The European market valuation is based on the STOXX Europe 600. Last observation: 1 June 2020.

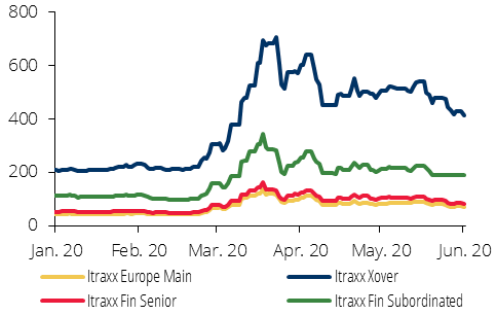
In line with the above, the additional financing needs underlying the prospects for economic activity contraction were reflected in an increase in the volume of debt securities issuances and market financing costs for non-financial corporations. This increase was particularly significant in debt with lower credit quality (BBB), with the risk premium exceeding 200 b.p. for non-financial corporations in the euro area during March (Chart I.1.14). An extended increase in financing costs may introduce restrictions on future issues and pressure on debt service in certain sectors. In fact, this pressure is noticeable in developments in credit default swaps (CSD), with the market discounting a possible default event, particularly in the debt segment with a rating below the investment grade, but also in the subordinated financial debt (Chart I.1.15). The risk of a widespread downgrading to grades below the investment grade is particularly relevant for economic agents who, in a protracted low interest rate environment, have adjusted the composition of their portfolios by searching higher yields. In the euro area, this investment profile was adopted mostly by investment funds, which increased their exposure to assets with lower credit quality (e.g. on the investment-grade threshold) and geographies with higher counterparty risk. Given the significant size of investment funds in the European context and the high share of securities on the investment-grade threshold in their portfolios, a broadly-based and downward revision of the ratings (fallen angels) may lead to an abrupt devaluation of the value of the assets, being a source of systemic risk in Europe.

Chart I.1.14 • Private sector risk premia | Basis points



Sources: Refinitiv and Banco de Portuga.l | Notes: Spread between the average yield of IBoxx Index of private non-financial corporations and the average mid-swap interest rate for the maturities of one to ten years, by credit risk notation. The dashed lines show the 2000-20 averages. Last observation: 1 June 2020.

Chart I.1.15 • Credit Default Swaps | Basis points



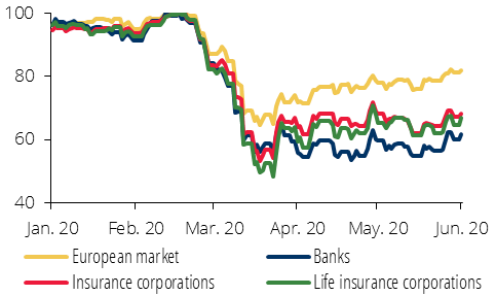
Source: Refinitiv. | Notes: The chart shows the closing mid-spread. Last observation: 1 June 2020.

Market prospects highlight the pressure on the financial sector arising from the current pandemic crisis

Following monetary and fiscal stimuli, most sectoral equity indices have been recovering from the devaluations observed in March. However, the protracted low interest rate environment (lower-risk assets), coupled with the latest devaluation in assets to which it is exposed, puts additional pressure on the European insurance sector (double hit scenario). Likewise, additional pressure on profitability and the greater likelihood of simultaneous defaults in the non-financial sector also pose further challenges to the banking sector. These expectations are already noticeable in these sectors' market valuations, to the extent that, unlike other sectors, which have recently recovered, the European financial system has continued to fall rather markedly (by approximately 40%) since the onset of the COVID-19 pandemic in Europe (Chart I.1.16).

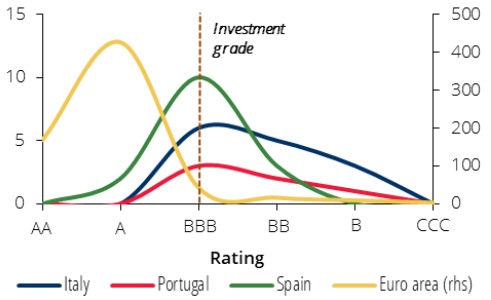
This devaluation reflects, on the one hand, expectations that banks' capitalisation levels may decrease in the future, due to the absorption of possible losses, namely those associated with increased defaults on credit granted to the non-financial private sector, in a context already characterised by low profitability levels. On the other hand, it may also reflect the potential devaluation of government debt portfolios, in particular for the banking sectors most exposed to these assets, taking into account the increased general government's net borrowing, despite the mitigating effect of the ECB's monetary policy. In line with the European context, the outlook of the main Portuguese banks, most of which are already below the investment grade (Chart I.1.17), were also revised downwards by Fitch (BPI, BST, BCP and CGD to negative), S&P (BCP to neutral and Haitong to negative) and DBRS (Novo Banco, CGD and BCP to negative). Fitch also signalled a negative rating watch to the Caixa Económica Montepio Geral.

Chart I.1.16 • European financial sector indices | Index (17 Feb. 2020 = 100)



Source: Refinitiv. | Notes: The European market trend is represent by the index Stoxx Europe 600, while banks, insurance corporations and life insurance corporations have as underlying index Stoxx Europe 600 Banks, Stoxx Europe 600 Insurance and Stoxx Europe Life Insurance, respectively. Last observation: 1 June 2020.

Chart I.1.17 • Credit rating for the euro area banks | Number of banks



Source: SNL S&P Market Intelligence. | Notes: The credit notation shown in the chart reflects Fitch's Long-Term Issuer Default Rating assessment. Last observation: 1 June 2020.

The quasi-simultaneous shocks on supply and demand following the COVID-19 pandemic amplified the effects on the economy

Following the COVID-19 pandemic, the measures to mitigate the health crisis and the need to halt contagion resulted in the adoption of measures to reduce mobility and contain significant parts of the population in several countries, leading to a marked reduction in economic activity.

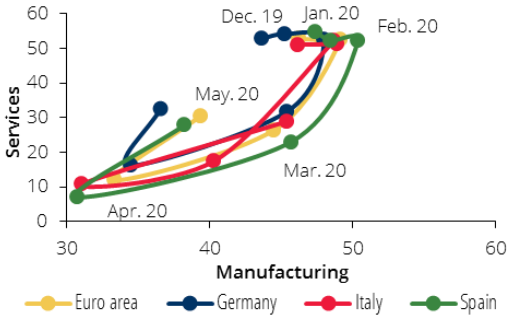
The pandemic led to the closure of businesses and resulted in an abrupt fall in economic activity across global economies (Chart I.1.18)[8] as a result of significant spillovers, given the high level of existing economic integration. Disruption to global value chains in various sectors of activity (e.g. automotive sector) was observed, as the pandemic affected very relevant economies in the production of intermediate goods. This fall in economic activity has negative consequences on employment, despite the support measures adopted in several countries. The pandemic crisis also has a significant impact on the labour force, both for reasons of workers' sicknesses and the need for family support, as well as for reasons of health safety and compulsory distancing. The interaction of these factors clearly results in a decrease in the firms' productive capacity, despite the heterogeneity observed between sectors of activity.

Considering the nature of the pandemic, the impacts tend to be stronger in the services sector, which is more dependent on human proximity and, therefore, more affected by the containment measures. However, one differentiating aspect from the previous epidemiological crises arises from the existence of technological means and the society's digital integration, particularly in advanced economies, which makes it possible for some of the functions to be performed remotely, albeit with varying degrees of effectiveness. Some activities in the services sector have been reorganising their functioning, driven by the emergence of digital solutions that prevent a total stoppage. However, a wide set of activities does not benefit from such solutions (e.g. Accommodation and food service activities).

[8] In May, with the phasing-out of containment measures, some recovery was observed in the Purchasing Manager Indices (PMI) of the manufacturing and services sectors; however, these are still contracting.

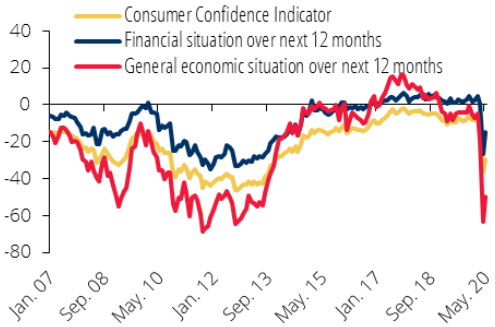
At the same time, the context of uncertainty underlying developments in the pandemic and the loss of confidence among economic agents led to a significant decrease in demand for goods and services. After the phasing-out of containment measures, and despite some improvement, the persistence of an unfavourable macroeconomic context and high uncertainty, resulting in increased unemployment and a fall in income, continues to weigh on consumer confidence (Chart I.1.19), contributing to the increase in precautionary savings and to the weakening of consumption and investment. In turn, the decline in demand is aggravating the effect of adverse shocks on firms. This leads to a combination of both demand-side and supply-side shocks, with additional amplification potential arising from the interaction between them.

Chart I.1.18 • Purchasing Manager Indexes of manufacturing and service sectors | Index



Sources: IHS Markit and Refinitiv. | Notes: Levels below 50 signal contraction comparing to the previous period (shaded area). Latest observation: May 2020.

Chart I.1.19 • Consumer confidence Indicator in Portugal | Balances



Source: Eurostat. | Notes: Forward-looking components refer to the expectations for the next 12 months. Monthly indicators and seasonally-adjusted data. Latest observation: May 2020.

For Portugal, the most recent macroeconomic projections for the period 2020-22[9] point to a substantial short-term impact of the pandemic crisis. For the non-financial private sector, the simulation exercise published in the May 2020 issue of the *Economic Bulletin*[10] pointed to a significant impact in the short term, while emphasising the positive effects of some measures already adopted to mitigate the risks of the pandemic crisis.[11] In view of differentiated shocks on the sectors of activity, the share of firms that are unable to cope with their fixed costs was assessed, even after they have exhausted any liquidity buffers (currency and deposits) and previously contracted credit lines. The amount of liquidity deficit and the number of employees of these firms have also been identified. The results show a non-linear relationship between the number of days of activity reduction and the share of firms with liquidity deficits, as well as the existence of heterogeneity in terms of size and sector of activity, with the most affected sector being Accommodation and food service activities, even when the impact of the simplified layoff is considered.[12] [13]

[9] Published in the June 2020 issue of the *Economic Bulletin* of the Banco de Portugal.

[10] Special issue entitled "The economic impact of the pandemic crisis".

[11] In these exercises, measures such as the simplified layoff and the moratorium were considered. For firms and households, they also include the impacts of extraordinary support to the reduction of the economic activity of self-employed workers and the exceptional regime governing late rent payments. For a more detailed analysis of the underlying assumptions and the results of the exercise, see the Special issue in the May 2020 issue of the *Economic Bulletin*.

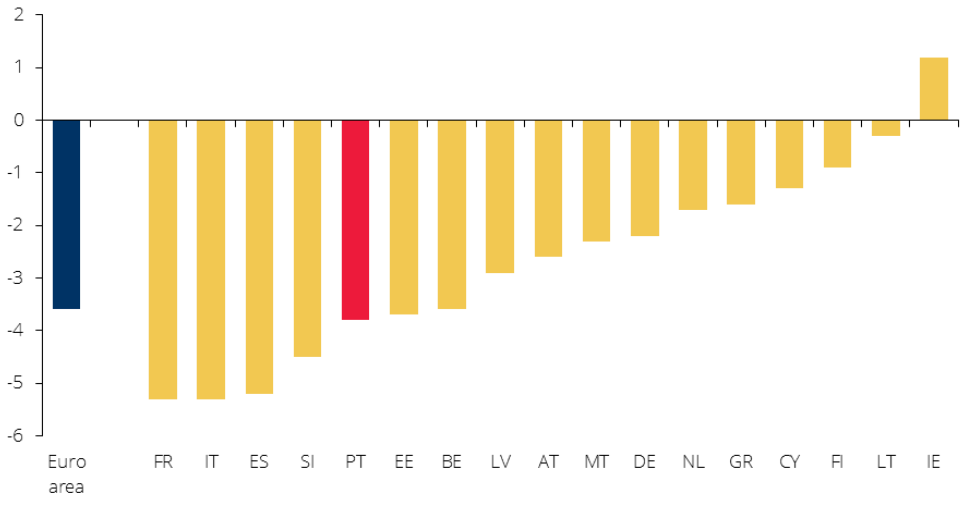
[12] Extraordinary support for the maintenance of jobs in the most affected firms.

[13] It should be noted that, for the higher brackets, this result reflects the fact that layoff and worker support measures include maximum limits.

For households, the simulation exercise leads to the conclusion that there is a short-term fall in household income, even taking into account the effect of the measures considered. The impact is, however, differentiated, with the households with the lowest and highest percentiles of disposable income being those with the highest percentage reduction in labour income. In addition, the results show the importance of the moratorium measures for housing loans. Despite the high uncertainty underlying the economic impacts of the pandemic in Portugal, this initial analysis indicates a substantial deterioration in economic activity and in the financial situation of these agents. The role of inter-sectoral heterogeneity and the measures being announced in identifying potential segments of higher risk and/or vulnerability is also noteworthy, particularly the consequences for the portfolio credit quality in the banking system and the worsening prospects for future profitability of financial institutions. However, the weight of the different sectors of activity on the economy may be different from the weight these sectors have on the banks' loan portfolio (Box 2).

Data for the first quarter of 2020 show a strong contraction in the euro area (Chart I.1.20). Portugal recorded a 3.8% decline in GDP compared to the previous quarter (2.3% year on year), the historical low of the series started in the second quarter of 1995, reflecting negative contributions from net external demand (positive in the previous quarter) and domestic demand (more negative in this quarter). In this case, there was a decrease in consumption expenditure, which was more pronounced in expenditure on durable goods, but also with a negative quarter-on-quarter rate for the remaining components (non-durable goods and services). The most marked drop in exports compared to imports of goods and services led to developments in net external demand in this quarter, with an emphasis on negative developments in the services component in both cases.

Chart I.1.20 • Real GDP in 2020Q1 of euro area countries | Per cent



Source: Eurostat. | Notes: Chain linked volumes, percentage change on previous period (2019Q4). Seasonally and calendar adjusted data. Data not available for Luxembourg (LU) and Slovakia (SK). Latest update: 9 June 2020.

The economic recovery profile depends on pre-existing vulnerabilities, developments in the pandemic crisis, the response of economic agents and the effectiveness of the mitigation measures adopted

The effects of the pandemic crisis strongly constrain prospects for the Portuguese economy. The projections presented in the June 2020 issue of the *Economic Bulletin* are based on a central scenario, in which the recovery of the economy materialises gradually and differently between sectors, with a co-existence of a progressive lifting of containment measures and the occurrence of new infections until the emergence of an effective treatment in mid-2021. However, this scenario is subject to a high level of uncertainty with mainly downside risks associated with a possible worsening of the pandemic. The materialisation of these risks is illustrated through a more severe scenario.[14]

Thus, considering the central scenario, the projections point to a strong contraction in activity in 2020, followed by a gradual recovery in the following years. A 9.5% reduction in GDP is expected in 2020, reflecting the very marked negative impact of the pandemic in the first half of the year. In the first quarter of 2020, GDP decreased by 3.8% from the previous quarter. In the second quarter of 2020, which is more affected by the impact of the containment measures, the quarter-on-quarter activity rate of change is expected to decrease by an unprecedented magnitude. The gradual and phased lifting of COVID-19 containment measures is assumed; however, some restrictions should remain until an effective medical solution is available, which is expected in mid-2021. In this context, economic activity recovery is observed from the second half of 2020, with GDP projected to grow by 5.2% in 2021 and 3.8% in 2022. At the end of the projection horizon, economic activity is expected to be at a level close to that observed in 2019, but considerably below of what was expected before the pandemic (Chart I.1.21).

Maintaining some restrictive measures, along with high levels of uncertainty, is likely to affect the pace of economic recovery, which is expected to be gradual and differentiated between sectors. The limitations to tourism and culture-related activities and entertainment activities should remain for a longer period. Despite the progressive decrease in containment measures (Chart I.1.22) and the positive impact of the support measures adopted, the necessary adjustments for returning to business, arising from compliance with health safety standards, the different normalisation pace between sectors, as well as the uncertainty associated with developments in the pandemic crisis, will continue to affect the firms' productive capacity. In the medium term, the persistence of these effects may result in loss of productive capacity and less employment, with consequent impact on household income, the public sector's net borrowing and banking sector prospects.

The balance of risks around these projections tilts to the downside, highlighting the possibility of a more severe scenario regarding the spread of the virus in Portugal and in the rest of the world. The potential consequences of the materialisation of this scenario on the Portuguese economy are also taken into account in the June issue of the *Economic Bulletin*, with the results pointing to more significant and persistent economic costs of the pandemic.

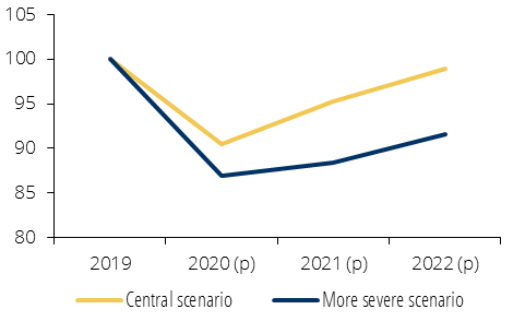
The main risk arises from the possibility of a new wave of infections requiring the restrictive containment measures to be reintroduced, including new general population confinement. Thus,

[14] Box 4 – "A more severe scenario for the Portuguese economy". This Box presents the scenario for the Portuguese economy underlying the severe scenario published in early June by the ECB under the Eurosystem's projection exercise, therefore sharing the corresponding assumptions.

in this more severe scenario, a more abrupt contraction in activity is assumed in 2020 (13.1%), as well as an even slower recovery of the economy compared to the central scenario, with GDP growth standing at 1.7% in 2021 and 3.5% in 2022. The projected GDP level for the end of the projection horizon would be about 8.5% below the level observed in 2019 (Chart I.1.21). Persistence of containment measures for a longer period of time will affect more heavily production processes and consumption. The normalisation of activity would occur at a lower speed, leading to lower capacity levels, which, coupled with permanent changes in consumption patterns, would reflect in an even more unfavourable framework for firms, resulting in a higher number of insolvencies and a more marked decrease in employment.

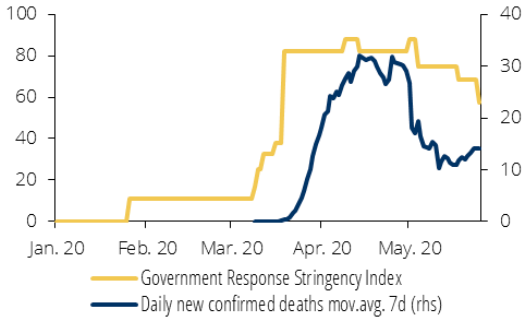
This scenario also encompasses a more unfavourable external framework, assuming that containment measures remain longer or are reintroduced in most countries due to a rise in infections. This implies a more negative impact on global activity and international trade flows. In the euro area, which concentrates Portugal's main trading partners, GDP reduction reaches 12.6% in 2020 (compared to an 8.7% drop in the Eurosystem's central projections). In the following years, economic activity in the euro area grows at a slower pace than assumed in central projections, which is not enough to return to the GDP levels observed in 2019. External demand for Portuguese goods and services has a similar profile, significantly affecting its performance. The materialisation of the risks underlying this more severe scenario also assumes a deterioration in the financing conditions of economic agents, leading to greater risks to financial stability.

Chart I.1.21 • PIB projections between 2020 and 2022 | Index 2019 = 100



Source: Banco de Portugal. | Note: (p) – projected.

Chart I.1.22 • Government response stringency index and health crisis developments in Portugal | Index and number



Sources: Hale et al. (2020) and European Centre for Disease Prevention and Control (ECDC). | Notes: Government response Stringency index obtained from Thomas Hale, Sam Webster, Anna Petherick, Toby Phillips, and Beatriz Kira (2020). Oxford COVID-19 Government Response Tracker, Blavatnik School of Government. Levels close to 100 point to more stringent containment measures. Daily numbers from new confirmed deaths from COVID-19 are presented as a 7 day moving average. Latest update: 1 June 2020.

The economic shock associated with the COVID-19 pandemic is asymmetric among the various sectors of activity, and its effects may be more broadly based if associated with a slower recovery

The effects of the COVID-19 pandemic and the consequent abrupt and marked reduction in economic activity, at both global and domestic levels, pose additional challenges to non-financial corporations in Portugal, given that the decline in economic activity and the ensuing revenue shortfall leads to increased difficulties for their liquidity position and puts pressure on their ability to meet short-term liabilities, more specifically servicing their debt, amid still high levels of leverage.

The negative impact of the pandemic and of associated containment measures has been asymmetric in sectoral terms and is particularly significant in tourism-related activities, especially Accommodation and food service activities and in the transportation and storage sector.[15] Despite its growing relevance in terms of GVA and employment in the Portuguese economy, from the financial stability standpoint, such effects may be partly mitigated, in view of the limited importance of the banks' exposure to these sectors (Box 2). In addition, firms with bank credit associated with the Accommodation and food service activities and the transportation and storage sector have more resilient liquidity and/or solvency positions compared to firms in other sectors which are more sensitive to the effects of the pandemic.

However, for all sectors considered more sensitive to the effects of the COVID-19 pandemic,[16] situations of liquidity and capital vulnerability continue to be observed in sectors with a more significant weight on the bank system's loan portfolio, thus constituting increased potential for credit risk (Box 2). These fragilities will continue to worsen, since the normalisation of the activity will be differentiated, with some of these sectors being subject to specific limitations for a longer period of time. As the pandemic also affected global value chains, firms belonging to other sectors, which would not be so exposed to the direct impact of the pandemic, may experience a significant deterioration in their liquidity and solvency positions during the crisis (in particular firms with an exporting profile[17]). This is particularly relevant for the materialisation of the risks underlying the more severe scenario. The same applies to the Construction sector, which so far has been considered as less affected by the current pandemic context, especially if the recovery is slow.

In addition, considering a longer horizon, the effects of economic shocks resulting from the COVID-19 pandemic, together with a more gradual pace of recovery of economic activity, may pave the way to more structural transformations in firms' operational environment. Factors such as the need for changes to logistics chains, adaptation to technological changes, also due to changes in consumer preferences, or the need to maintain part of the firm's activity remotely, result in increased challenges for this sector characterised by additional investment needs in an unfavourable environment. Deterioration in expectations of economic recovery could lead to

[15] For more details, see Box 2 – "Impact of the pandemic on Portuguese enterprises – analysis based on the results of the COVID-IREE" of the June 2020 issue of the *Economic Bulletin*.

[16] In addition to the Accommodation and food service activities (I), the following sectors are considered: Mining and quarrying (B), Manufacturing (C), Wholesale and retail trade; repair of motor vehicles and motorcycles (G), Transportation and storage (H), Arts, entertainment and recreation services (R), Real estate (L) and Administrative and support service activities (N).

[17] An important part of the companies with exporting profile reported supply chain problems. For more detail see Fast and Exceptional Enterprise Survey – COVID-19 of weeks from 20 to 24 April and 27 April to 1 May 2020.

changes in risk assessment criteria, with potential negative impacts on firms' net lending. Against this background, the importance of assessing firms' viability is also emphasised, since the granting of excessive aid to unviable firms may prevent reallocation of resources in the economy and contribute to the increase of zombie firms, with consequences for financial stability and, in particular, for the banking system.

The impact of the pandemic on firms has been partly mitigated by the sector's adjustment in recent years, but its indebtedness level is still high

In the period after the sovereign debt crisis, the firms' adjustment process led to a more favourable financial position for the sector. The NFCs have improved their liquidity position, in particular the most indebted firms. At the same time, their financing structure's equity was increased (Chart I.1.23). The last few years have also been marked by a reduction in indebtedness, amid an upturn in economic activity, with the indebtedness ratio decreasing to 92.8% of GDP in 2019 (about 34 p.p. from the peak observed in 2012), standing at a historically low level, lower than that observed in the period preceding the sovereign debt crisis and close to the euro area average (Chart I.1.24).[18] This deleveraging process, together with the rise in equity, has contributed to more resilient firms.

Compared to the period immediately preceding the financial crisis, and despite remaining at levels below most euro area countries, there has been a very significant increase in the firms' saving rate, which has thus taken on greater importance in funding investment. Along with a lower recourse to financial debt, these developments contributed to the deleveraging process observed in this sector.

The very low interest rate environment, in combination with deleveraging, has contributed to improving firms' debt servicing capacity. In 2019 the significant increase, to historical peaks, in the interest coverage ratio was broadly based across the sectors of activity and was particularly significant for the SME segment, with some share of financial debt remaining close to the vulnerability threshold in large firms.[19]

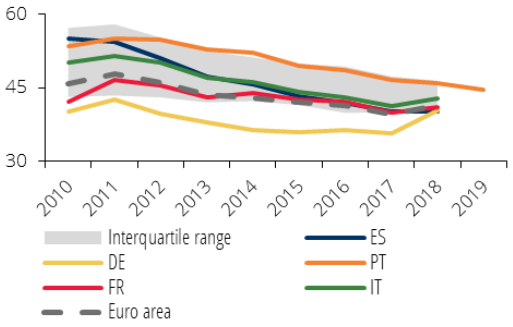
The upturn in economic activity in recent years has also contributed to favourable developments in firms' profitability after the sovereign debt crisis period, reaching historically high levels at the end of 2019. The capacity to retain earnings has been fundamental to the NFC deleveraging process, enhancing its importance in the current context (Box 4).

The pandemic crisis stresses the relevance of the adjustment previously made by firms, signalling increased capacity to cope with an adverse situation, compared to the previous crisis.

[18] See also Box 3 "Developments in non-financial private sector indebtedness in Portugal and the euro area in the past 30 years" of the December 2019 issue of the *Financial Stability Report*.

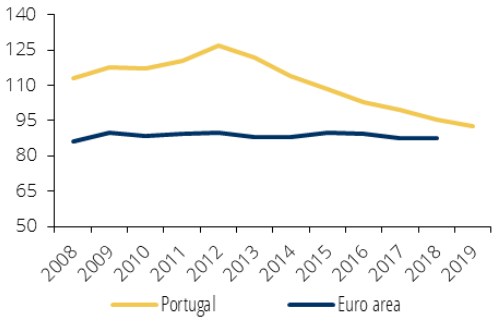
[19] Developments in the financing expenses coverage ratio by sector of activity take into account data from statistics on non-financial corporations from the Central Balance Sheet Database and are available until December 2019. Developments in the distribution of the financing expenses coverage ratio are based on the 2018 Simplified Corporate Information data. *Financial Stability Report*, December 2019.

Chart I.1.23 • Debt-to-equity ratio | Per cent



Source: Eurostat (Banco de Portugal calculations). | Notes: Debt-to-equity ratio is computed as the ratio between total debt and the amount of shares and other equity (calculated figures on the basis of National Financial Accounts).

Chart I.1.24 • Total NFC debt – Portugal and Euro area | As a percentage of GDP



Source: Eurostat. | Notes: Non-financial corporations' total debt includes loans, debt securities and trade credits on a consolidated basis.

The adoption of measures to support firms' liquidity is vital, both from a short-term perspective and for the economy's recovery process, although capital-enhancing measures may be needed

Notwithstanding the improvement in the firms' liquidity situation observed until the onset of the pandemic crisis, in the current context of a sharp and abrupt reduction in economic activity, most firms have reported that, in the absence of measures to support liquidity, they would not be able to remain operational beyond very short periods of time.[20] In a context of high uncertainty about the duration of the pandemic and the economic recovery profile, combined with the need to cope with fixed costs, liquidity support measures are of particular importance. These measures include the simplified layoff regime (also focused on preserving employment), the State-guaranteed credit lines and the moratorium regime (Special issue "Policy measures in response to the COVID-19 pandemic of relevance to financial stability"). These programmes enable firms to cope with temporary liquidity deficits caused by the reduction in economic activity.

In a context of still high NFC indebtedness, the credit moratorium regime helped ease the liquidity constraints associated with financial commitments, preventing some situations from evolving to a short-term credit default. Requests for joining this regime have been significant by firms – accounting for about 29% of the portfolio of loans granted to firms by the eight major banks of the system –, and most sought support for the total suspension of the payment of principal and interest during the grace period (Box 1). The moratoria are a fundamental measure, where it is necessary to reconcile two main concerns: (i) corporate business continuity following the health crisis, thus preventing that cash flows issues escalate into insolvency and (ii) safeguarding the banking system's capacity to fund the economy while minimising capital consumption.

[20] Most companies refer periods of up to two months. See Fast and Exceptional Enterprise Surveys – COVID-19.

In a scenario of a more gradual recovery of the economy, resulting in more lasting revenue-reducing effects, the capital position of firms may deteriorate, to the point of giving rise to insolvency, and the ensuing termination of their operation, particularly in sectors more affected by the pandemic and/or whose resumption of business is limited for a longer period of time. In this scenario, the rising default on loans and the deterioration in the firms' risk profile may have a substantial impact on banks' asset quality and, consequently, their profitability and capital.

This framework highlights the importance of measures taken by authorities to prevent cliff effects at this level, after the removal of the support measures, by acting to make this transition less abrupt. Moreover, the recovery profile, as well as the total economic impact of the pandemic crisis, should be taken into account when designing measures to support NFCs, which may have to focus on capital and not just on debt, thereby increasing their loss-absorption capacity[21] (Chart I.1.23). Similarly, it would be desirable to promote a joint effort at European level to coordinate and finance economic support measures, with emphasis on the European Commission's Next Generation Plan, given the possibility that the scale of support granted to firms by the Member States could differ substantially. This disparity can have consequences for the pace of recovery of the corporate sector and employment in the various countries, for European integration, by generating an unlevel playing field in the single market, and for the resilience of national banking systems.

The severity of the impact of the pandemic crisis highlights the importance of the reduction in Portuguese household indebtedness in recent years

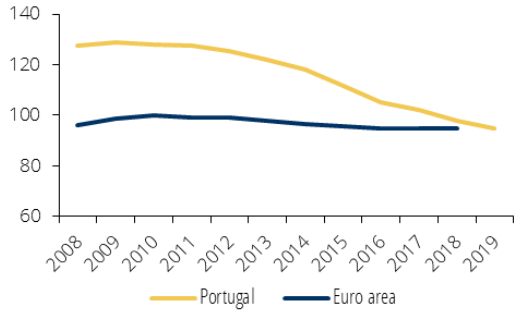
For households, the impacts of the pandemic crisis are reflected in an abrupt reduction in income, through a fall in economic activity and a rise in unemployment, notwithstanding the mitigating effect of automatic stabilisers and government measures that have been implemented with the aim to preserve employment and reduce the fall in household income.

The effects of the pandemic on aggregate demand may be amplified, on the one hand, by the lower opportunities for consumption resulting from containment measures. On the other hand, high uncertainty about the duration of the pandemic and the total impact on employment and household income could boost additional reductions in demand. As mentioned above, the shock on economic activity has more markedly affected some sectors of activity, which may create increased difficulties for households whose employment and labour income depend on these sectors. Additionally, the different recovery profile between sectors may intensify these situations. The deterioration in the financial situation of households and the significant reduction in their income may have implications for financial stability, since credit granted to this sector has a significant weight on credit institutions, in particular housing loans. However, on average, households employed in Accommodation and food service activities – one of the sectors most affected by the pandemic crisis – have a low level of indebtedness, but the same does not apply to households employed in other sectors which are more sensitive in the current context, with higher income and a higher level of indebtedness (Box 3).

[21] In this regard, the firms' capitalisation fund of the Economic and Social Stabilisation Programme announced by the Portuguese Government on 7 June 2020 is noteworthy.

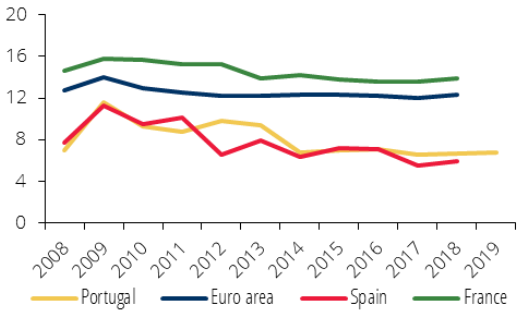
Nevertheless, at the end of 2019, the household sector[22] presented a more resilient financial position compared to the period before the financial crisis, due to the downward trend in indebtedness that has been pursued in recent years. Indebtedness stood at 95% of disposable income, a 34 p.p. decrease from 2010 (historical peak), approaching the average level of the euro area and at levels significantly below the period preceding the financial crisis (Chart I.1.25).

Chart I.1.25 • Households' total debt | As a percentage of disposable income



Source: Eurostat. | Note: Households' total debt includes loans, debt securities and trade credits on a consolidated basis.

Chart I.1.26 • Households' saving rate | As a percentage of disposable income



Source: Eurostat.

Aggregate changes can be further characterised by taking into account the heterogeneity of developments in households' financial situation, which is crucial for assessing the impact of the pandemic on their liquidity position and debt servicing capacity, as well as for identifying fragilities in some segments. Between 2010 and 2017, both indebtedness compared to income and debt service declined across households belonging to different income groups, but with more significant reductions in households with lower incomes. There was a reduction in the share of indebted households in the groups that can present greater difficulties in debt service or whose employment situation presents higher risks (e.g. unemployed and self-employed) (Box 3).

Automatic stabilisers and measures to support household liquidity play a particularly important role in a context where their saving rate remains low

In Portugal, the share of surveyed households that identified the inability to face unexpected financial expenses decreased in 2019 compared to the previous year, thus also showing a better financial situation. Although it remains at a higher level than prior to the financial and sovereign debt crises, this share is approaching the European Union average.[23] In fact, one of the main reasons for saving pointed out by households in Portugal has been the need to cope with unexpected events, which may also explain these developments.[24] In general, the results of Box 3

[22] The household sector includes households (S.14) and non-profit institutions serving households (S.15). For simplification purposes, this sector is referred to as 'household sector'.

[23] In 2019, according to data from the Eurostat's *European Union-Statistics on Income and Living Conditions* (EU-SILC), 33% of respondents in Portugal reported that they were unable to face unexpected financial expenses, while in the European Union (EU) this share is 31%. In 2018 this share was about 35% for Portugal and 32% for the EU. In 2008 and 2010, the share of respondents in Portugal giving the same response was 26% and 27% respectively.

[24] Box 3 and *Portuguese Household Finance and Consumption Survey 2017*.

corroborate a slight improvement in the households' liquidity position between 2010 and 2017. However, the saving rate continues to show low levels in the European context, in addition to a downward trajectory, standing at historical lows (Chart I.1.26).

Holding low liquidity buffers in the current environment, in combination with the possibility of significant losses in household income, poses additional challenges to the debt servicing capacity of these agents, even if it continues to benefit from the maintenance of very low interest rates. In addition, the fact that the impact of economic shocks are quite pronounced and may become widespread across various sectors of the economy limits the recourse of the most indebted households to their usual support networks to cover temporary liquidity shortages (family and friends).

In this context, economic policy measures that allow preventing sudden reductions in income, through an extension of social support or the maintenance of labour relations, as well as those that reduce households' financial burden, such as the moratorium regimes (Special issue "Policy measures in response to the COVID-19 pandemic of relevance to financial stability" and Box 1), contribute to greater resilience of this sector in the short term, by reducing delinquency in financial commitments and thereby mitigating contagion to other institutional sectors. In turn, it allows retaining some consumption capacity, which is also essential from the economic activity's recovery standpoint.

However, these measures will tend to be in force within a limited period of time, in a context of high uncertainty about the duration and intensity of the COVID-19 pandemic and the associated economic crisis. Considering the scenarios for a gradual recovery of the economic activity and significant increase in unemployment, the temporary nature of these measures, together with the deterioration in households' financial situation, may lead to a significant increase in non-performing loans in the banking system, also putting additional pressure on this sector. Therefore, and as is the case for NFC, it may be necessary to consider additional measures to support the households that will make the transition phase less abrupt to a scenario without support measures.[25]

The banking system is more resilient, but the intensity and duration of the pandemic crisis will tend to have significant effects on the sector

The international financial crisis initiated in 2007/08 brought visibility to a number of significant imbalances in the financial system, both globally and domestically. Lack of knowledge on the magnitude of the risk taken by financial institutions, together with low capitalisation levels and a weak liquidity position, resulted in serious restrictions on the financing conditions and the performance of financial intermediation during this crisis. In subsequent years, a broad set of legislation has been developed internationally to increase the resilience of the financial system. In the Portuguese banking system, the gradual introduction of these new regulatory requirements, coupled with an enhanced supervision of institutions, led to capital and liquidity levels significantly higher than those observed in the period prior to the international financial crisis (Sections 2.5 and 2.6).

The previous crisis also resulted in the recognition of a substantial impairment amount associated with defaulted credit. This credit risk materialisation was reflected in the worsening of asset quality indicators, particularly in the NFC segment. Despite its significant decline since the peak reached in 2016, the NPL ratio of the Portuguese banking system remains above the euro area average. In the context of the pandemic crisis, conditions for the decrease in non-performing loans (NPLs) are

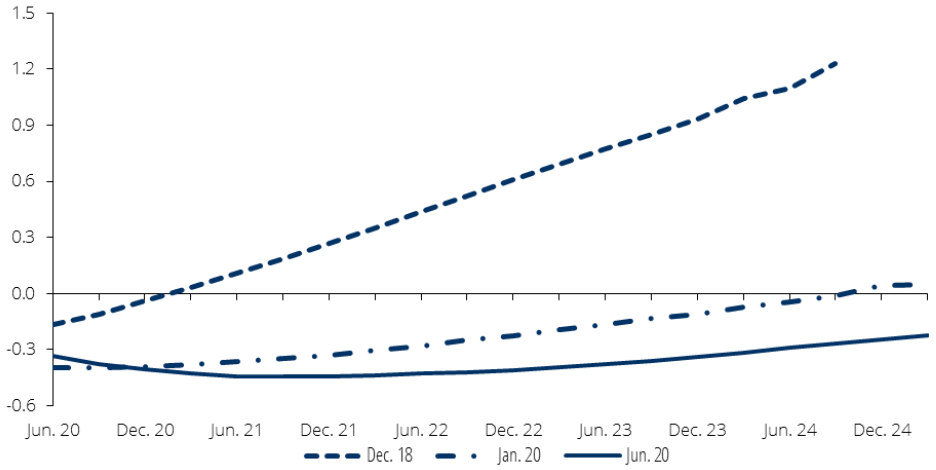
[25] See measures included in the Economic and Social Stabilisation Programme announced by the Portuguese Government on 7 June 2020.

expected to be compromised, either due to the difficulty in proceeding with the sale and recovery of existing NPLs, or due to the foreseeable increase in default, and are therefore likely to negatively affect the institutions' profitability.

In fact, as a result of its financial intermediation activity in the economy, the banking system is naturally exposed to developments in economic activity and the financial situation of the non-financial private sector. The deterioration in the borrowers' debt servicing capacity will tend to be reflected in an NPL increase and may intensify in a scenario of slower economic recovery and worsening of the debtors' financial situation, despite the low level of interest rates.

The economic activity's recovery path should also be reflected in banking business developments. A weak recovery scenario in terms of new lending, together with the foreseeable protracted very low interest rate environment in the euro area (Chart I.1.27), should also condition institutions' profitability, thus preventing capital build-up, which is crucial in the current context.

Chart I.1.27 • Implied interest rate in the three-month EURIBOR futures contract | Per cent



Source: Refinitiv (Banco de Portugal calculations). | Notes: Latest update: 1 June 2020. 30-day average value of the interest rate implicit in the three-month EURIBOR.

Moreover, the Portuguese banking sector's exposure, whether direct or indirect, to certain geographies remains relevant, especially those which are particularly sensitive to commodity price developments, particularly oil prices. There may be losses from direct exposures to these economies due to the materialisation of (sovereign and private) credit risk, foreign exchange risk and market risk (commodity prices). On the one hand, given the close link between the economic activity of these countries and commodity prices, episodes of volatility and devaluation, such as those recently observed in the oil market, may result in contagion and immediate deterioration in the creditworthiness of counterparties. On the other hand, these exposures show NPL ratios significantly higher than those observed in domestic activity. As for indirect exposures, the impact of the pandemic crisis may be reflected in the credit quality of loans granted to firms whose activity is exposed to countries that are more affected by developments in commodity prices.

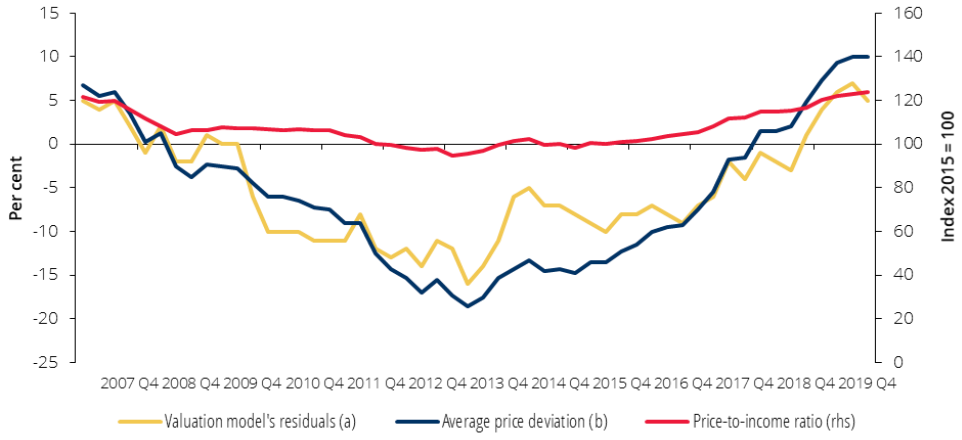
Economic activity contraction is expected to negatively affect developments in the real estate market, with consequences for the banking system

Price developments in the real estate market in Portugal have reflected the strong dynamics of tourism and direct investment by non-residents, presenting greater sensitivity of the market to the performance of these agents. The crisis arising from the COVID-19 pandemic, in particular its effects on tourism-related activities, may adversely affect price developments in real estate.

As mentioned in previous issues of this Report, the residential real estate market showed signs of overvaluation in aggregate terms since 2018 (Chart I.1.28).[26] During 2019, this segment continued to be buoyant, albeit with some moderation in price developments, with an average rate of change of 8.4%, 0.5 p.p. lower than in the previous year (Chart I.1.29). Transactions decelerated in year-on-year terms in 2019, both in number and amount of sales of family dwellings across the various regions, with emphasis on the fall in the number of transactions in the northern regions (including the metropolitan area of Porto) and the Algarve and on the virtually nil change in the metropolitan area of Lisbon. These developments were accompanied by higher growth in building permits compared to dwellings completed, which could result in an increase in the supply of new housing, putting downward pressure on residential real estate prices.

The current context, marked by the reduction in economic activity and the impact on labour market conditions and household income, as well as the deterioration in consumer confidence and the uncertainty underlying the progress of the health and economic crisis, may intensify these latest developments, contributing to a price correction in this segment. In fact, slower economic recovery worldwide is likely to result in lower external tourism flows, a factor which has largely been behind the hike in residential real estate market prices over the past few years. The public and private moratorium regimes applied to housing loans, to the extent that they prevent defaults and the ensuing foreclosures, should minimise, in the short run, impacts on this market.

Chart I.1.28 • Valuation measures of house prices in Portugal

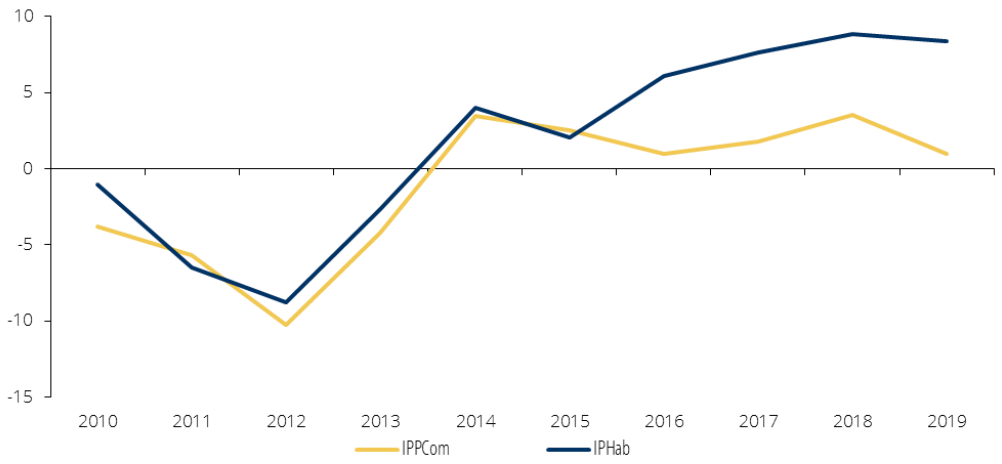


Sources: European Central Bank – Statistical Data Warehouse and Organisation for Economic Cooperation and Development. | Notes: Positive values signal the existence of overvaluation. (a) The residuals from the valuation model result from the estimation of a model of house prices based on their economic 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.

[26] See the Special Issue "Housing price assessment methodologies applied to Portugal" in the December 2019 issue of the *Financial Stability Report*.

The effects of these developments on the banking system will tend to be mitigated by a number of factors. Over the past few years, residential real estate market developments have not been accompanied by a substantial recovery in the stock of housing loans, with the share of transactions financed with domestic credit stabilising at a much lower level than that seen prior to the crisis (Chart I.1.30). Additionally, for the new credit operations with households carried out in 2019, the share of loans associated with borrowers with a lower risk profile is higher than that observed for the stock of loans at the time of the conclusion of the agreements (Box 7). With regard to housing loans, there was also an improvement in the risk profile of borrowers since the entry into force of the macroprudential Recommendation on new credit agreements for consumers in July 2018, considering the combination of the debt-service-to-income (DSTI) and loan-to-value (LTV) ratios. In July 2018 the share of new credit granted to higher-risk borrowers reached 35%, declining to 4% in December 2019. Additionally, 90% of the value of the households' loan portfolio for house purchase showed an LTV of 82% or less. These factors are expected to make the banking system more resilient to potential effects of negative shocks on the value of collateral associated with loans backed by real estate (Section 2.3).[27]

Chart I.1.29 • Rate of change of house prices and commercial property prices in real terms | Per cent



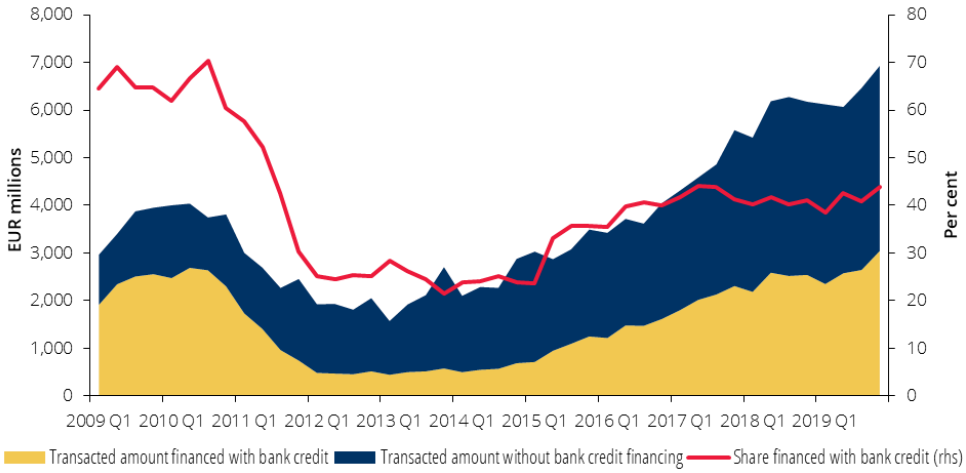
Source: Statistics Portugal. | Notes: The real house price index (IPHab) and the real commercial property price index (IPPCom) were calculated using the private consumption deflator. The rate of change associated with annual data corresponds to the annual average rate of change.

In 2019 commercial real estate market prices slowed down significantly, with the growth rate declining from 3 p.p. to 1.9% (Chart I.1.29). Nevertheless, since this segment of the real estate market presents greater sensitivity to economic activity compared to the residential segment,[28] the current macroeconomic context may also put negative pressure on prices. However, the maintenance of the low interest rate environment and high yields against other assets could be a mitigating factor on these pressures. In addition, there may be more persistent negative impacts associated with the pandemic crisis, such as lower demand by non-residents and office buildings due to widespread remote work in services.

[27] See *Macroprudential Recommendation on new credit agreements for consumers – progress report*, March 2020.

[28] See *Financial Stability Report*, June 2019.

Chart I.1.30 • Dwelling transactions versus new loans for house purchase



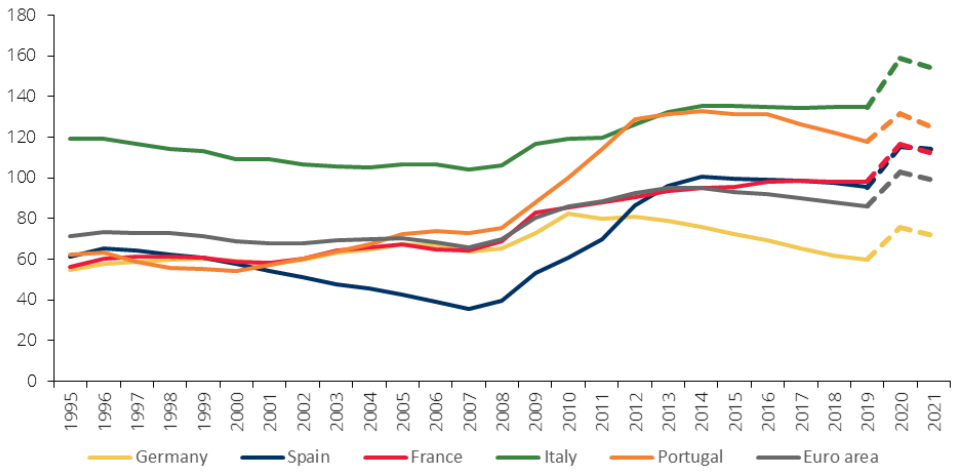
Sources: Statistics Portugal and Banco de Portugal.

Increasing general government indebtedness could put additional pressure on the banking system, especially in a context of slow economic recovery

Currently, the fiscal stimuli announced in the euro area will be funded by each Member State, resulting in rising domestic public debt. However, each Member State's responsiveness depends not only on the impact of the crisis on the economy but also on the pre-existing level of general government indebtedness. The existing heterogeneity at this level is reflected in the different widening of financing costs in the European context. Despite the positive impact of the adopted monetary policy measures so far, the reassessment of risk premiums could be particularly harsh for countries that, on the one hand, see their economic activity drop drastically in the wake of the pandemic crisis and, on the other hand, had posted high levels of public indebtedness over the period prior to the pandemic crisis. Accordingly, the rising public indebtedness in Europe can once again raise concerns surrounding debt sustainability in a number of countries, thus contributing to the risk of sovereign debt market fragmentation (Chart I.1.31).

A slower recovery also implies additional fiscal efforts at the general government level, particularly in the more severe scenario. The discretionary measures adopted to mitigate the pandemic crisis and the triggering of automatic stabilisers result in increased expenditure, in combination with loss of tax revenue, resulting in higher financing needs. These factors may result in a deterioration in the market sentiment and the funding conditions of sovereigns.

Chart I.1.31 • Public debt and projections | As a percentage of GDP



Source: European Commission. | Note: Public debt from Maastricht.

Following the deterioration in the outlook for economic activity, the rating agency Fitch revised the Italian sovereign debt rating downwards to BBB- (lowest level in the investment grade). For Portugal, the S&P and Fitch agencies also announced an extraordinary review of the outlook for the Portuguese Republic from positive to neutral. However, in the event of a downgrade in the government bond rating to a grade lower than investment, their eligibility as collateral in Eurosystem credit operations remains until September 2021, following the ECB's decision mentioned above. This allows credit institutions to continue to be able to access Eurosystem funding using public debt as collateral.

The high exposure of the Portuguese banking system to domestic public debt is a way of contagion between the sovereign's and the banks' risks. A sensitivity analysis shows that a possible 100 b.p. rise in the government yield curve in Portugal, Spain and Italy would have a negative impact of around 76 b.p. on the CET1 ratio of the main Portuguese banks (Section 2.3).

However, the purchase of government debt securities by the Eurosystem central banks under the PSPP and the Pandemic Emergency Purchase Programme (PEPP) will probably mitigate the rise in government debt yields in the secondary market. Moreover, the change in the funding structure of credit institutions since the sovereign debt crisis, with increased importance of customer deposits and capital to the detriment of financing in international wholesale debt markets, results in financing costs for banks that are much less sensitive to changes in risk perception by international investors (Section 2.5).

As a result of the extraordinary situation that the global economy currently faces and given the expected impacts on the financial system, the financial regulatory and supervisory authorities have eased a wide range of requirements usually imposed on institutions. In the case of the banking system, the European Central Bank allowed directly supervised authorities to temporarily operate below Pillar 2 Guidance and the combined capital buffer requirement, and with liquidity levels below the liquidity coverage requirement. This measure was extended by the Banco de Portugal to less significant institutions under its supervision (Special issue "Policy measures in response to the COVID-19 pandemic of relevance to financial stability"). The measures taken by authorities will enable, on the one hand, institutions to accommodate the expected impacts on regulatory capital stemming from the current crisis and the consequent rise in impairment losses and, on the other hand, to free up resources to fund economic activity.

Nature and implications of the pandemic crisis require a European coordinated response

The time extension of the pandemic implies permanent losses in productive capacity resulting from a higher probability of closure of firms, due to cash flow difficulties or insolvency. In the case of firms with some size and expansion projects, this option corresponds to the loss of technology and know-how, as well as customers' and suppliers' networks, which are difficult to recover by new firms entering the market. At the same time, as mentioned in several recent studies, the pandemic and the extension of corresponding social containment measures greatly increase the level of uncertainty, leading to the postponement of investment decisions and limited accumulation of physical capital, as well as the interruption of ongoing innovation processes. Likewise, social containment measures make it difficult to engage in school and training activities, limiting the accumulation of human capital during this period. In fact, the current crisis will tend to imply permanent losses in productive capacity against a counterfactual no-pandemic scenario. Thus, the pandemic crisis is a macroeconomic shock with substantial impacts on the business cycle, but also with damaging consequences in the long run.[29]

The magnitude of the macroeconomic shock caused by the pandemic in the short run, its potential implications for potential growth, as well as the asymmetrical impact among economic agents and regions, require the adoption of unprecedented fiscal stimulus measures by public authorities. The fiscal capacity of Member States requires a joint response from the European Union, so as to prevent an asymmetrical economic recovery, with likewise asymmetrical consequences for the domestic banking sectors.

The European Commission has swiftly responded to this need, by mobilising available resources from the EU budget, temporarily suspending the rules of the Stability and Growth Pact and approving an exceptional temporary scheme for State aid (Special issue "Policy measures in response to the COVID-19 pandemic of relevance to financial stability"). Additionally, the European Council adopted a package of measures allowing Member States to use funds channelled to mechanisms for Support to mitigate Unemployment Risks in an Emergency (SURE) and to access European Stability Mechanism loans to cover extraordinary expenditure in health associated with the COVID-19 pandemic, as well as allowing SMEs to access European Investment Bank funds with the purpose of supporting their liquidity.

On 27 May, the European Commission submitted the Next Generation Plan to the European Parliament aiming at fostering economic recovery in the European Union following the recession caused by the pandemic. The Plan, under the European Union's multiannual budget, aims at supporting the necessary investments and reforms for a robust economic recovery, promoting cohesion between Member States and encouraging the green and digital transitions. According to the proposal, the financing of the Plan will be ensured by the issuance of European Union debt with various maturities. The funds, totalling €750 billion, will have a two-third grant component, while the remainder is earmarked for loans to the Member States. From a financial stability perspective, support towards protecting employment and household income, as well as incentives to mobilise private investment towards the capitalisation of firms, are expected to make a positive contribution to the maintenance of debt servicing by economic agents.

[29] On the long-term effects of an economic crisis caused by an epidemiological phenomenon, see the Special issue "The economic impact of the pandemic crisis" in the May 2020 issue of the *Economic Bulletin* of the Banco de Portugal.

The current pandemic crisis has made it more urgent to take decisions to strengthen coordination and risk-sharing mechanisms in the Economic and Monetary Union. More than a decade after the onset of the crisis that revealed the weaknesses of the institutional framework of Economic and Monetary Union, the Banking Union project remains incomplete, and the risks generated in the banking systems of the Member States are not yet fully shared. Although the common supervision of banks is well-established and a common resolution fund is currently being set up, an agreement has yet to be reached in respect to a fully mutualised European deposit insurance scheme (EDIS). These would be important steps towards the internalisation of costs and benefits of decisions regarding banks at EU level. In addition, in the event of a possible extension of the pandemic crisis, the current political division may increase and be an obstacle to the operationalisation of ways to directly support the banking system, given the framework of State aid rules, despite the somewhat more flexible exceptional temporary scheme for State aid and the BRRD (Special issue "Policy measures in response to the COVID-19 pandemic of relevance to financial stability").

The new balance may result in a less global, but more digital and sustainable economy

The measures adopted to contain the health crisis have caused sudden changes in consumption patterns and disruption to value chains, especially at the cross-border level. To the extent that part of the economic and social changes that have taken place may be long-standing, economic agents should internalise greater importance of digital channels in commercial relations and adapt to a greater local concentration of distribution networks. Along with an upsurge in trade tensions and geopolitical between the United States and China, the consequences of the pandemic may create new obstacles to international trade, potentially hindering economic recovery and reducing potential growth in the economy globally.

The digitalisation of information systems and financial services has been a growing phenomenon in the banking system in recent years. This trend reflects increased use of digital channels by consumers, including banking customers and led to increased competition from new participants in the financial markets, in particular bigtechs, which use their platforms to offer financial services, together with other products and services. The entry of new players into the market may complement the investment of banks in information technology, through the development of partnerships that may add value to the banking activity, taking advantage of scale, learning and scope economies. The importance of the digitalisation of financial intermediation activities has become all the more clear over the past few months, with the increase in online transactions and the transition to remote work by a large share of workers in the services sectors, including in the financial sector. To the extent that these developments become permanent, either as a result of changes in consumer habits or as a means to prevent new public health crises, financial institutions must take the necessary steps to ensure smooth business continuity, particularly as regards technological security, thereby minimising cyber risk (Box 6).

The COVID-19 pandemic has generated a wide-ranging debate on its potential links to climate change and economic sustainability. One of these links refers to the possible existence of a causal relationship between climate change and the spread of zoonotic diseases. This assumption is based on the possible effect of climate change on the geographical distribution of animal species potentially carrying pathogenic agents, favouring the creation of conditions conducive to the emergence of new pandemic outbreaks, with social and economic consequences similar to those currently observed. A second link points to a possible positive effect of the pandemic on the pace of greenhouse gas (GHG) accumulation in the atmosphere. Over the past few months, a significant reduction in GHG emissions and other polluting gases has been observed worldwide, as a result of social confinement and restrictions on economic activities implemented to combat the public

health crisis. But this is a temporary phenomenon that becomes reverted as the economy enters the recovery phase.

However, the pandemic crisis will probably create favourable economic and political conditions for the transition to a sustainable low-carbon economy. At the European Union level, the need to mobilise public and private investment for the recovery of the economy, together with the commitments to reduce GHG emissions made under the Paris Agreement of 2015, should promote the allocation of resources to economic activities in line with the objective of carbon neutrality in 2050, laid down in the European Green Deal (COM(2019) 640 final) presented by the European Commission in December 2019. In addition, structural changes in patterns of consumption and production persisting after the pandemic crisis (e.g. reduction of travel due to widespread remote work in services), including the boost given to the digitalisation of the economy (e.g. increased e-commerce), may contribute to the achievement of the Paris Agreement targets.

In this context, the European Green Deal encompasses an ambitious roadmap with measures aimed at enabling European citizens and businesses to benefit from a transition to a green and sustainable economy, which is simultaneously fair and inclusive. Despite the economic crisis triggered by the COVID-19 pandemic, the European Commission has complied with its proposal under the Pact and has released a set of initiatives to achieve these objectives and address the substantial investments associated with the transition to a sustainable and inclusive growth model.[30] Similarly, the European Commission's Next Generation Plan, dedicated to the European economy's recovery following the pandemic crisis, is in line with the goals of the European Green Deal. The funds channelled through the European budgetary tools should not only focus on investment in projects compatible with the goals of the Paris Agreement but also be partly funded by the revenue generated from the EU Emissions Trading System and customs duties on carbon (still to be determined).

However, a recovery strategy guided by sustainability objectives is not without risk to financial stability, depending on the rules and criteria that may be adopted regarding the operationalisation of the funds made available. On the one hand, funds aimed at economic recovery, possibly channelled to the real economy through the financial system, will tend to be associated with some type of conditionality, regarding the alignment of these projects with the European Green Deal. This could lead the financial system to introduce positive discrimination when allocating funds in favour of projects that contribute to reducing greenhouse gas emissions (however, primarily safeguarding an adequate assessment of the projects' economic viability) to the detriment of other projects or sectors of activity. This behaviour would thus affect the financial situation of these firms or sectors and potentially their ability to meet the commitments made to the financial system. On the other hand, the possible funding of the European recovery fund via carbon taxes should penalise more polluting activities and, as such, more carbon-intensive sectors could face larger obstacles to borrowing and the generation of profitability. In this context, financial institutions more exposed to these sectors may be forced to early recognition of losses on some exposures.

> The continuation of international and European initiatives to combat money laundering reinforces the need to adopt, at the domestic and sectoral level, adequate response measures to address the identified risks

[30] More details on the European Green Deal can be found at https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en.

Globally, the pandemic caused by the novel coronavirus has placed an additional burden on the supervisors and supervised institutions – in an extremely difficult context – to ensure that the risk of money laundering and terrorist financing, exacerbated by the health crisis, is properly monitored. Indeed, international sources show that the incidence of computer-related crimes and fraud related to the COVID-19 pandemic (mainly to vulnerable groups) has surged, as well the resale of sparsely available products at speculative prices by criminal networks. It is therefore important to ascertain the origin of unexpected financial flows from customers in sectors that have experienced or are yet to experience impacts from the economic deceleration or the mitigation measures applied as a response to COVID-19. For that purpose, the Banco de Portugal, in addition to redirecting its supervisory activities without undermining their effectiveness, on 16 April published Circular Letter No CC/2020/00000023,[31] in which it warns financial institutions about the need to keep on putting in place effective systems and controls so as to guarantee that the financial system is not used as a tool for money laundering and terrorist financing, including against risks stemming from the pandemic juncture. The Circular Letter also notes the statements issued by the European Banking Authority[32] and the Financial Action Group (FATF)[33] in this specific area. Following its statement, on 4 May the FATF issued guidelines with measures to respond to the risks of money laundering and the financing of terrorism, which were exacerbated by the pandemic,[34] with emphasis on increasing the use of online services and the use of stimulus measures as a way of concealing proceeds of illicit origin. Therefore, promoting cooperation between domestic authorities and between these and the private sector is of fundamental importance, and it is incumbent upon the latter to adopt a risk-based approach when implementing the respective due diligence procedures, in an environment for developing electronic and digital means of payment, in order to prevent the migration of financial flows to new cash-intensive activities created by the pandemic.

At the European level, the strategic agenda of the European Union 2019-2024 recognises as a priority the development and strengthening of the European fight against terrorism and cross-border crime. In this respect, on 7 May this year, the European Commission presented an action plan for a comprehensive Union policy preventing money laundering and terrorist financing,[35] highlighting the following pillars, to be materialised in legislative proposals or other proposals of a more operational nature:

- Harmonisation of rules at the European level, considering the conversion of certain aspects of the Directive (EU) 2015/849, as amended by Directive (EU) 2018/843 (5AMLD), into a direct enforcement regulation;
- The establishment of an EU-level supervisor who, in the various scenarios designed, will always be in charge of supranational supervision of the financial sector;
- The establishment of a support and coordination mechanism for the Financial Intelligence Units (FIUs) of the Member States.

In a spirit of complementing the measures developed by the European co-legislators, the European Banking Authority has carried out exercises to assess the supervisory practices adopted by the competent authorities, in addition to the issuance of guidelines aimed at facilitating, among other goals, risk management in this area and the exchange of information between authorities (including prudential authorities).

Domestically, the process of parliamentary review of the draft law to transpose the 5AMLD into Portuguese law was initiated. Also noteworthy is the update of the national risk assessment of

[31] Available in *Official Bulletin* No 4/2020 of the Banco de Portugal https://www.bportugal.pt/sites/default/files/anexos/pdf-boletim/bo_4_2020s.pdf.

[32] Available at the EBA website.

[33] Available at http://www.fatf-gafi.org/publications/fatfgeneral/documents/statement-covid-19.html .

[34] Available at https://www.fatf-gafi.org/publications/fatfgeneral/documents/covid-19-ml-tf.html.

[35] Available at https://ec.europa.eu/finance/docs/law/200507-anti-money-laundering-terrorism-financing-action-plan_en.pdf.

money laundering and terrorist financing, which allowed for a mapping of the domestic threats in this field, together with an assessment of more significant vulnerabilities and sectoral controls, based on which response measures were already identified to address the detected weaknesses.

In terms of its work, the Banco de Portugal intends to carry on with the strengthening of its supervisory action in the prevention of money laundering and terrorist financing pursued over the past few years.

In addition to its on-site supervisory work heretofore performed, the Banco de Portugal will continue to assess internal control systems dedicated to the prevention of financial crime, in the context of the traditional off-site monitoring of supervised institutions.

As part of its supervisory action, and despite the initiatives taken and measures issued have concentrated on riskier institutions and business areas, the Banco de Portugal will also continue to monitor the response measures adopted by financial institutions against the risks which have emerged following the work carried out by civil society organisations (particularly the data releases by investigative journalist consortia).

1.2 Macroprudential policy

The Banco de Portugal, together with several national and international bodies, has adopted various measures to safeguard financial stability and ensure that the financial system is able to provide the necessary liquidity to help households and firms overcome the economic effects of the COVID-19 pandemic crisis. The measures taken in the various policy areas are detailed in the Special issue "Policy measures in response to the COVID-19 pandemic of relevance to financial stability".

Two of the main measures taken by the various bodies were the temporary flexibility in complying with part of the capital requirements, with a view to encouraging institutions to make use of their capital buffers, and the reduction in the level of some macroprudential buffers. In particular, on 12 March 2020 the ECB communicated that it would be flexible in approving capital conservation plans which significant 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, the ECB has also allowed institutions to temporarily operate below Pillar 2 Guidance and with liquidity levels below the liquidity coverage requirement. Pursuant to its microprudential supervisory tasks, the Banco de Portugal followed this decision and opted to also apply it to less significant institutions.[36] In this way, it guarantees a level playing field for both resident institutions and other euro area institutions.

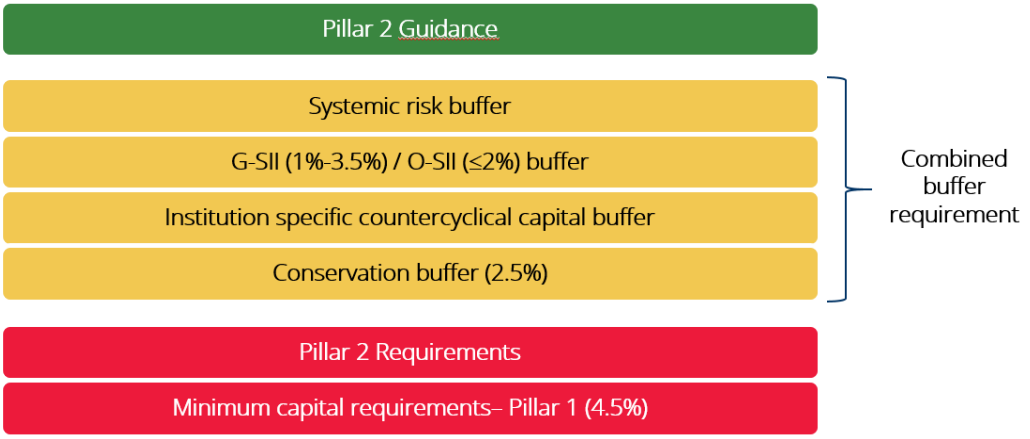
> The flexibility in complying with some capital requirements and the existence of voluntary capital buffers create room for the financial system to absorb potential losses and increase the ability to lend to the economy

[36] Press release of 16 March 2020, available at https://www.bportugal.pt/en/comunicado/press-release-banco-de-portugal-covid-19-response-measures.

The principle of building up capital (and liquidity) buffers to deal with risk materialisation underlies regulatory changes in the wake of the previous international financial crisis, with the purpose of preventing procyclical behaviour of the financial system during troubled times, which could exacerbate the effects of an adverse shock. In particular, these measures make it possible for institutions to be more able to absorb potential losses and ensure financing for the economy. The recent decision to provide temporary flexibility in complying with part of the capital requirements eases the restrictions on the granting of credit thereby imposed; however, the additional credit actually granted by institutions, following this decision, is conditional on various factors, the most notable of which are the amount of potential losses, the stigma associated with the use of capital buffers and the existence of complementary measures to support households and firms, as well as developments in credit demand.

The Common Equity Tier 1 capital requirements (CET1) applied to each institution may be split into three components (Table I.1.1): (i) minimum capital requirements (P1R) and Pillar 2 requirements (P2R), (ii) the combined buffer requirement, and (iii) the Pillar 2 Guidance (P2G). The Special issue "Interaction between minimum regulatory requirements and capital buffers" describes the underlying objectives associated with each capital component.

Table I.1.1 • Stylised diagram of the composition of Common Equity Tier 1 capital requirements and guidance according to CRR[37]/CRD IV[38]



Notes: Not to scale. The CRD IV sets the following restrictions: (i) should an institution be identified as both a G-SII and an O-SII, the highest buffer as a percentage of the total risk exposure amount prevails; (ii) should an institution apply a systemic risk buffer, a G-SII buffer and/or an O-SII buffer, the highest buffer as a percentage of the total amount of capital prevails, except if the systemic risk buffer applies only to all exposures located in the Member State. In this case, the systemic risk buffer should be cumulative with the maximum ratio between the O-SII or G-SII buffers applicable.

[37] Acronym for Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012.

[38] Acronym for Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC.

The flexibility in complying with the P1R and the P2R, even during periods of risk materialisation, should not be considered by the competent authorities. However, on 12 March 2020, the ECB announced that a measure envisaged in CRD V would be brought forward,[39] according to which directly supervised significant institutions are allowed to partially use capital instruments that do not qualify as CET1 to meet the P2R. This measure was initially scheduled to come into effect in January 2021.

The **combined buffer requirement** comprises a range of four buffers which are mostly set by the macroprudential authority. Any failure to meet this requirement implies that the institution is subject to restrictions on dividend distribution, the payment of AT1 instruments and the repurchase of own shares and the submission of a capital conservation plan to the microprudential authority, but does not jeopardise the institution's business. Penalties for non-compliance with this requirement are less stringent, precisely with the purpose of not depriving institutions from making use of these buffers during periods of risk materialisation and, therefore, preventing the adoption of behaviours with the potential to exacerbate the effects of a shock. In the current juncture, competent authorities expect that institutions use these buffers to limit the impact of the pandemic on economy funding, as well as to absorb potential future losses. In Portugal, the combined buffer requirement includes, after the introduction of COVID-19 pandemic response measures, two positive-valued buffers – the conservation buffer and the O-SII buffer – and amounts to EUR 5,539 million.

The **P2G** is set on an institution-by-institution basis and signals the microprudential authority's expectations of the appropriate level of own funds above the combined buffer requirement to deal with risk materialisation characterised by the need for institutions to absorb losses.[40] For the set of institutions that compose the Portuguese banking system, this decision totals EUR 1,260 million, which corresponded to 0.7% of risk-weighted assets as at December 2019.

The **voluntary capital buffer**, i.e. the share of the capital ratio that institutions own in addition to regulatory requirements, should be used to absorb losses arising from the adverse shock. In Portugal, the voluntary buffer as at the end of 2019, in terms of total own funds,[41] was EUR 6,407 million (3.4% of risk-weighted assets as at December 2019).

For Portugal, the combined effect of these measures, in terms of total own funds, is EUR 1,282 million (0.7% of risk-weighted assets as at December 2019). This amount results from the contribution of EUR 22 million (0.01% of risk-weighted assets as at December 2019) made by macroprudential measures and EUR 1,260 million (0.7% of risk-weighted assets as at December 2019) by microprudential measures. The contribution made by macroprudential measures is solely due to the reciprocity arrangement underlying the countercyclical buffer, while the contribution made by microprudential measures includes the relief in compliance with the P2G. In addition, the relief in compliance with the P2G is conditioned by the need to meet other requirements, such as the T1 ratio.

As such, in terms of total own funds, the overall value of microprudential and macroprudential measures (0.7% of risk-weighted assets as at December 2019), the combined buffer requirement (3% of risk-weighted assets as at December 2019) and also the voluntary capital buffer (3.4% of

[39] Acronym for Directive (EU) 2019/878 of the European Parliament and of the Council of 20 May 2019 amending Directive 2013/36/EU as regards exempted entities, financial holding companies, mixed financial holding companies, remuneration, supervisory measures and powers and capital conservation measures.

[40] Non-compliance with the P2G does not automatically trigger microprudential supervisory measures.

[41] Total own funds comprise Tier 1 capital (CET1), additional Tier 1 capital (AT1) and Tier 2 capital (T2).

risk-weighted assets as at December 2019) corresponds to 7.1% of risk-weighted assets as at December 2019 (EUR 13,227 million).

Turning to the **conservation buffer**, the Portuguese banking system built up a total amount of EUR 4,685 million (2.5% of risk-weighted assets as at December 2019) to meet this buffer requirement.

The countercyclical capital buffer was released in several EU countries, but remained unchanged in Portugal, in the first quarter of 2020, at 0% of total risk exposure amount

The **countercyclical capital buffer** affords macroprudential authorities the possibility of determining different requirement levels throughout the various financial cycle stages. Due to the abrupt, sharp reversal in the business cycle in the wake of the COVID-19 pandemic, several macroprudential authorities have decided to change the level of this buffer, acting in line with the purpose set for this buffer. However, in light of the slower recovery in the Portuguese economy and banking system following the previous economic and financial crisis, the Banco de Portugal, together with other macroprudential authorities (for instance, in Spain or Italy), chose not to activate the countercyclical capital buffer and, consequently, maintained it at 0% of the total risk exposure amount in the first quarter of 2020.

By contrast, a number of macroprudential authorities in the European Economic Area (EEA)[42] had been increasing the countercyclical buffer rate in response to the expansionary phase of the financial cycle in the respective countries,[43] before the state of health emergency was declared. However, given that not all countries are in the same stage of the financial cycle, the leeway in the conduct of macroprudential policy as regards this buffer is expected to diverge considerably across European countries. In March, the macroprudential authorities in seven countries (Denmark, France, Iceland, Ireland, Lithuania, Sweden and the United Kingdom) fully released their countercyclical capital buffer, while two macroprudential authorities (Czechia and Norway) released this buffer only in part (Chart I.1.32). In addition to these decisions, with an immediate effect, several macroprudential authorities have also decided to revoke decisions to increase this buffer prior to the onset of the pandemic in Europe (Belgium, Bulgaria, Czechia, Denmark, France, Germany, Slovakia and the United Kingdom). Although decisions on revocation do not ease the current requirements applied to institutions, they eliminate the need to strengthen own funds and thus prevent the potential adoption of deleveraging behaviour. The macroprudential authorities in Slovakia and Luxembourg have decided to maintain the previously determined (positive) levels of the countercyclical capital buffer.

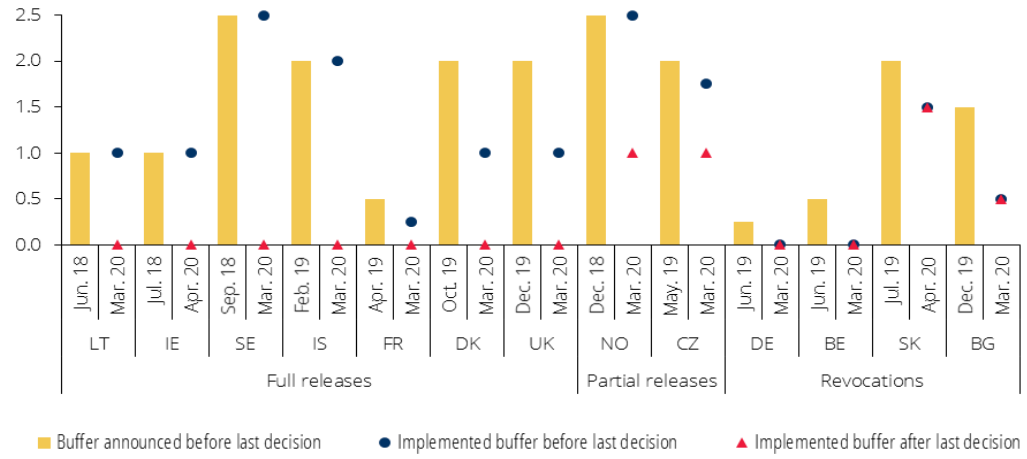
The heterogeneous decisions taken by the macroprudential authorities are due to a number of factors, some of which have already been mentioned, such as the different stage of the financial cycle, but also importantly, the existence of different measures across countries to prevent the materialisation of losses in the banking system and differing interpretations on the role to be played by macroprudential policy against a shock exogenous to the financial system or even the high uncertainty about the impact of this crisis on the financial system. Also, the automatic

[42] The European Economic Area includes the Member States of the EU, Iceland, Liechtenstein and Norway.

[43] For more details on the implementation of the countercyclical capital buffer in the European Union, see the December 2018 issue of the *Financial Stability Report*, namely Box 3 "Implementation of countercyclical capital buffers in the European Union".

reciprocity arrangement applied to the countercyclical buffer means that these decisions have cross-border impacts, thus highlighting the need for cross-country coordination, also in terms of macroprudential policy, to prevent undesirable effects.

Chart I.1.32 • Changes to the countercyclical capital buffer | As a percentage of the total risk exposure amount



Source: European Systemic Risk Board. | Note: The dates shown refer to the dates on which the respective macroprudential authorities' decisions were announced.

The Banco de Portugal postponed by one year the phase-in period of the O-SII capital buffer

The **other systemically important institutions capital buffer** (O-SII) aims at mitigating the build-up of structural systemic risk associated with misaligned incentives and moral hazard stemming from the expectations of implicit State support should these institutions run into difficulties. According to EBA guidance to this end, six banking groups were identified as O-SII in Portugal (CGD, BCP, LSF Nani, BST, BPI and CEMG). The O-SII buffer rate, calibrated on the basis of the cluster methodology,[44] ranges from 0.25% to 1% of the total risk exposure amount and has been gradually implemented since 2018. Moreover, these O-SII buffer rates meet the minimum values set out by the ECB's floor methodology[45] used to assess national decisions on this matter.

[44] For further details on the cluster methodology, see the methodological note entitled "Identification of other systemically important institutions (O-SIIs) and calibration of O-SII capital buffers" available on the Banco de Portugal's website at https://www.bportugal.pt/sites/default/files/anexos/ doc_osii_en_0.pdf.

[45] For more details on the ECB's floor methodology, see the June 2017 issue of the ECB's *Macroprudential Bulletin*, more specifically, Chapter 1 "ECB floor methodology for setting the capital buffer for an identified Other Systemically Important Institution (O-SII)" available at https://www.ecb.europa.eu/pub/pdf/mpbu/ecb.mpbu201706.en.pdf?a0ca5c14c0065da8601d2995de6bc622.

On 7 April 2020, the Banco de Portugal decided to postpone by one year the phase-in period of the O-SII capital buffer, established in 2017[46] and reviewed in 2019.[47] This decision is part of a wider set of measures taken by the Banco de Portugal in response to the shock triggered by the COVID-19 pandemic and aims at preventing the banking system from acting as an amplification channel for this shock. As such, the O-SII buffer rate that the six banking groups identified as O-SII in Portugal would have to meet by 1 January 2021 was postponed to 1 January 2022 (Table I.1.2). As regards the BCP, and given the longer deadline it was granted to fully meet the O-SII buffer following an increase in its systemic importance in 2019, the end of the maintenance period was postponed from 1 January 2022 to 1 January 2023. It should be noted that this decision does not jeopardise these institutions' level of resilience.

At European level, the macroprudential authorities in Cyprus and Greece have adopted, under this buffer, a similar decision to that of the Banco de Portugal, while the Lithuanian macroprudential authority has postponed the phase-in period of the O-SII buffer for one institution, the sole for which the phased-in implementation had not yet been concluded. Similarly to the decisions to revoke the countercyclical buffer, these decisions do not correspond to an easing in the current requirements applied to institutions, but help reduce potential deleveraging behaviour among institutions to meet more stringent future requirements amid high uncertainty and expectations of lower profitability.

Table I.1.2 • Other systemically important institutions capital buffer in Portugal | As a percentage of the total risk exposure amount

		Implementation date			
O-SIIs	O-SII buffer	1 January 2020	1 January 2021	1 January 2022	1 January 2023
Caixa Geral de Depósitos	1.000	0.750	0.750	1.000	1.000
Banco Comercial Português	1.000	0.563	0.563	0.750	1.000
LSF Nani Investments	0.500	0.375	0.375	0.500	0.500
Santander Totta	0.500	0.375	0.375	0.500	0.500
Banco BPI	0.500	0.375	0.375	0.500	0.500
Caixa Económica Montepio Geral	0.250	0.188	0.188	0.250	0.250

[46] In accordance with the Decision of the Board of the Banco de Portugal of 30 November 2017, this buffer shall be met under the following terms: 25% of the buffer on 1 January 2018, 50% of the buffer on 1 January 2019, 75% on 1 January 2020 and 100% on 1 January 2021. Press release available on the Banco de Portugal's website at https://www.bportugal.pt/en/comunicado/press-release-banco-de-portugal-imposition-capital-buffers-credit-institutions-identified.

[47] In accordance with the Decision of the Board of the Banco de Portugal of 29 November 2019, the O-SII buffer requirement imposed on the Banco Comercial Português, S. A., was revised, from 0.75% to 1.00%, following the increase of its systemic importance for the Portuguese financial system. In this context, the phased-in period of implementation of the O-SII buffer for this institution was revised. Press release available on the Banco de Portugal's website at https://www.bportugal.pt/en/comunicado/press-release-banco-de-portugal-imposition-capital-buffers-credit-institutions-identified.

The systemic risk buffer is aimed at preventing or mitigating the structural systemic risk which is not taken into account by other prudential requirements or macroprudential buffers. This buffer is currently not in place in Portugal, but it has been introduced in 16 EEA countries. In response to the shock triggered by the COVID-19 pandemic, the macroprudential authorities in Estonia, Finland and Poland have fully released the systemic risk buffer for all institutions, while the Dutch macroprudential authority has released this buffer only in part. The Finnish and Dutch macroprudential authorities have also decided to lower the O-SII buffer rate applied to some institutions due to the linkages between this buffer and the systemic risk buffer, thus ensuring an actual easing in capital requirements. In Estonia and Poland, this buffer only applies to domestic exposures and, therefore, the systemic risk buffer is cumulative with the O-SII buffer. These decisions can also have cross-border effects under the voluntary reciprocity arrangement agreed among EEA countries.[48]

The use of buffers can be limited for some institutions, particularly those with less diversified capital instruments in their own funds composition, due to the need to meet the minimum levels set for the Tier 1 capital ratio and the total capital ratio. In the future, the use of buffers may also be limited following the entry into force of regulatory minimum requirements with respect to the leverage ratio and the setting up of the minimum requirement for own funds and eligible liabilities (MREL). The Special issue "Interaction between regulatory minimum requirements and capital buffers" describes the future interaction between the three requirements and discusses the potential restrictions that may arise in the future from the need to meet all three types of requirement simultaneously. However, in the short term, decisions were made to mitigate potential negative consequences of the linkages between these requirements.

The flexibility in complying with requirements and the reduction in buffers are temporary and a deadline has not yet been set for institutions to resume the minimum capitalisation levels required prior to the onset of this crisis. The duration of these measures should be aligned at European level, given (i) the initial position of institutions in each country, (ii) the heterogeneous impact of the pandemic crisis on those institutions, and (iii) the period of time necessary to stabilise economies.

Finally, Article 458 of the CRR permits the macroprudential authorities some national flexibility.[49] So far, the Banco de Portugal has not yet applied any measure pursuant to this article and, at European level, most macroprudential authorities which had already implemented measures under this national flexibility have decided not to make any changes. The sole exception was the Dutch macroprudential authority, which postponed the introduction of a floor for the average risk weight applicable to exposures collateralised by immovable property.

> The Banco de Portugal has assessed the adequacy of the macroprudential Recommendation in the context of the COVID-19 pandemic and has decided to make a temporary adjustment.

[48] For more details, see the ESRB Recommendation 2015/2 on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures.

[49] This articles provides for action to be taken concerning the following elements: (i) the level of own funds, (ii) the requirements for large exposures, (iii) the public disclosure requirements, (iv) the level of the capital conservation buffer, (v) liquidity requirements, (vi) risk weights for targeting asset bubbles in the residential and commercial property sector, and (vii) intra financial sector exposures.

In the context of the COVID-19 pandemic, the Banco de Portugal has assessed whether the macroprudential Recommendation in force since July 2018[50] remained appropriate.[51] One concern in this analysis was the need to change the design or calibration of the Recommendation, and whether it did not collide with other measures taken at national level. The design of the macroprudential Recommendation within the legal framework of new credit agreements for consumers had considered flexibility elements that could be used in a risk materialisation scenario. In fact, part of the new credit agreements concluded with consumers are not covered by the Recommendation, such as:

- Credit intended to prevent or address arrears situations is excluded, thus giving greater flexibility to the design of these agreements.[52]
- Credit agreements in the form of an overdraft facility and other credit with no defined repayment schedule (including credit cards and credit lines) are also excluded.
- Credit agreements for an amount equal to or lower than the equivalent to tenfold the guaranteed monthly minimum wage (approximately EUR 6,400) fall outside the scope of the Recommendation.
- To these exclusions are added the already existing exceptions to compliance with the DSTI ratio (debt service-to-income ratio), which allow for 5% of the volume of new credit to be granted to borrowers with a DSTI ratio with no upper limit.

In addition, it should be noted that the Recommendation is not an impediment to the application of a moratorium to address households' temporary liquidity shortages. The same applies to moratoria that institutions have been granting on a voluntary basis.

In the context of this analysis, the Banco de Portugal has also decided that personal credit with maturities of up to two years and duly identified as intended to mitigate households' temporary liquidity shortage situations are exempt for having to comply with a DSTI ratio limit and from observing the recommendation of regular principal and interest payments. This decision is aimed at fostering access to short-term liquidity, while continuing to anchor credit standards in the medium to long term. This change applies to new personal credit agreements signed between 1 April and 30 September 2020, when its adequacy will be reviewed.[53]

The amendment to the Recommendation, published on 31 January 2020, and which entered into force on 1 April 2020, was maintained, as it does not compromise the ability to address households' temporary liquidity shortages. This amendment provides for a reduction of the maximum maturity of personal credit to seven years, with the exception of credit for education, healthcare and renewable energy, which will continue to have a maximum maturity of ten years,

[50] Reference document on the macroprudential Recommendation on new credit agreements for consumers introduced in February 2018 and in force since July 2018, available at https://www.bportugal.pt/sites/default/files/macroprudential_measure_background_doc.pdf.

[51] Press release of Banco de Portugal on the macroprudential Recommendation on new credit agreements for consumers in the context of the COVID-19 pandemic available at https://www.bportugal.pt/en/comunicado/press-release-banco-de-portugal-macroprudential-recommendation-new-credit-agreements.

[52] A fundamental issue, although microprudential in nature, is the treatment of this credit for provisioning purposes, in particular the application of IFRS 9. In this context, the SSM has issued a recommendation for banks not to act procyclically and to take advantage of the transitional provisions of IFRS 9.

[53] At European level, the Swedish macroprudential authority has temporarily suspended rules on loan repayments established in its amortisation requirement, while the Czech macroprudential authority has extended the exceptions associated with the LTV ratio, increased the limit of the DSTI ratio and eliminated the limit to the DTI ratio.

provided that these purposes are duly evidenced. In addition, the exceptions provided for in the Recommendation for granting credit to borrowers with a DSTI ratio above 50% and below 60% were lowered, while the 5% exception to the DSTI ratio limits was maintained.[54]

The European institutional framework underwent some changes, with implications for the macroprudential arm

The European Systemic Risk Board (ESRB) is the body responsible for the macroprudential oversight of the EU financial system and the prevention and mitigation of systemic risks to the financial system.[55] In the pursuit of its mandate, the ESRB monitors and assesses systemic risk and, where appropriate, issues warnings and recommends action.

In January 2020, the ESRB's mandate was clarified as regards its responsibilities in the identification of all types of systemic risks, regardless of their origin.[56] The ESRB shall also consider the systemic risk stemming from technological innovation and environmental and social factors, as well as the implications of monetary policy for financial stability, while safeguarding the independence of central banks. This change also states that the ESRB's risk monitoring perimeter will cover not only EU-wide systemic risk, but also systemic risk in one or more Member States originating in sectors other than the banking sector.

The ESRB's accountability mechanism and reporting obligations were also extended, with provisions for the release of reports following its General Board meetings, holding press conferences, undertaking public consultations with stakeholders (for instance at an early stage when preparing recommendations), and imposing a duty of replying (orally or in writing) to questions put to it by the European Parliament or the EU Council. Changes were also made to the internal governance of the ESRB and its voting mechanisms. It was decided that the President of the ECB will chair the ESRB on a permanent basis (this set-up was already in place but was initially envisaged as temporary), while the first Vice-Chair is now elected by and from the members of the General Council of the ESRB (instead of by and from the members of the General Council of the ECB).

Furthermore, there were changes to the European System of Financial Supervision (ESFS), which aims at ensuring the proper supervision of the EU financial system, in terms of both macroprudential and microprudential supervision.[57] Changes to the supervisory system include an EU-wide strategic supervisory plan and the strengthening of existing procedures, such as peer reviews and consultations. These changes: (i) increase the role and the power of the boards in charge of the European Supervisory Authorities (ESAs), which are accountable to the European Parliament and the EU Council; (ii) grant supervisory powers to the ESMA on critical benchmarks and consolidated tape providers (CTPs); and (iii) increase the role and the power of the EBA in the supervision of financial institutions in relation to anti-money laundering.

[54] Reference document on the macroprudential Recommendation on new credit agreements for consumers: https://www.bportugal.pt/sites/default/files/2020_doclimites_en.pdf.

[55] The scope of the ESRB's mandate is comprehensive, and covers credit institutions, insurance corporations, pension funds, asset management funds, non-bank financial intermediaries, market infrastructure, other financial institutions and markets.

[56] Regulation (EU) 2019/2176 of the European Parliament and of the Council of 18 December 2019 amending Regulation (EU) No 1092/2010 on European Union macro-prudential oversight of the financial system.

[57] This system comprises the ESRB, the EBA, the European Insurance and Occupational Pensions Authority (EIOPA), the European Securities and Markets Authority (ESMA), the Joint Committee of the European Supervisory Authorities and national supervisory authorities.

2 Banking system

The current context of health and economic crisis, due to the COVID-19 pandemic, makes all economic agents, banks included, face a test of their resilience. For this reason, the analysis of the situation of the Portuguese banking system at the end of 2019 is particularly relevant to describe the conditions available to face an adverse macroeconomic environment, characterised by a deep economic recession and high uncertainty.

The progress made by the banking system over the last decade, particularly in the past few years, has been highly significant for the sector to be better prepared today to fund the Portuguese economy. First, the system's solvency level, as measured by the total capital ratio, has increased by 7.4 percentage points (p.p.) since the onset of the 2007-08 global financial crisis, to stand at 16.7% by the end of 2019. Furthermore, the ratio of total average equity to total average assets increased by 3.8 p.p. over the same period, to 9.3%, i.e., the system's leverage decreased.

Second, the size of the banking system stood at 185% of GDP at the end of 2019, which represents a substantial reduction of around 110 percentage points against 2010. This figure is considerably lower than the weight of banks in the euro area, which in September 2019 stood at 230% of GDP. Bank downsizing in the Portuguese economy reflects, to a large extent, the process of adjustment of the level of indebtedness of firms and households. It should be noted, particularly in the case of firms, that there was a sharp reduction in loans granted to the construction and real estate sectors in the domestic activity, their weigh having fallen by 4.8 p.p., as a percentage of banks' assets, between 2006 and 2019.

Third, there was a shift in banks' balance sheet. As regard the financing structure, it is worth noting the significant increase in the importance of customer deposits to the detriment of market instruments, reducing the system's vulnerability to changes in the perception of risk by international investors. As a result of developments in credit and deposits, the loan-to-deposit ratio decreased by 66 p.p. against 2008, standing at 87% by the end of 2019. On the assets side, the significant increase in sovereign debt securities and, to a lesser extent, in cash balances at central banks made it possible to increase overall liquidity levels, although, in the first case, it also contributed to the increase in the indirect interlinkage of the financial system and the nexus between banks and sovereigns.

Fourth, operational costs, as a percentage of assets, have been falling since 2005. The restructuring programmes carried out by the institutions over the last decade have contributed to these developments, resulting in a significant decline in the number of branches and bank employees in Portugal, between 2005 and 2018, of 24% (-1.3 thousand branches) and 10% (-5.1 thousand employees), respectively, thus contributing to an improvement in the operational efficiency. Finally, the significant reduction since June 2016 in the Non-performing loans (NPL) ratio, net of impairments, stood at 3.6% in September 2019 (3% in December), corresponding to a reduction in NPLs of around EUR 33 billion. It remains, however, above the euro area median by 2 p.p. It should be noted that the cross-cutting improvement in these indicators occurred, to a greater or lesser extent, in an environment characterised by some heterogeneity across institutions.

Despite the positive developments over the past decade, which have improved the resilience of the banking system to adverse shocks, a number of vulnerabilities and challenges remain for the Portuguese banking sector, which plays a particularly relevant role in the current pandemic crisis. Amongst other factors, the impact of this crisis on the banking system will depend, on the one hand, on the depth and duration of the current crisis and, on the other hand, on the effectiveness of the various mitigation measures adopted (Section 1.1).

In 2019, the profitability of the banking system continued to improve and was positive for the third consecutive year. However, compared to the period before the global financial crisis, banks are showing a lower profitability level against a prolonged backdrop of exceptionally low interest rates. In addition, the materialisation of macroeconomic projections for the period 2020-2022, characterised by a deep recession and a slow recovery, should negatively translate into the ability to serve the debt of the non-financial private sector. This impact will be more relevant for firms with low levels of liquidity and/or capital, associated with sectors of activity that are particularly vulnerable to the consequences of the pandemic, causing a deterioration in loan quality and a consequent increase in NPLs. In this context, the deterioration in net interest income and the increase in impairment are expected.

According to the results of the Bank Lending Survey, the surveyed institutions predict, for the second quarter of 2020, an increased tightening of credit standards, more strongly felt in households and narrowly in firms. On the demand side, institutions predict, for the same period, a fall in the case of households and a considerable increase in firms, in particular for short-term credit, in a context of liquidity shortages arising from the pandemic. It is expected, however, that the government measures adopted to cover part of the loans by public guarantees or by public or private moratorium schemes will act to mitigate the liquidity shortfalls in firms and households and the increase in new NPLs flow and, thus, their negative impact on institutions. Similarly, the low level of interest rates should also act as a mitigating factor for credit risk materialisation.

The combination of these effects should negatively hamper profitability and thus the ability to generate organic capital. Hence, notwithstanding the above-mentioned significant improvement in Portuguese banks' capital level, the importance of several measures taken by the ECB and the Banco de Portugal to safeguard financial stability should be stressed. The possibility that institutions may temporarily operate with capital levels below the capital recommendation (P2G) and the combined capital buffer is of particular note. These measures total EUR 1,260 million and EUR 5,539 million (0.7 p.p. and 3.0 p.p. of total capital ratio, respectively, as at December 2019). It should be noted that these reserves were established following the regulatory changes introduced in the aftermath of the previous global financial crisis, with the aim of mitigating a pro-cyclical action by the institutions, also conferring an increased ability to tackle risk situations. Overall, these measures total EUR 6,821 million. In addition to this amount is the voluntary capital buffer of total capital ratio, i.e., the portion of the total capital ratio that institutions have besides the regulatory requirements, which totalled EUR 6,407 million at the end of 2019 (3.4 p.p. of the total capital ratio, as at December 2019).

The current environment also reinforces the need to pursue prudent distribution policies for income generated, particularly as regards dividend distribution. Further to the COVID-19 pandemic, the Banco de Portugal and the ECB/SSM decided to call on institutions not to distribute dividends for 2019 and 2020, to increase their performance in funding the economy and their ability to absorb potential losses.

Finally, it is important to ensure the mitigation measures required to control the risk of cyber-attacks, given the significant rise in the number of teleworkers and the increasing digitalisation of the financial sector. In addition, an adequate assessment and control of other dimensions of the operational risk, including anti-money laundering and terrorist financing activities, should not be neglected.

2.1 Profitability

The profitability of the banking system improved in 2019, despite being at a significantly lower level than that observed in the pre-global financial crisis period

In 2019, return on assets (ROA)[58] increased by 17 b.p., compared to 2018, standing at 0.45%, the highest value since 2008 (Chart I.2.1). In turn, return on equity (ROE)[59] increased by 1.9 p.p. in 2019 to 4.9% (when profit/loss before tax is considered, ROE increased by 0.9 p.p. to 8%). Despite the recovery in profitability in recent years, its current level remains significantly lower than in the pre-global financial crisis 2007-08 period. This shortfall is partly due to the sharp decrease in gains arising from financial operations, as well as to the material reduction in net interest income, associated with the current extremely low level of interest rates and the increase in defaults in the wake of that crisis. In the case of ROE, in addition to the factors that explain the ROA evolution is the lower leverage of the banking system.

Recurring operating result[60] remained steady in 2019 (EUR 3.7 billion; 0.95% as a percentage of assets), following a significant upturn since the end of the Economic and Financial Assistance Programme (EFAP), reaching one of the highest levels in recent decades. Developments in recent years resulted from a decrease in operational costs and, to a lesser extent, from an increase in fees, which more than offset the drop in net interest income. The contrast between developments in this indicator and in ROA is chiefly due to the fact that the banking system has, over the recent years, had less income in less stable components, namely in financial operations. Thus, although overall profitability is lower than in the past, the component that is more structural assumes a higher preponderance, even when compared with a lower ability of institutions to generate net interest income.

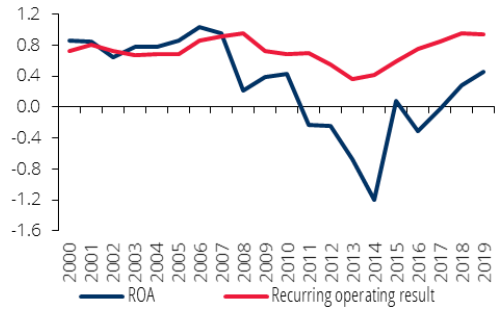
The average profitability of the banking system in 2019 reflects very heterogeneous situations amongst institutions, on the one hand, at the level of the loss/gains binomial, and on the other, at the level of its composition and main drivers. In 2019, despite the system's positive ROA, some institutions, representing 13% of the sector's assets, continued to post losses (Chart I.2.2). In fact, the dispersion of this indicator is still significant, despite the reduction observed last year.

[58] In calculating the return on assets (ROA) it consists of net income as a percentage of average assets.

[59] In calculating the return on assets (ROE) it consists of net income as a percentage of average equity.

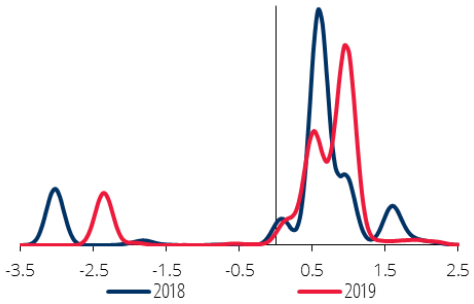
[60] Recurring operating result is aggregate net interest income and net fees and commissions less operational costs.

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. Data prior to 2008 refer to the aggregate of other monetary institutions which represents more than 98% of the banking system's assets after 2008. For further details, see section 3.1.3 of the *Séries Longas Setor Bancário Português 1990-2018: Apresentação e Notas Metodológicas*, Banco de Portugal (only in Portuguese).

Chart I.2.2 • ROA – Empirical distribution | Per cent



Source: Banco de Portugal. | Notes: Empirical distribution obtained using a Gaussian kernel that weights institutions by their assets. The return on assets (ROA) is calculated as the net result as a percentage of average assets.

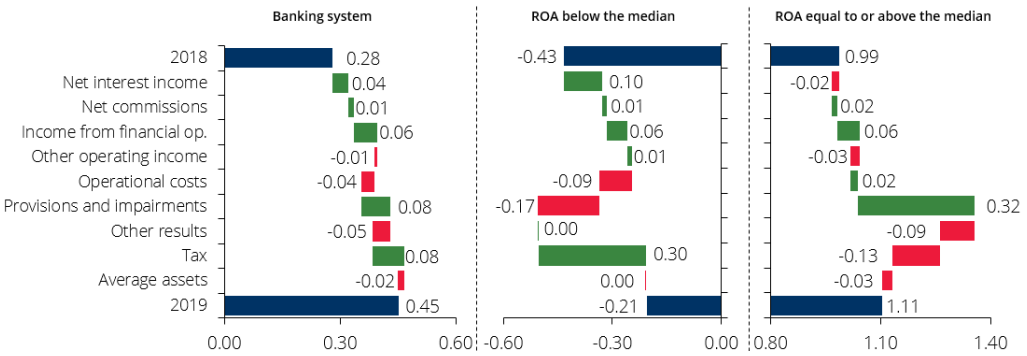
The increase in profitability in 2019 reflected mainly a reversal net of provisions and a decrease in taxes paid, despite, in particular, the increase in impairment on credit

ROA developments, in 2019, chiefly reflected a net reversal of provisions and, to a lesser extent, the increase in profits from financial operations and net interest income (Chart I.2.3). However, this positive contribution to ROA was mitigated by an increase in impairment and less so by an increase in operational costs and a deterioration in "other results" item.

The above-mentioned profitability heterogeneity can be highlighted by analysing two subsets of institutions. The first, that aggregates institutions with a ROA, in 2019, lower than the weighted median of the system (0.93%), and a second one that aggregates the others. In both sub-sets there was an improvement in profitability last year. However, the first subset of institutions shows a drop in losses caused by an upturn in net interest income and a reduction in taxes paid. This last factor was due to the dissipation of a base effect associated with the recognition, in 2018, of the inability to use deferred tax assets generated by tax losses, and this effect was concentrated in one institution. In addition, there was an increase in impairment costs on credit and operational costs for these institutions. This contrasts with what was observed in the subset of institutions with a ROA above the median, where the increase in profitability was chiefly due to a decrease in costs with provisions and credit impairments.

These shortfalls show that there are two groups of institutions in different adjustment stages, particularly as regards the reduction in non-performing assets and the resizing of their activities. In turn, this heterogeneity highlights different levels of resilience/vulnerability of the institutions that make up the system, a fact that is particularly material given the possible consequences of the current pandemic crisis. In addition, pandemic impacts may be amplified depending on the exposure of each institution to the sectors considered as the most sensitive to the pandemic (Boxes 2 and 3).

Chart I.2.3 • ROA – Level and contribution to its variation | As a percentage and percentage points of average assets

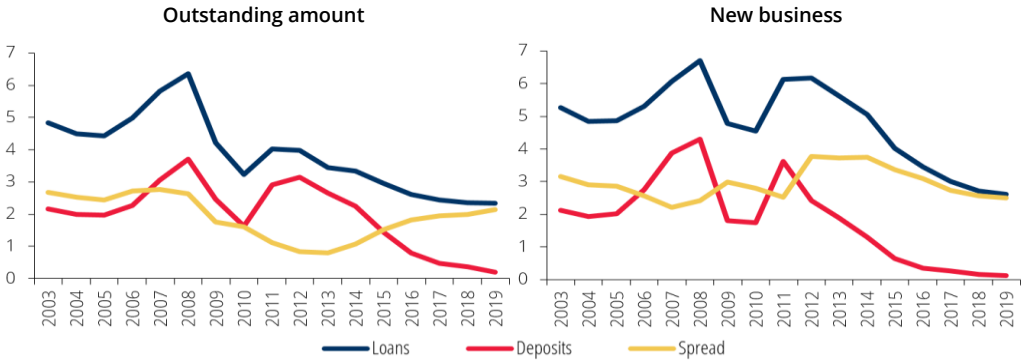


Source: Banco de Portugal. | Notes: The return on assets (ROA) is calculated as the net result as a percentage of average assets. The blue bars refer to ROA. The remaining bars correspond to contributions to the change in ROA.

Net interest income increased by 2.5% in 2019, due to a decrease in interest expenses higher than the decrease in interest income. This growth mainly reflected an increase in interest-bearing assets higher than the increase in interest-bearing liabilities and was mitigated by a decrease in the implicit interest rate on assets slightly higher than the decrease in the interest rate on liabilities, to 2.4% and 0.6%, respectively. However, the contribution of net interest income to profitability remained significantly lower than in the pre-global financial crisis period. In fact, between 2000 and 2008, the lowest figure recorded was a 1.90 p.p. ROA, still above that in 2019 by 25 b.p. This shortfall partly reflects the lower level of interest rates and also the persistence of non-performing loans on the institutions' balance sheets as a result of more defaults during and following the financial and sovereign debt crises (Section 2.2).

In the domestic activity, the spread between interest rates on loans and deposits from the non-financial private sector (outstanding amounts) increased to 2.1 p.p. (2.0 p.p., in 2018), due to a 15 b.p. decrease in the rate on the outstanding amount of deposits, which stands at 20 b.p., since the average credit rate showed a virtual stabilisation (Chart I.2.4). Despite its increase, this spread is lower than that observed between 2003 and 2008, which, on average, stood at 2.6 b.p., i.e., 50 b.p. higher than in 2019. As regards new operations, the spread narrowed to 2.5 p.p., as a result of a reduction in the interest rate on loans higher than the decrease in the interest rate on deposits. The current spread on new operations is 18 b.p. lower than the average between 2003 and 2008.

Chart I.2.4 • Interest rates on loans and deposits with the non-financial private sector - Domestic | As a percentage and percentage points



Source: Banco de Portugal. | Notes: The non-financial private sector includes SNF and households. Average annual rates weighted by their respective amounts. The series refer to the reporting on an individual basis of the other monetary financial institutions resident in Portugal.

In 2019, gains/losses arising from financial operations stood at 0.05% of average assets, in contrast to a slight loss in the previous year. Of particular importance to these developments was the increase (above 180%) in results associated with exposure to public debt and the dissipation of the base effect relating to the loss incurred in 2018 on the significant sale of non-performing assets[61]. These positive effects were mitigated by the increase in losses on equity instruments and liabilities represented by securities.

Operational costs rose by 2.5%, negatively contributing to changes in ROA (-0.04 p.p.). Despite these recent developments, operational costs have decreased significantly over the last decade and a half (Chart I.2.5). In particular, after 2005, operational costs, as a percentage of average assets, started dropping from 1.95% to 1.46%, reflecting, inter alia, the reduction in the operating structure of institutions headquartered in Portugal, in terms of number of branches and employees: a 24% reduction, between 2005 and 2018[62], (-1.3 thousand branches) and 10% (-5.1 thousand employees), respectively.

In 2019, the cost-to-income ratio[63] fell 1.1 p.p. from 2018, to 59.2%, as a result of an upturn in total operating income than in operational costs. Despite the banks' cost structure adjustment, the cost-to-income ratio remains higher than over the period immediately preceding the global financial crisis (53.8% in 2006; 54.3% in 2007), reflecting a significant drop in total operating income, in the meantime. However, as with ROA, when analysing a more structural definition of this metric, considering only net interest income and fees instead of total operating income, this indicator (cost-to-core-income) has been showing a clear improvement since 2000[64]. This difference in the evolution of the two indicators results from the fact that the efficiency levels observed immediately before the 2008 crisis were greatly influenced by more volatile results, particularly by income from financial operations.

[61] In 2019, as in 2018, there was a significant set of non-performing loan sales (Section 2.2). However, the net book value of these assets at the time of the sale would be closer to the value at which they were sold, thus generating less losses on financial operations.

2019 figures are not yet available (Source: *Séries Longas Setor Bancário Português*, Banco de Portugal (only in Portuguese)).

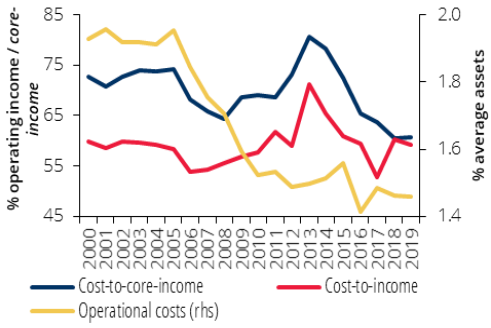
[63] The cost-to-income ratio corresponds to the ratio of operational costs to total operating income.

[64] Although this downward trend is in place since 2000, it should be noted that in 2012 and 2013 there were sharp increases in the cost-to-core-income ratio as a result of a drop in net interest income.

In 2019 the heterogeneity of the cost-to-income ratio among institutions rose, reflecting an increase in this indicator for institutions with the highest value in tandem with a reduction for institutions with the lowest value (Chart I.2.6). As regards this ratio level, it should be noted that in 2019 two distinct realities coexisted in the banking system: institutions with a ratio between 45% and 70%, and institutions with a ratio above 95%. As mentioned above, despite the fact that institutions are at different adjustment stages, in particular as regards the resizing of their activities, this difference in levels can be explained by the different realities of the institutions, as regards total operating income, i.e., institutions with a ratio above 95% have on average a lower level of total operating income, as a percentage of assets, than the others. This is due to lower income from financial operations and, to a lesser extent, a lower net interest income. Considering the cost-to-core-income, which does not depend on income from financial operations, the heterogeneity among institutions is smaller and decreased slightly in 2019.

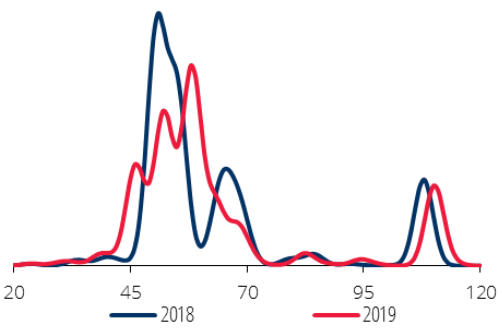
In the current context of the COVID-19 pandemic, and specifically as a result of containment measures, the number of teleworkers and the use of digital banking services rose, thus increasing the risk of cyber-attacks. Against this backdrop, the measures to mitigate this risk and the investments required for the digitalisation of banking services should not be jeopardised by an objective of containment/reduction in operational costs (Box 6). In fact, the materialisation of cybercrime may result, among others, in reputational losses and may dent customer confidence, threatening the financial stability.

Chart I.2.5 • Cost-to-income and cost-to-core-income ratios and operational costs



Source: Banco de Portugal. | Notes: The cost-to-income ratio corresponds to the ratio of operational costs to total operating income. The cost-to-core income ratio corresponds to the ratio of operational costs to the sum of net interest income and net fees and commissions (core income). Data prior to 2008 refer to the aggregate of other monetary institutions representing more than 98% of the banking system's assets after 2008.

Chart I.2.6 • Cost-to-income – Empirical distribution | Per cent

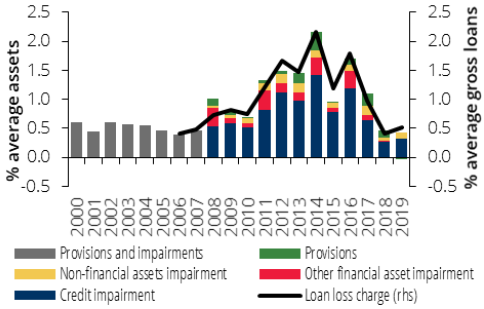


Source: Banco de Portugal. | Notes: Empirical distribution obtained using a Gaussian kernel that weights institutions by their assets. The cost-to-income ratio corresponds to the ratio of operational costs to total operating income.

In 2019, provisions and impairments dropped by around 16%, reflecting a net reversal of provisions, mitigated by an increase in impairment associated with financial assets, in particular credit impairments (Chart I.2.7). Although the figure seen in 2019 is one of the lowest over the past twenty years, an increase in impairment is expected in the coming years, as a result of a sharp deterioration in the macroeconomic outlook (Section 2.2).

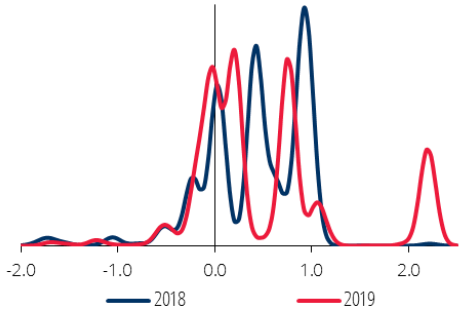
As already mentioned, impairment on credit has increased, uplifting the loan loss charge by 0.1 p.p. against 2018, to 0.52%, despite the growth in the portfolio of loans to customers. In 2019, there was an increase in the dispersion of the loan loss charge among institutions, as a result of increased efforts by one part of the system to cut non-performing loans, which led to a higher record of impairments for these institutions than in 2018 (Chart I.2.8).

Chart I.2.7 • Provisions, impairments and loan loss charge ratio



Source: Banco de Portugal. | Notes: The loan loss charge ratio corresponds to the flow of credit impairment as a percentage of total average gross credit to customers. Pre-2008 data refer to the aggregate of other monetary institutions that represent more than 98% of the banking system's assets after 2008. In addition, for this period it was not possible to break down the item provisions and impairment by classification.

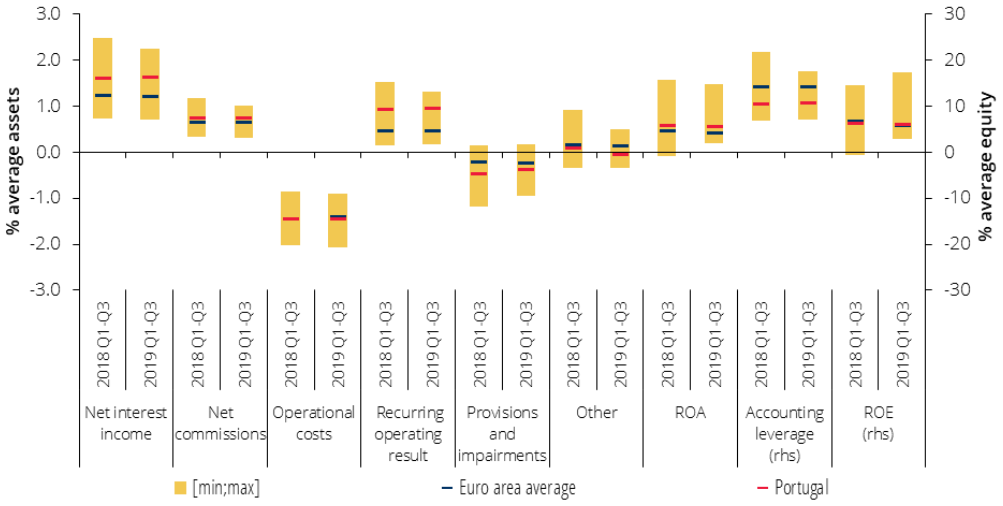
Chart I.2.8 • Loan loss charge ratio – Empirical distribution | Per cent



Source: Banco de Portugal. | Notes: Empirical distribution obtained using a Gaussian kernel that weights institutions by their assets. The loan loss charge ratio corresponds to the flow of credit impairment as a percentage of total average gross credit to customers.

Despite the negative contribution, over the past few years, of a decrease in provisions and impairments to profitability, this continues to be one of the factors that negatively differentiates the Portuguese banking system from the other euro area systems (Chart I.2.9). Nonetheless, the highly favourable position in terms of recurring operating result allows the profitability of the Portuguese banking sector to be in line with the euro area average over the past two years[65].

Chart I.2.9 • ROA, ROE and leverage – International comparison



Sources: Banco de Portugal (internal calculations) and European Central Bank (Consolidated Banking Data). | Notes: The items Net interest income, net fee and commissions, recurring operating result, provisions and impairments and others represent contributes to 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. Data for some items are unavailable for certain countries. However, this should not affect the analysis substantially. Annualised figures. The return on assets (ROA) is calculated as the net result as a percentage of average assets.

[65] Considering the information available in the Statistical Data Warehouse of the European Central Bank (Consolidated Banking Data) at the date of the report (3rd quarter of 2019).

2.2 Asset quality

In 2019, the non-performing loans (NPL) ratio continued to decline, standing at 6.1% (3%, net of impairments), but its evolution in the coming years is subject to a highly adverse macroeconomic context

In 2019, the NPL ratio[66] maintained its downward trend in recent years, standing at 6.1% at the end of the year, which represents a 3.3 p.p. drop against December 2018, and 11.8 p.p. from June 2016 (when it reached its historic high) (Chart I.2.10). NPL ratio net impairments[67], in turn, decreased by 1.5 p.p. from the end of 2018, and by 7.2 p.p. from June 2016, to 3% (Chart I.2.11).

However, it should be noted that, against a backdrop marked by the COVID-19 pandemic, the materialisation of the highly unfavourable macroeconomic outlook in the coming years[68] is likely to negatively affect the ability of the non-financial private sector to serve the debt, notably in the case of firms, in some sectors particularly vulnerable to the current context[69], causing a deterioration in loan quality and, consequently, an increase in default rates. It is expected, however, that the measures adopted to cover part of the existing loans by public or private moratoria, and to provide public guarantees to part of the new loans, will mitigate, at least in the short run, the increased flow of new NPLs and their negative impact on institutions.[70] The economic and financial consequences of this pandemic may extend well beyond the expected duration of the moratoria schemes, and, as a result, there may be an increase in events of default in both households and firms, after they expire. As regards the aforesaid moratoria, the EBA published, on 2 April 2020, the "Guidelines on legislative and non-legislative moratoria on loan payments applied in the light of the COVID-19 crisis", intended to establish the terms and conditions to be met by extended payment periods underlying credit operations in order not to lead to debtor's default or the identification of a restructuring measure (Box 1). According to data collected by the Banco de Portugal, the exposure of the eight largest banking groups operating in Portugal[71] to credits that are subject to the application of public or private moratorium schemes, until 18 June, amounted to about EUR 39 billion (about 22% of the total portfolio of credit to firms and households). As regards the granting of public guarantees for credit lines, the total amount announced is EUR 13.4 billion, which corresponds to the maximum authorised by the EC.

[66] Ratio between the value of NPLs and the total gross value of the loans.

[67] Ratio between the value of NPLs net of impairments and the total gross value of the loans.

[68] See the *Economic Bulletin* of June 2020 for more details on Banco de Portugal projections for the Portuguese economy in 2020 and the two following years.

[69] See Box 2 for more details on the exposure of firms to the sectors that are the most vulnerable to the impact of the COVID-19 pandemic.

[70] It should be noted, however, that public guarantees should only impact on Loss given default (LGD) and Expected credit loss (ECL), not affecting the classification of loans as non-performing.

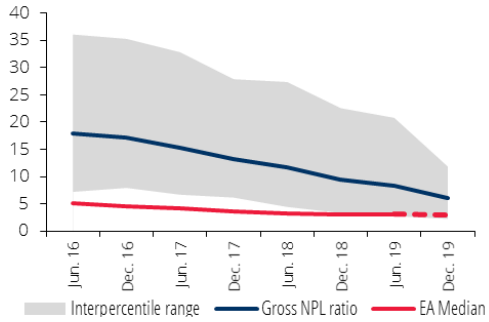
[71] The share of the eight largest banks operating in Portugal in credit to firms and households is around 86%.

In 2019, the write-off and the sale of non-performing loans were the main factors determining the decrease in the volume of these loans

The reduction in the NPL ratio in 2019 was dispersed across the various institutions, more relevant in those highest ratios in 2018. There has thus been a reduction in heterogeneity since June 2016, with institutions converging to ever lower NPL ratio values.

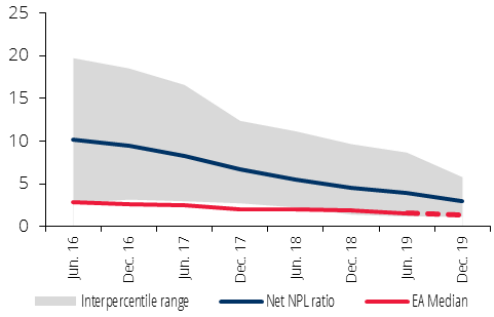
Given the high correlation between the NPL ratio and the doubtful loans ratio[72], it should be noted that, although both have been decreasing over the past few years, the latter is still higher than in 2008 - the year Lehman Brothers went bankrupt - both in the non-financial corporations segment and in the consumption and other purposes segment (2.5 p.p. and 1.9 p.p. differences, respectively) (Chart I.2.12). In contrast, in the housing credit segment, the doubtful loans ratio was 0.7 p.p. below its 2008 level, at the end of 2019. Notwithstanding the differences in concepts between these two indicators, the analysis suggests that the quality deterioration in the credit portfolio of Portuguese banks, between 2008 and 2016, has not yet been fully reversed. This is particularly relevant and represents a vulnerability of the banking system, in a context of a new crisis emerging abruptly, the persistence of which over time being surrounded by high uncertainty (Section 1.1).

Chart I.2.10 • Gross NPL ratio | Per cent



Sources: Banco de Portugal and European Central Bank (Consolidated Banking Data). | Notes: NPL in EBA definition. The interpercentile range was obtained through the difference between the 95th and 5th percentiles of the asset-weighted gross NPL ratio distribution. The last observation of the euro area median (the dashed) refers to September 2019.

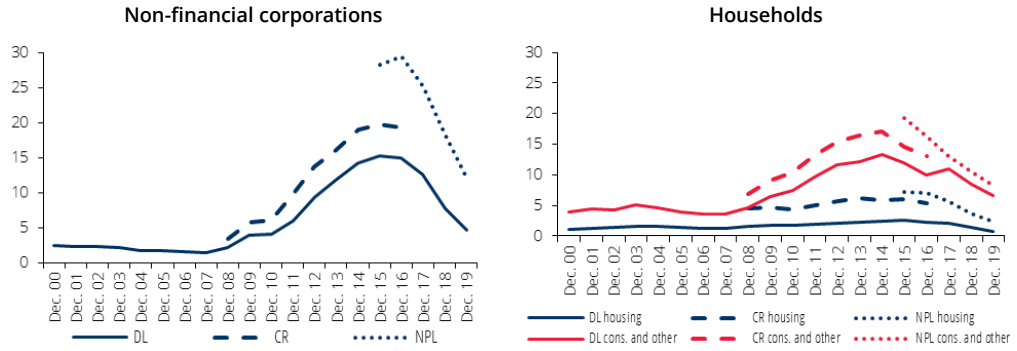
Chart I.2.11 • Net NPL ratio | Per cent



Sources: Banco de Portugal and European Central Bank (Consolidated Banking Data). | Notes: NPL in EBA definition. The interpercentile range was obtained through the difference between the 95th and 5th percentiles of the asset-weighted net NPL ratio distribution. The last observation of the euro area median (the dashed) refers to September 2019.

[72] The doubtful loans ratio is defined as the ratio of the value of doubtful loans to the value of loans granted. The ratio of credit at risk is defined as the ratio of the value of credit at risk to the value of loans granted. See Special issue "Concepts used in the analysis of credit quality", *Financial Stability Report* (November 2016) for more details on the differences between the concepts of credit-at-risk, non-performing loans (or overdue loans) and NPL. Worth referring is also that the NPL ratio metrics only exist since 2015, making it impossible to historically analyse this indicator.

Chart I.2.12 • Developments in doubtful loans, credit at risk and gross NPL ratios | Per cent



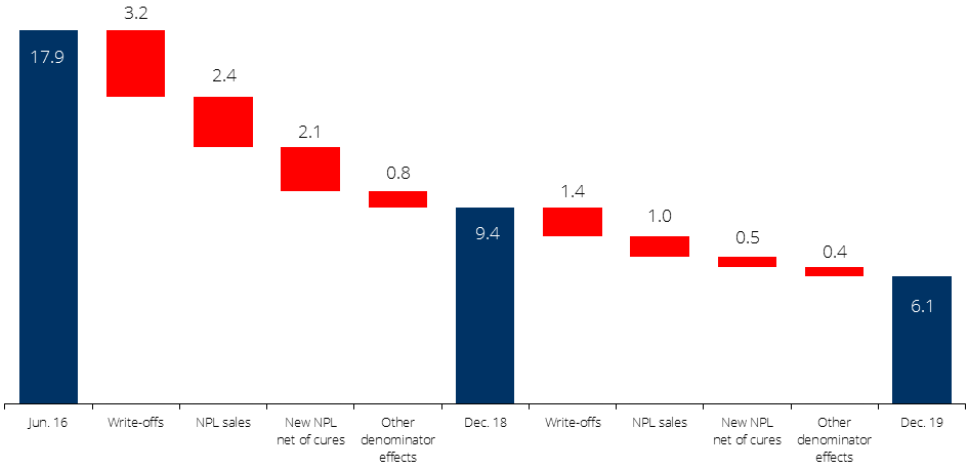
Source: Banco de Portugal. | Notes: The doubtful loan ratio (DL) is defined as the ratio of the value of the doubtful loans to the value of the loans granted. The ratio of credit at risk (CR) is defined as the value of credit at risk and the value of loans granted. NPL in the EBA definition.

The NPL ratio evolution, compared to June 2016 and December 2018, reflected mainly the sharp decrease in non-performing loans stock (EUR 33.3 and EUR 8.7 billion, respectively). Although to a lesser extent, the increase in performing loans in 2019 (5.6%) also contributed favourably to the variation in the ratio for the year. The drop in non-performing loans, compared to 2018, included a fall of around EUR 2 billion in loans classified as unlikely to pay. Nevertheless, it should be noted that the weight of these loans in total NPLs increased by 6 p.p. throughout the year to 46% (compared to 37% in June 2016).

In terms of drivers behind developments in the NPL ratio, the write-off and the sale of non-performing loans were the main factors that triggered the decrease in these loans in 2019, contributing with 1.4 p.p. and 1 p.p. to the reduction in the NPL ratio, respectively (Chart I.2.13). In turn, the contribution of cures (net of new NPLs) decreased against 2018.

As previously mentioned, the current economic and financial background points to a break in the downward trend in non-performing loans, and the conditions for the decrease in this stock are expected to become less favourable or even tending to disappear. This being a reality across Europe, it will be all the more relevant the higher the NPL ratios of the banking systems. The performance associated with NPL transactions is expected to be negatively and transversally affected in the short and medium run, although some differentiation among the sectors of activity is expected depending on the magnitude and duration of the crisis. In particular, the main concern about this market is connected with liquidity pressures motivated, for example, by disruptions in NPL recovery processes and/or a prospective reduction in real estate prices, with implications at the level of execution of associated collateral.

Chart I.2.13 • Determinants of NPL ratio evolution | As a percentage and percentage points



Source: Banco de Portugal. | Notes: NPLs according to the EBA definition. NPL sales include securitisations. The 'New NPLs, net of cures' item reflects all the NPL inflows and outflows for reasons other than write-offs, sales and securitisations, namely 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 coverage ratio decreased slightly, and the reduction in the NPL ratio was generalised among institutional sectors and sectors of activity

The fall in the NPL net impairment ratio was due to a reduction of NPLs, against a backdrop in which the NPL impairment coverage ratio[73] decreased by 0.5 p.p., to 51.4%. This decrease reflected a decrease in impairment for non-performing loans slightly higher than the decrease in these loans, which may be justified given the aforementioned increase in the weight of unlikely to pay loans in total NPLs which, due to their nature, have a lower degree of impairment coverage, in general. Notwithstanding the ongoing downward trend of the NPL ratio net of impairment, its figure in September 2019 (3.6%) remained above the euro area median by 2 p.p., being one of the highest in the European context[74] (Chart I.2.14).

At the end of 2019, NPL coverage ratios for stages 1, 2 and 3 were, in the case of non-financial corporations, 1%, 6% and 57%, respectively, while for households the same figures were around 0%, 4% and 44%. In the context of the COVID-19 pandemic, on 20 March 2020[75], the ECB recommended to institutions that in their accounting provisions models, they should choose to apply the transitional IFRS 9 provisions and avoid excessively procyclical assumptions[76] (Special

[73] Ratio of impairments on non-performing loans to their gross value.

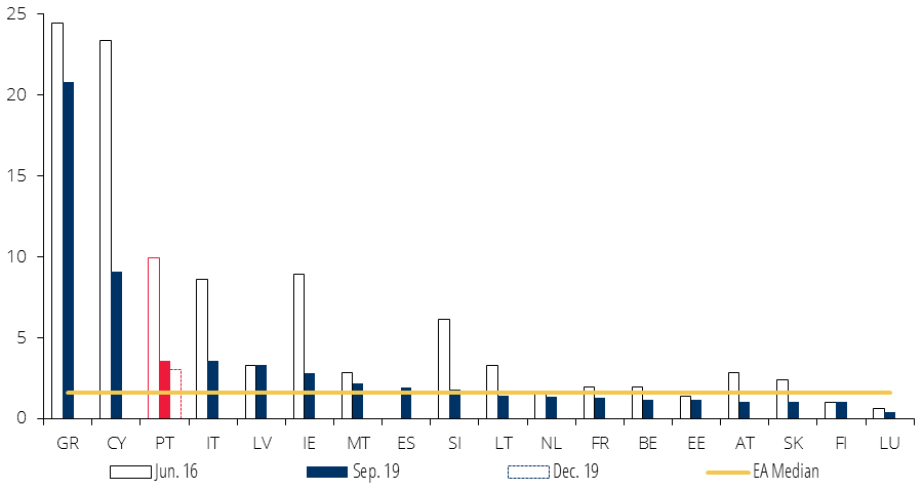
[74] It should be noted that these are impairment coverages, when there are other types of coverage, such as real collateral, their importance depending on the composition of credit portfolios in other countries.

[75] See press release on https://www.bankingsupervision.europa.eu/press/pr/date/2020/html/ssm.pr200320~4cdbbcf466.en.html.

[76] More details on https://www.bankingsupervision.europa.eu/press/letterstobanks/shared/pdf/2020/ssm.2020_letter_IFRS_9_in_the_context_of_the_coronavirus_COVID-19_pandemic.en.pdf?b543f9408a8480e04748a3b0185d8cf3.

issue "Policy measures in response to the COVID-19 pandemic of relevance to financial stability"). This recommendation, in conjunction with other mitigants of credit risk materialisation, such as the already mentioned moratoria, or the prolonged low interest rate environment, should contribute to mitigate the impact of the current crisis on the NPL level. However, the strong economic recession and the uncertainty about the recovery profile, which may be slow, point to the deterioration in the quality of the banks' credit portfolio, leading to impairment recognition.

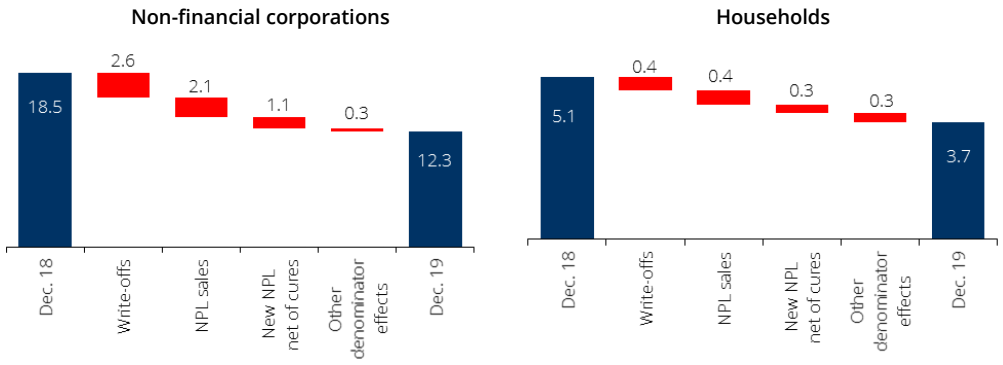
Chart I.2.14 • Evolution of net NPL ratio by country | Per cent



Source: European Central Bank (Consolidated Banking Data). | Notes: NPLs according to the EBA definition. Certain countries are not represented due to lack of data.

As regards loans to NFCs, the NPL ratio was 12.3% by the end of 2019, a 6.2 p.p. drop over the year. This evolution was driven by the decrease in non-performing loans, which, in turn, were mainly anchored to write-offs and sale of these loans. (Chart I.2.15). The NPL net impairment ratio stood at 5.3%, down 2.7 p.p. from end-2018. In the first quarter of 2019, the NPL impairment coverage ratio increased by 0.2 p.p. to 56.5%.

Chart I.2.15 • Determinants of NPL ratio evolution | As a percentage and percentage points

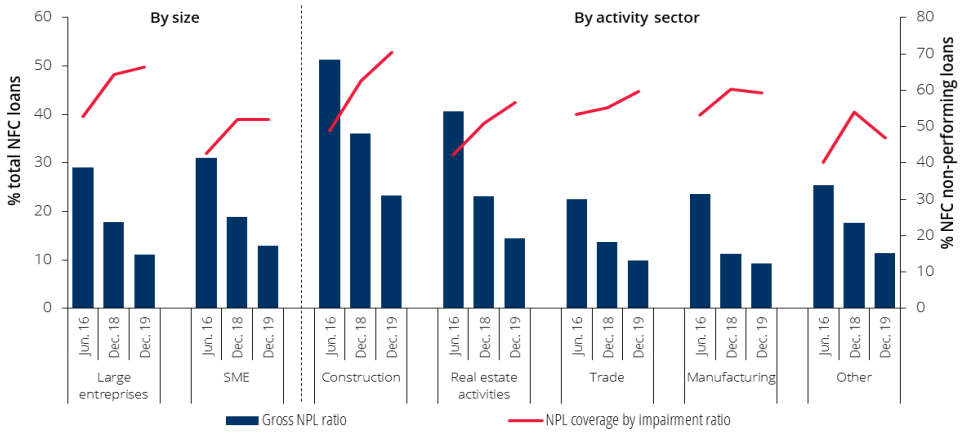


Source: Banco de Portugal. | Notes: NPLs according to the EBA definition. NPL sales include securitisations. The 'New NPLs, net of cures' item reflects all the NPL inflows and outflows for reasons other than write-offs, sales and securitisations, namely new NPLs net of cures, amortisations and foreclosures. 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 reduction in NFCs' NPL ratio was broadly based across the different sectors of activity, with greater expression in sectors with higher NPL ratios (Chart I.2.16). Specifically, in the construction and real estate sectors, the segments that were heavily affected by the preceding global crisis, the ratio dropped by 12.7 p.p. and 8.8 p.p. throughout 2019, respectively. As regards the NPL impairment coverage ratio, there was an increase in the Construction, Real Estate and Trade sectors of 8 p.p., 5.7 p.p. and 4.4 p.p., respectively, and Other Sectors recorded a decrease of around 7.3 p.p. in this ratio.

At firms' size level, NPL ratios associated with loans to small and medium-sized enterprises (SMEs) and to large enterprises evolved in a similar way, having decreased by 6 p.p. and 6.7 p.p., respectively. Compared to June 2016, both ratios showed a reduction of about 18 p.p. NPL ratios net of loan impairments for small and medium enterprises (SMEs) and large enterprises were 6.2% and 3.7%,respectively. As regards the coverage ratio, it decreased by 0.2 p.p. in SMEs and increased 2 p.p. in large enterprises, as compared to end-2018.

Chart I.2.16 • NFC non-performing loans by firm size and activity sector



Source: Banco de Portugal. | Notes: NPLs according to the EBA definition. The activity sector "Trade" corresponds to the aggregate of the sectors "wholesale and retail trade; repair of vehicles" and" accommodation and food service activities". The "Industry" sector includes the "manufacturing industries" and the "mining and quarrying". "Other" includes sectors of activity not individually represented in the chart.

As regards the household segment, the reduction in the NPL ratio, in 2019, was 1.4 p.p., standing at 3.7% by the end of the year. This evolution reflected a sharper fall in consumption and other purposes segment than in the housing segment (2.4 p.p. and 1.3 p.p., respectively), which recorded ratios of 8.2% and 2.4%, respectively. This buoyancy reflected above all the decrease in non-performing loans, and in particular the sale and write-off of these loans from assets, each factor contributing with 0.4 p.p. to the drop in the NPL ratio. The increase in performing loans, in turn, contributed only -0.3 p.p. to this evolution. The NPL impairment coverage ratio for the household segment increased by 1.2 p.p. to 42.2%, at the end of the year.

2.3 Concentration of exposures

The exposure to public debt remained at high levels in 2019 and continued to be driven by the Portuguese debt, despite a reduction against the 2018 figure

The existence of significant intra-sectoral exposures in the financial sector[77] represents a vulnerability source, as it may lead to risk spreading from financial markets and/or the real economy, as its materialisation, in one part of the system, may contaminate the other financial sub-sectors. Alternatively, the various financial sub-sectors may be exposed to common risks (indirect interlinkage), and the materialisation of which will affect the financial sector in general (Box 5). In the domestic activity, direct interlinkages in the financial system have declined. However, these interlinkages continue to be significant, representing 20.6% of total exposures[78] in 2019 (8.2 p.p. lower than in 2012). These developments reflect, on the one hand, a reduction in exposure to banks across the sub-sectors of the financial system, and, on the other hand, the reduction in banks' exposure to the other financial sub-sectors. With regard to the interlinkage between banks and the financial system, 17% of their assets, in 2019, had the financial system as a counterparty, of which 11 p.p. had banks as a counterparty. Since 2012, the weight of assets with counterparty banks has dropped by 3.1 p.p., as a result of a decrease in deposits and the holdings of securities. This decrease reflected the significant reduction in market financing by the banking system (Section 4.5).

It should be noted that from the above exposure intra-group balances are not purged as in consolidated banking system data. In view of this information, which refers to the domestic and non-domestic activity of resident and non-resident institutions consolidated in the former, the banking system's exposure to the financial system represented 7% of its assets in 2019, of which 4 p.p. are related to exposure to other credit institutions.

In addition to direct interlinkages, there are also indirect interlinkages resulting from common exposures, such as exposure to sovereign debt, which, in general, increased in the various sub-sectors of the financial system. This exposure continues to be a vulnerability in the Portuguese banking system. Exposure to sovereign debt securities creates a direct channel for sovereign risk spreading to the banking system through market risk materialisation. If the security is at fair value, yield variations directly affect its balance sheet value which, in turn, impacts on equity. Alternatively, if the security is recorded at amortised cost, the fluctuation resulting from market variations is not recorded, this only happens when the security is sold. To mitigate the potential impacts arising therefrom, it is important that institutions adequately articulate the management model of this portfolio with their voluntary capital buffers, that is, with their capacity to absorb losses arising from the materialisation of these risks, and that there is adequate diversification

[77] As in Box 5, in this paragraph the financial system excludes the Central Bank. In addition, the following sub-sectors are considered: Other Monetary Financial Institutions (OMFI), Other Financial Intermediaries and Financial Auxiliaries (OFIFA), Insurance Corporations and Pension Funds (ICPF) and Investment Funds (IF). OMFIs include banks, savings banks, mutual agricultural credit banks and money market funds, while OFIFAs include, for example, credit financial institutions, brokerage firms and investment fund management corporations. To simplify, these groups of institutions, OMFIs and OFIFAs, will henceforth be referred to as banks and other financial intermediaries, respectively. For more details on this classification, see "Classification of financial instruments and breakdown of institutional sectors" of the *Statistical Bulletin*: https://www.bportugal.pt/sites/default/files/anexos/DESNOM_novo.pdf.

[78] The following financial assets were considered in the calculation of the exposure: deposits, debt securities, loans, shares and other investment funds' holdings and listed shares.

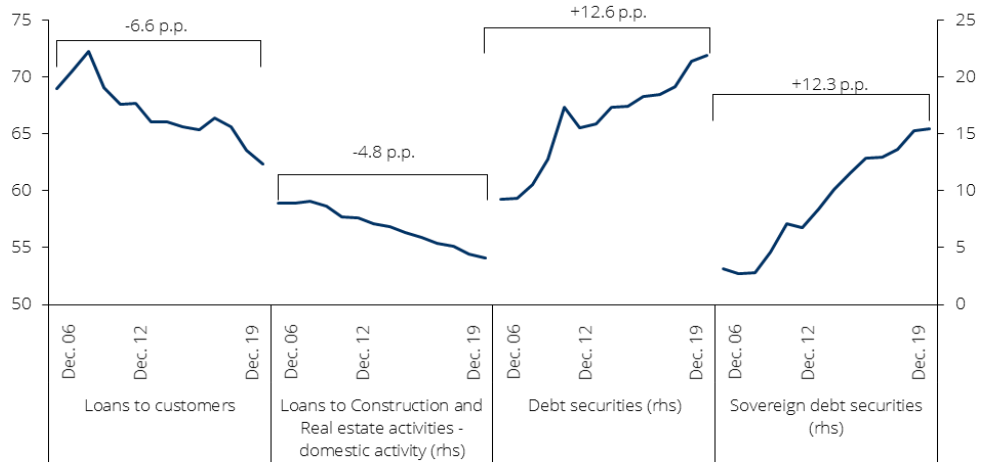
of the country issuing the securities, focusing on sovereigns whose yields do not show a high positive correlation and/or whose securities' rating is high.

The current context marked by an overall increase in uncertainty in the economy and the financial markets has led to increased volatility and asset devaluation. Reflecting this increase in uncertainty, the public debt yields of Portugal, Spain, and Italy, among others, increased sharply in the first quarter of 2020, with particular emphasis on the first half of March, thus reducing the market value of those securities. In this respect, it should be noted that some of the monetary policy measures adopted by the ECB, among them the EUR 750 billion Pandemic Emergency Purchase Programme (PEPP), which focuses on the purchase of public and private debt, has contributed to the most recent reduction in yields and in their volatility, allowing to partly mitigate the above-mentioned increase. It is estimated that a 100 b.p. rise in sovereign debt securities yields in Portugal, Spain and Italy will lead to a 0.76 p.p. decrease in the CET 1 ratio (Section 1.1).

Exposure to sovereign debt securities increased significantly over the last decade, and in 2019 its figure edged-up around five times than in 2007. At the end of 2019, sovereign debt securities accounted for 15.5% of assets, i.e., 12.3 p.p. more than in 2006. Holdings of sovereign debt securities on the balance sheet is relatively heterogeneous across institutions, despite a decrease in dispersion in 2019, compared with 2018.

This increase in exposure to public debt occurred in tandem with a considerable reduction, in the banking system, in the domestic activity, of the exposure to the construction and real estate sectors (Chart I.2.17). It should be recalled that exposure to these sectors was one of the major sources for non-performing loans, associated with NFC, which accumulated in banks' balance sheets in the post-global financial crisis (Section 2.2).

Chart I.2.17 • Loans to customers and debt securities – gross carrying amount | As a percentage of assets



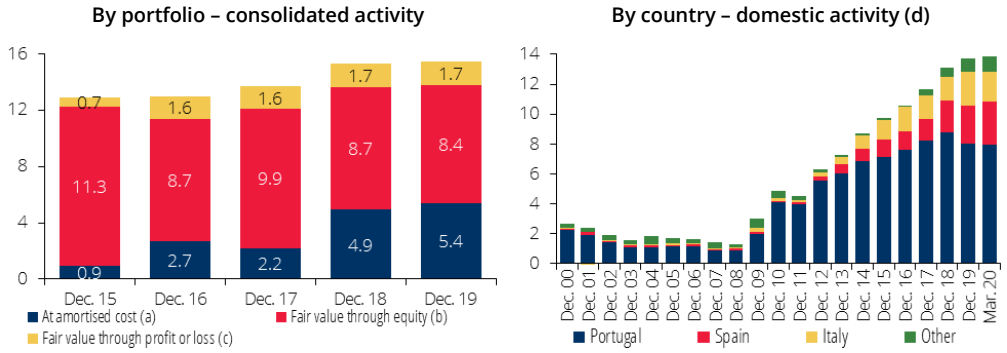
Source: Banco de Portugal. | Notes: Information on loans for construction and real estate activities refers only to domestic activity, i.e. loans granted in Portugal by resident institutions. The remaining information is on a consolidated basis.

The weight of sovereign debt securities recorded at amortised cost has increased from 0.9% of assets in 2015 to 5.4% of assets in 2019, which means that 35% of the sovereign debt securities portfolio was, in 2019, at amortised cost (7% in 2015; 32.3% in 2018) (Chart I.2.18). This increase in the weight of securities at amortised cost reflects, in part, changes in the accounting rules with the transition from IAS 39 to IFRS 9, which made the management of these instruments in the amortised cost portfolio less restrictive, allowing these securities to be sold at a later date. In this respect, it should be noted that the fixed-rate securities portfolio management model is quite different among institutions. This heterogeneity has increased in recent years as a result of an

increase, by some institutions, in the share of securities recorded at amortised cost. In 2015, virtually the whole banking system had less than 20% of the securities recorded in this portfolio. In 2019, institutions holding sovereign debt securities[79] with more than 20% of the portfolio recorded at amortised cost, represented 48% of the assets, the weight of this portfolio exceeding 60% at 17 p.p.

In the domestic activity, the increase in exposures to sovereign debt securities in 2019 was followed by a 0.8 p.p. decrease in the weight of the Portuguese sovereign debt, which now represents 8% of assets. In the opposite direction, exposure to Spanish and Italian sovereign debt securities increased by 0.4 p.p. and 0.7 p.p., respectively, to represent 2.5% and 2.3% of assets. In the first quarter of 2020, exposure to sovereign debt securities in assets stabilised, with an increase in exposure to Spanish debt being followed by a decrease in exposure to Italian debt, to represent 2.9% and 2.0% of the assets, respectively.

Chart I.2.18 • Sovereign debt securities | As a percentage of assets



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); (d) 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 OMFI total assets.

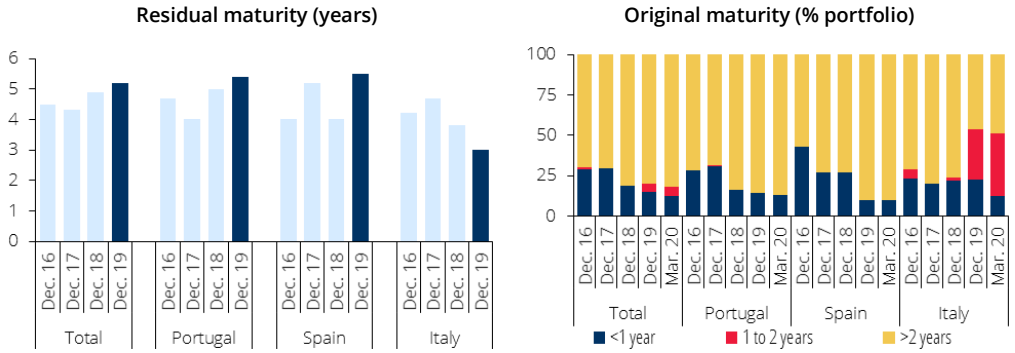
In 2019, in the domestic activity, the residual maturity associated with the sovereign debt securities portfolio increased from 4.9 to 5.2 years, as a result of an increase in the residual maturity of the Spanish and, to a lesser extent, the Portuguese sovereign debt portfolios, having been mitigated by a sharp decrease in the residual maturity of the Italian portfolio (Chart I.2.19). This increase in the residual maturity leads to an increase in the average duration of the portfolio and, consequently, to a greater sensitivity of the banking system to fluctuations in the market value of debt securities. However, it should be noted that the residual maturity of the government debt portfolio is heterogeneous across institutions.

The increase in residual maturity reflected a higher weight of securities with original maturity between 1 and 2 years and a reduction in the weight of securities with a maturity below 1 year, partially offset by a decrease in the weight of securities with maturity above 2 years. By country, the increase in the weight of securities with original maturity between 1 and 2 years occurred in the Italian government debt portfolio, with a decrease in the weight of securities with a maturity higher than 2 years. In the Portuguese and Spanish sovereign debt portfolios, the increase in the

[79] In 2019, institutions holding sovereign debt securities represented 92% of the system's assets.

residual maturity was partly due to a decrease in the weight of securities with original maturity of less than 1 year, as opposed to an increase in the weight of securities with a maturity of more than 2 years.

Chart I.2.19 • Maturity of public debt securities - domestic activity

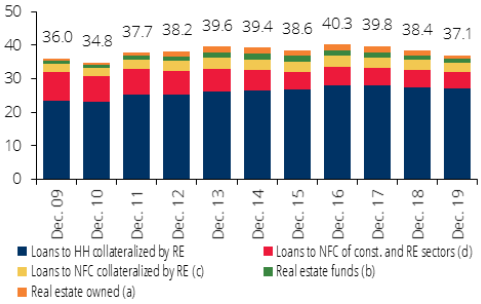


Source: Banco de Portugal. | Note: The series refers to the reporting on an individual basis of the other monetary financial institutions resident in Portugal.

As a result of its activity, the banking system is directly and indirectly exposed to the real estate. The direct exposure arises from holding real estate on the balance sheet due to collateral received, associated with loans that have defaulted. In turn, indirect exposure results from: (i) loans granted and secured by real estate, (ii) loans granted to NFCs with business activity associated with real estate, such as NFCs in the construction or real estate sectors, (iii) loans or units held in real estate investment funds. Exposure to real estate increases the sensitivity of the banking sector to changes in real estate prices. In the current context of a pandemic crisis, this fact is particularly relevant in view of prospective reductions in real estate prices related, inter alia, to a decrease in the tourism activity (Section 1.1).

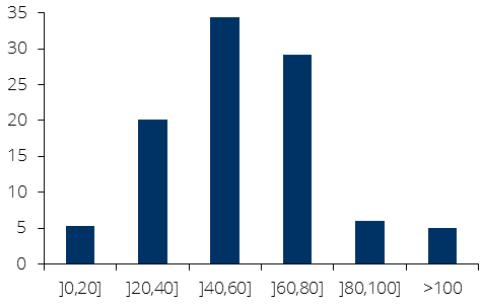
In 2019, global exposure to real estate stood at 37.1% of assets, representing an increase of 1 p.p. against 2009 (Chart I.2.20). Between 2011 and 2016 there was a significant increase in exposure, peaking in 2016 (around 40% of assets). Since 2016, there has been a 3.2 p.p. reduction in this exposure, reflecting a general fall among the different forms of exposure, with a particular emphasis on the reduction in loans to households secured by real estate (-1.0 p.p.), real estate on the balance sheet (-0.8 p.p.) and loans to NFCs secured by real estate (-0.6 p.p.). These developments were partly explained by the effort made by institutions to cut non-performing assets in accordance with the non-performing asset reduction plans submitted to supervisory authorities. It should be noted that if the loan amount is lower than the property value given as collateral, this difference will mitigate the effects of potential property devaluations. In 2019, 90% of the amount of the portfolio of loans to households for house purchase had a loan-to-value (LTV) of 82% or less, with the average and median values standing at 68% and 55%, respectively (Chart I.2.21). Real estate price valuation over the recent years has contributed significantly to this situation. In more prospective terms, it should be noted that in July 2018 the Banco de Portugal issued the Macroprudential Recommendation which, inter alia, established recommended ceilings for LTV in new loans to households for house purchase. Compliance with this limit in the new operations will help to preserve the ability to absorb potential adverse shocks, namely in terms of real estate prices.

Chart I.2.20 • Exposure to real estate | As a percentage of assets



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

Chart I.2.21 • Current LTV of housing loans stock in 2019 | As a percentage of portfolio



Source: Banco de Portugal. | Notes: Indicator based on granular data at loan level (Instruction of Banco de Portugal No 33/2018). Whenever the date of the last valuation of the property is prior to 2019Q4, its current value is estimated on the basis of the INE Housing Price Index.

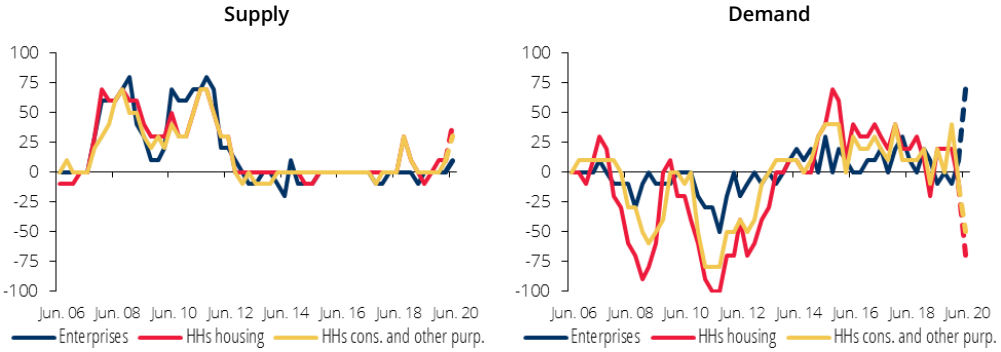
2.4 Credit standards

Institutions predict a tightening in credit standards, with greater intensity in households and to a limited extent in NFCs

The expectations of institutions for the second quarter of 2020, underlying the results of the April 2020 Bank Lending Survey (BLS), are the first available indicator on potential impacts on credit supply and demand stemming from the COVID-19 pandemic. In accordance with the replies, the surveyed institutions expect, for the second quarter of 2020, an increase in the tightening of credit standards, with greater intensity in households and to a limited extent in NFCs (Chart I.2.22). This is partly related to the degree of uncertainty about the impact of the COVID-19 pandemic and the economic recovery. In the case of firms, according to the BLS, the increase in restrictiveness is likely to occur in long-term loans and loans to large enterprises. These prospects contrast with the relative stability of criteria for credit granting to NFCs in recent years. As to households, the tightening in credit standards is broadly based across the housing and consumption and other purposes segments. However, in the case of consumer credit, it may reflect, in part, the change in the macroprudential recommendation that entered into force on 1 April 2020 (Section 1.2). The tightening in credit standards for loans to households has been signalled consecutively by institutions following the issue by the Banco de Portugal of the macroprudential recommendation[80], which focuses on new consumer loans, with impact on both consumer credit and housing credit.

[80]The Recommendation was revised at the beginning of 2020, amending the ceilings set for personal loans (Section 1.2).

Chart I.2.22 • Credit supply and demand | Diffusion index



Source: Banco de Portugal. | Notes: An increase (decrease) in the diffusion index means an increase (decrease) in restrictiveness by institutions and an increase (decrease) in demand in the credit segment. The last observation for each variable corresponds to the expectations of the institutions for the second quarter of 2020 (dashed part).

Institutions expect an increase in credit demand by NFCs and a reduction by households, in the second quarter of 2020

According to the BLS, credit demand from NFCs has increased slightly over recent years due to the need for investment funding and, to a lesser extent, for working capital needs. The relevance of this latter factor has increased significantly over the first quarter of 2020. In the context of NFCs' liquidity shortages due to the pandemic, institutions forecast a considerable increase in credit demand in this sector, in the second quarter of 2020, with special emphasis on short-term credit, which may reflect that the use of credit lines that had been previously taken out.

After having signalled, in the past few years, an increase in households' demand for credit, institutions expect a considerable reduction in the second quarter of 2020, having already signalled a slight reduction in the first quarter, due to a fall in consumers' confidence and a deterioration in expectations for housing price developments. Unfavourable developments in these factors may increase, in the context of a strong economic recession, rising unemployment and very uncertain prospects for economic recovery.

Although these are forward-looking data, expectations for a tightening in credit standards in the second quarter of 2020 seems to indicate a pattern similar, in part, to that verified at the onset of the global financial crisis and the sovereign debt crisis. However, this increase is of a smaller magnitude and is rather restricted in the case of NFCs, contrary to what was observed in previous crises. On the demand side, however, the prospects for an increase for NFCs contrast with the reduction seen in the years following the global financial crisis, a reduction which was even sharper in households than in NFCs.

The differences between the impacts of periods of economic and financial stress on both supply and demand for credit may be largely justified by its nature and the features of each crisis. In particular, expectations for a strong increase in credit demand by NFCs reflect the exceptional nature associated with the current crisis induced by the COVID-19 pandemic and the measures that have been adopted to address it. The difference vis-à-vis the last two crises (financial and sovereign) is evidenced by the adoption of a set of sanitary measures, including the lockdown, which led to a significant decrease in the economic activity, reducing the ability to generate

revenues, causing liquidity shortages to NFCs (Box 2). Thus, according to the BLS, an increase in demand for loans by NFCs, especially for short-term loans, is expected.

In order to mitigate liquidity shortages in NFCs and households, a number of measures were taken, including the establishment of a public moratorium and the definition of a private moratoria scheme (Box 1). The public moratorium established, while in force, the extension of credit agreements with principal payment at the end of the agreement, the possibility to suspend the payment of principal or principal and interest and prohibited the revocation of credit lines previously taken out. In addition, NFCs also have the possibility of using credit lines secured by a public guarantee. It should also be noted that, in the case of households, in addition to the credit moratorium, the temporary and exceptional waiver of compliance with the limits on the DSTI ratio for personal loans up to 2 years was permitted (Section 1.2 and the Special issue "Policy measures in response to the COVID-19 pandemic of relevance to financial stability").

Also in this regard, as mentioned above, the ECB adopted some measures to facilitate the regular flow of finance to the economy, namely the temporary extension of the amount of net acquisitions under the asset purchase programme (APP), the introduction of the PEPP and the revision of the open market operations framework, introducing the additional longer-term refinancing operations (LTRO-A) and the longer-term refinancing operations due to the non-targeted pandemic emergency (PELTRO), easing the conditions for the targeted longer-term refinancing operations III (TLTRO III) and ensuring liquidity provision in US dollars. As a result of these measures, the institutions, according to BLS results, expect to increase credit to the non-financial private sector in the second and third quarters of 2020. The institutions also anticipate that the decrease in the (negative) interest rate on the deposit facility on 18 September 2019 will continue to contribute to a slight reduction in interest rate on loans to the non-financial private sector. In addition, the ECB and the Banco de Portugal have temporarily allowed institutions to operate with capital levels below the own funds recommendation (P2G), and the combined capital buffer, as well as with liquidity levels below the liquidity coverage requirement.

Together with the voluntary buffer that institutions already had in 2019 and the anticipation of the entry into force of a CRD standard that will allow relevant institutions, under the direct supervision of the ECB, to comply with P2R by partially using capital instruments that do not qualify as CET 1[81], these measures make it possible to preserve the economy's financing ability, as well as to increase their ability to absorb potential losses in the future (Sections 1.2 and 2.6).

Interest rate spreads on loans to NFCs continued to reflect a credit risk differentiation

In 2019, there was growth in credit[82] granted by banks to the non-financial private sector, reflecting an acceleration in credit to households (Annual rate of change of 1.1%), and a stabilisation in credit to NFCs (Annual rate of change: 0%) (Chart I.2.23).[83] Despite the growth in 2018 to both NFCs and households, it was only in 2019 that credit to households for housing purposes grew slightly (0.1%). This growth shows after a long period of significant contraction,

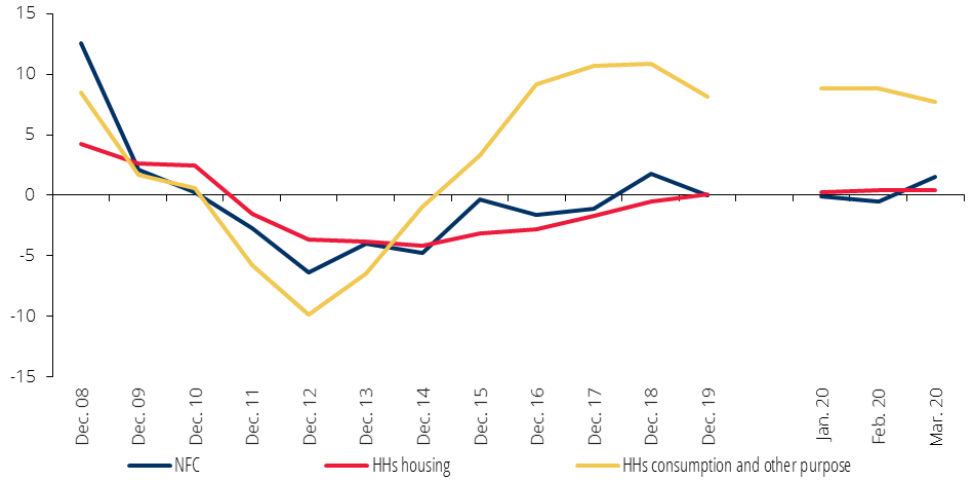
[81] ECB/SSM press release on measures taken in response to the corona virus of 12 March 2020 (https://www.bankingsupervision.europa.eu/press/pr/date/2020/html/ssm.pr200312~43351ac3ac.en.html).

[82] Bank credit here includes debt securities and loans.

[83] Annual rate of change adjusted for securitisation operations, reclassifications, write-offs and exchange rate and price revaluations and, where relevant, for the effects of credit portfolio sales.

which led to a substantial reduction in the weight of loans to customers in banks' total assets (from 70% in 2008 to 60% in 2019). In the first quarter of 2020, there was an increase in loans to NFCs compared to the 2019 figure, with the annual rate of change increasing to 1.5%. Household credit increased slightly to 1.2%, reflecting an increase in housing credit and a downturn in consumer credit.

Chart I.2.23 • Bank credit granted – Annual rate of change | Per cent



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.

The increase in credit granted to the non-financial private sector in 2019 reflected the growth in new lending operations to both NFCs and households. In the NFC segment, the annualised gross flow[84] of new lending operations increased by 8%, which represents a deceleration from the growth (15%) in 2018. In the household segment, new loans for house purchase increased by 8% in 2019 and consumer loans by 3%, with an acceleration in the second half of the year, following the slowdown between mid-2018 and 2019.

March and April 2020 figures were partially influenced by the COVID-19 pandemic crisis, namely in reduced economic activity in these months. In this sense, new loans to households for house purchase decelerated in these first four months, from an annual growth rate of 31% in January to 3% in April (Chart I.2.24). In new household consumer loans, the deceleration was sharper. January 2020 recorded a year-on-year 16% growth, and April a 65% decrease in new operations. In the opposite direction, reflecting the increased demand for loans identified by institutions in the BLS, the growth in the annualised gross flow of new loans to NFCs increased from 10% in January 2020 to 26% in April 2020.

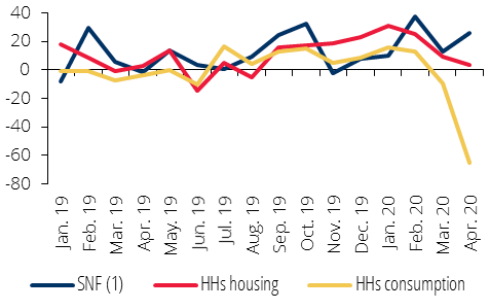
[84] The annualised gross flow of each new loan was calculated by multiplying the amount of the loan, where the maturity is less than one year, by its annualised maturity (ratio of the number of days of the loan to 365).

Despite these increases, the amount of new loans granted in 2019 to NFCs and households for housing purposes was around half of that verified in the years that preceded the global financial crisis (51% and 54% of that seen in 2007, respectively). New operations for household consumption are 40% higher than in 2007. However, it is important to stress the lower expression of this type of credit on the balance sheet of the banking system, compared with other segments. Moreover, market shares are more dispersed than in the other two credit segments. In 2019, the seven largest institutions had only a market share of consumer credit and other purposes of 57% (86% of credit to NFCs; 90% of credit to households for house purchase). In the banking system, only domestic institutions were considered[85], which held 49% of the consumer credit and other lending market (69% from NFCs; 65% from households for housing purposes).

In recent years, new operations have been characterised by increasingly narrower spreads vis-à-vis 6-month Euribor, but still at levels higher than those observed in the period that preceded the global financial crisis (Chart I.2.25). This trend pursued in the first four months of 2020.

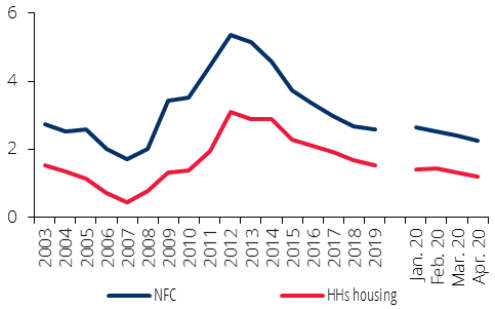
New credit operations to NFCs have shown a lower percentage of loans allocated to higher risk NFCs (class 3), which decreased from 29% in 2015 to 16% in 2019, and a higher component associated with NFC belonging to the lower risk class, with an increase from 31% in 2015 to 48% in 2019 (Chart I.2.26). These developments may reflect changes in credit standards applied by institutions, as well as an improvement in NFCs' financial structure, and also cyclical factors associated with favourable economic developments in recent years.

Chart I.2.24 • New business loans – Monthly year-on-year rate of change | Per cent



Source: Banco de Portugal. | Note: (1) - The annualised gross flow of each new loan was obtained by multiplying the amount of the loan, if it has a term of less than one year, by its annualised term (quotient of the number of days of the loan and 365).

Chart I.2.25 • Interest rate spread on new business against the 6-month Euribor | Percentage points



Source: Banco de Portugal. | Notes: Average annual (and monthly) rates weighted by the amounts of new operations. The series refer to the reporting on an individual basis of the other monetary financial institutions resident in Portugal.

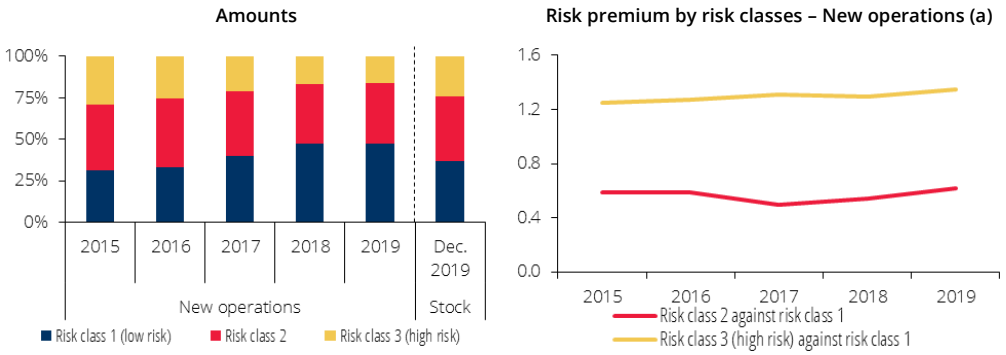
The developments described above, in terms of flows, tend to have a positive impact on distribution of the loan portfolio by risk class. However, at the end of 2019, the outstanding amount of loans granted to NFCs maintained a predominance of riskier classes (above that observed in flows). Moreover, with the deterioration of the economic outlook, there may be a

[85] Domestic institutions are deemed to be institutions that do not consolidate into a credit institution or investment firm outside Portugal, i.e., institutions that are not part of international groups.

deterioration in NFCs' solvency, leading to an increase in the associated risk, which will then lead to an increase in the weight of riskier classes in the loan stock.

In 2019, as in previous years, considering the seven major banking groups, there was an increase in the differentiation of spreads on loans to NFCs according to the associated credit risk. It is estimated that the risk premium for class 2 vis-à-vis class 1 increased by 8 b.p. to 0.6 p.p., while the premium for class 3 vis-à-vis class 1 increased by 6 b.p. to 1.4 p.p. (Chart I.2.25).

Chart I.2.26 • New bank loans to private NFCs



Source: Banco de Portugal. | Notes: The attribution of risk information to each enterprise follows the methodology of Antunes, A. et al. (2016), "Firm default probabilities revisited", *Economic Studies*, Banco de Portugal. New operations regarding enterprises are used, with the risk information available, to calculate the shares of each risk class and the total new operations series. Lower risk class (risk class 1) corresponds to the enterprises with a probability of default (PD) in one year of 1% or less; risk class 2 corresponds to enterprises with a PD in one year of above 1% and below or equal to 5% and the higher risk class (risk class 3) corresponds to the enterprises with a PD in one year of above 5%. (a) Loans granted by the seven largest banking groups operating in Portugal.

Since the entry into force of the Banco de Portugal Macroprudential Recommendation, the borrowers' risk profile associated with consumer loans has improved, reflecting institutions' compliance with the recommended ceilings for LTV, debt service-to-income (DSTI)[86] and maturities associated with agreements signed. New operations with LTV above 90% have dropped, in contrast to 22% in July 2018, and operations with a DSTI[87] above 60% have been reduced, representing less than 4% of the total since March 2019 (15% in July 2018). The average maturity of housing loans dropped to 32.6 years in December 2019, compared to 33.4 years in July 2018 (Macroprudential Recommendation on new credit agreements for consumers - progress report, 2020).[88] Even so, the average LTV has increased over the last few years, stabilizing in 2019. When a breakdown of the portfolio by Loan-to-value and Loan-service-to-income is made, there is no significant spread differentiation associated with new housing loan by borrower's risk level[89].

[86] Ratio of the total amount of monthly instalments associated with all loans held by the borrower and its monthly income net of taxes and mandatory social security contributions.

[87] The DSTI ratio is calculated considering interest rate rises according to maturity and shocks on income when borrowers are aged 70 and over at the maturity of the agreement, and not yet retired.

[88] See Macroprudential Recommendation on https://www.bportugal.pt/sites/default/files/anexos/pdf-boletim/acompanhamento_recomendacao_macroprudencial_2020.pdf.

[89] The level of implicit risk considers the *Loan-service-to-income* (LSTI) and the *Loan-to-value* (LTV) to identify the risk level of the borrower. Low risk: LSTI≤15% and LTV≤80%; High risk: LSTI>30% or LTV>90%; Medium risk: other.

2.5 Liquidity and funding

Over the last decade, the financing structure of the banking system has changed significantly, becoming less sensitive to abrupt changes in international investors' risk perception

The changes in the financing structure of the Portuguese banking system over the past decade reflect greater use of steadier funding sources and, therefore, less likely to be impacted by abrupt changes in international investors' risk perception. Concurrently, there was a substantial increase in highly liquid assets on the banks' balance sheets, which also contributed to the banking sector presenting a more robust liquidity position by the end of 2019, as compared to the pre-2008 financial crisis period. These developments show, thus, a greater ability of institutions to tackle adverse shocks, which may be of particular importance in view of the economic and financial impact arising from the COVID-19 pandemic.

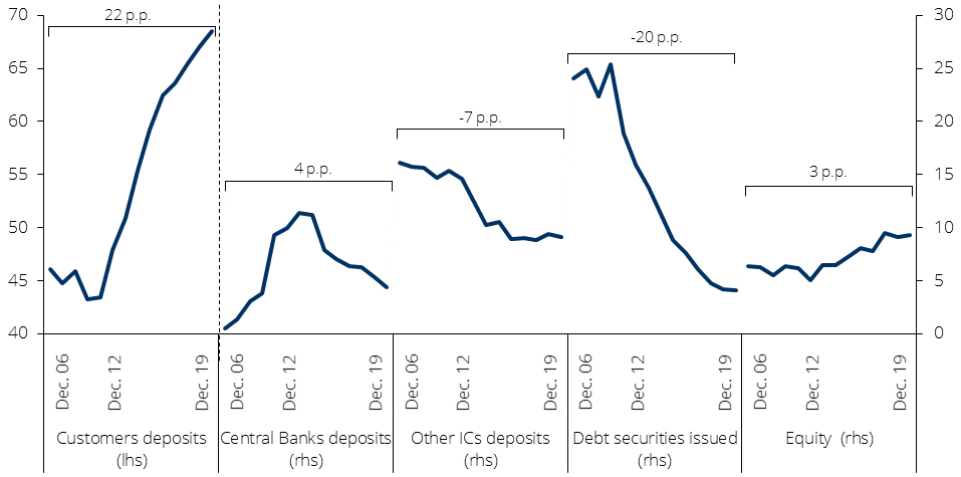
As regards the funding structure of the banking system, the weight of liabilities represented by debt securities and, to a lesser extent, deposits from other credit institutions were significantly reduced (20 p.p. and 7 p.p. between 2006 and 2019, respectively), with funding through debt securities reaching 4% of assets in 2019, as compared to 25.4% in December 2009 - when it started its downward trend (Chart I.2.27). Notwithstanding these developments, it should be noted that, since the beginning of 2020, a number of securities issues have been undertaken by institutions, particularly of debt instruments eligible for compliance with capital requirements and MREL (Section 1.1). In this regard, and in the wake of the COVID-19 pandemic, the Single Resolution Board (SRB) announced, on 1 April 2020, a set of measures contemplating more flexibility in the regulatory requirements associated with MREL, both with respect to reporting and the provision of information, and to transitional periods and intermediate targets[90] for the issue on the market of instruments eligible for compliance with this requirement.

Still in the context of this crisis, three major rating agencies (Fitch, S&P and DBRS) have downgraded the outlooks for some of the Portuguese banks, signalling potential downgrades, which could also raise market financing costs. However, given the change in the financing structure of the Portuguese banking system, together with the decisions of the Single Resolution Board, this impact on Portuguese banks will be extremely limited.

In contrast to the already mentioned decreasing relevance of less stable funding sources, customer deposits recorded a very significant increase in the past decade, accounting for around 69% of the balance sheet in 2019, compared with 67% at the end of 2018, and with an average weight of 51% between 2000 and 2007. In 2019, the increase in customer deposits was underpinned by a major contribution from the domestic activity, in particular deposits by households and non-financial corporations (4.3% and 6.6%, respectively), and, in terms of deposit types, from demand deposits. This occurs in a context where deposits with an agreed maturity continue to drop, reflecting the low opportunity cost of holding demand deposits.

[90] MREL will have intermediate targets from January 2022 onwards and will end the transition period in January 2024.

Chart I.2.27 • Banking system financing | As a percentage of assets



Source: Banco de Portugal | Note: Customers are defined as households, non-financial corporations, general government and other financial corporations (excluding credit institutions).

In a context of significant reinforcement in customer deposits, and also in view of the strong deleveraging carried out by the banking system over the past ten years, the loan-to-deposit ratio[91] has dropped sharply (Chart I.2.28). At the end of 2019, this indicator stood at 87.1%, down 1.9 p.p. on 2018 and 65.8 p.p. on 2008. Despite the increase in loans to customers net of impairments over the last year (2%), the growth in customer deposits (4%) was, as in recent years, a decisive factor in the evolution of the ratio (a 3.5 p.p. contribution).

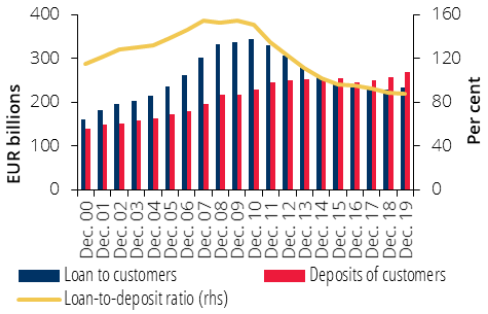
In turn, funding from the Eurosystem, which increased significantly in the post-global financial crisis period, is currently much lower and closer to pre-crisis figures. Specifically, central bank funding decreased by 15% over 2019 to 4.4% of banking system assets, which represents an 8.2 p.p. fall from the historical high in June 2012. However, it should be noted that the relevance of this source of funding increased in early 2020, as a result of the challenges associated with the COVID-19 pandemic, with the ECB adopting additional measures aimed at ensuring the regular flow of funding to the economy and, in particular, to small and medium-sized enterprises. In this context, it should be noted that the ECB announced, on 12 March 2020, more favourable conditions for targeted longer-term refinancing operations III (TLTRO-III) in all operations in force between June 2020 and June 2021, and it announced, on 30 April, the recalibration of these operations. In addition, a set of long-term refinancing operations, LTRO-A and PELTRO, was announced to ensure immediate liquidity to banks and safeguard money market conditions during the pandemic period. At the end of May, the total amount of the operations mentioned above, together with the longer-term refinancing operations (LTRO) and the targeted longer-term refinancing operations II (TLTRO-II), totalled around EUR 21 billion. Of this amount, around a quarter corresponds to new operations in response to the pandemic.[92] It should also be noted that, according to the BLS, three of the five largest banks in the Portuguese banking system intend to participate in the future TLTRO-III, with attractive financing costs being the main reason for their participation. In addition, the banks plan to use the liquidity provided by these

[91] 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).

[92] More details on https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200430_1~477f400e39.en.html.

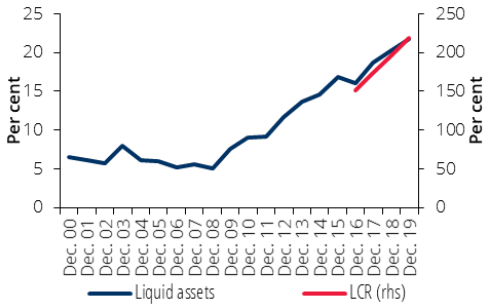
operations essentially to replace the funding provided by the TLTRO-II, and to grant loans to the non-financial private sector. Moreover, the measures announced by the ECB may prove to be key, within a framework of potential collateral devaluation (Section 1.1). All in all, ECB's measures will also be important given the new challenges to institutions' liquidity, associated with both the introduction of moratoria and the possibility of increased recourse to credit lines that had been previously taken out.

Chart I.2.28 • Loan-to-deposit ratio



Source: Banco de Portugal. | Note: Pre-2008 data refer to the aggregate of other monetary institutions representing more than 98% of the banking system's assets after 2008.

Chart I.2.29 • Liquid assets and liquidity coverage ratio



Source: Banco de Portugal | Notes: Pre-2008 data refer to the aggregate of other monetary institutions representing more than 98% of the banking system's assets after 2008. Liquid assets are defined as the sum of cash and demanded deposits in central banks and public debt securities as a percentage of assets.

The measures adopted so far to mitigate the impact of the COVID-19 pandemic should help to avoid liquidity shortfalls in the banking system by fostering the funding of the economy

As previously mentioned, the liquidity position of the banking system has improved since the outbreak of the global financial crisis, with an increase of 16.7 p.p. in the weight of the most liquid assets on the balance sheet (Chart I.2.29). It should be noted, however, that this evolution cannot be dissociated from the increase in exposure to public debt observed in the same period, a situation that poses another type of risk to the sector, notwithstanding the existence of mitigants in the current context (Section 2.3).

In 2019, the liquidity coverage ratio[93] (LCR) increased by 22 p.p. to 218.3%, followed by an increase in the dispersion of institutions with regard to this same variable. It should be noted, however, that in the current pandemic framework, and given the consequent impacts on household income and corporate activity, it is important to ensure conditions for banks to continue to guarantee that the economy is funded. Thus, and in line with what was announced by the ECB/SSM on 12 March 2020, as well as by the Banco de Portugal, banks may temporarily operate with liquidity levels below the LCR requirement (100%)[94]. Nevertheless, it should be

[93] The liquidity coverage ratio corresponds to the ratio of available liquid assets and net cash outflows calculated under a 30-day stress scenario with a 30-day duration (i.e., a scenario with significant liquidity needs for a 30-day period).

[94] See ECB's press release on https://www.bankingsupervision.europa.eu/press/pr/date/2020/html/ssm.pr200312~43351ac3ac.en.html Banco de Portugal's Circular Letter no. CC/2020/00000017.

noted that, at the end of 2019, 95% of the institutions in the banking system recorded values for this ratio above 110%. In addition, it should be noted that the value of this ratio was, in September 2019, around 46 p.p. above the euro area median.

The evolution of the LCR essentially reflected the change in the liquidity buffer (i.e., of highly liquid assets available), which increased by 16.1% to represent 19.5% of the banking system's assets. The components of public debt and reserves in central banks were the main responsible for the dynamics of the liquidity buffer (contributions of 8 p.p. and 8.2 p.p., respectively). After haircuts, these items represent now 67% and 25% of this buffer (compared to 70% and 21%, at the end of 2018). It should be noted that these items are subject to haircuts close to zero and are accounted for almost entirely for the calculation of the liquidity buffer. Additionally, the increase in central bank reserves occurred after the introduction of a tiering system[95] for excess reserves that mitigated the negative impact of the remuneration associated with the deposit facility rate on institutions' profitability.[96]

The ratio of encumbered assets[97] decreased by 2.4 p.p., standing at 15.1% compared to December 2018. The evolution of the ratio of encumbered assets reflected the 11.8% reduction in encumbered assets and collateral received and reused to obtain liquidity, and, to a lesser extent, the 2.3% increase in assets and collateral available for encumbrance. Among the unencumbered assets available for encumbrance, the eligible fraction for monetary policy operations increased by 1.4 p.p. to 25.8%. In turn, the encumbrance of assets regarding funding with the central bank has gained importance, corresponding to about 44% of funding obtained from collateral. On the contrary, encumbered assets associated with market funding has been gradually dropping in recent years, reflected in a reduction of potential contagion channels associated with the variation in collateral value. In this regard, it should be noted that in the wake of the COVID-19 pandemic, the ECB announced an extension of the package of temporary collateral easing measures.[98]

[95] A two-tier system for credit institutions' excess reserve remuneration, under which a part of these reserves is exempt from the negative interest rate on the deposit facility. The multiplier applied to calculate the exempted amount was fixed at six times the value of the required reserves.

[96] In fact, according to the BLS, four of the five largest banks in the Portuguese banking sector say that the two-tier system applied by the Eurosystem for the remuneration of excess liquidity reserves contributed slightly to an increase in overall profitability.

[97] The asset encumbrance ratio measures the share of total assets and the collateral received that is used as collateral to obtain liquidity.

[98] In particular, the use of credit claims as collateral, the reduction of collateral valuation haircut, a waiver on the use of Greek sovereign debt instruments as collateral, and the eligibility, until September 2021, of debt instruments that were eligible before 7 April 2020 and were subsequently classified below the investment level. For more details see ECB's press release of 7 April 2020 on https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200407~2472a8ccda.en.html, and ECB's press release of 22 April 2020 on https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200422_1~95e0f62a2b.en.html.

2.6 Capital

The level of capital ratios in the Portuguese banking system at the end of 2019 was much higher than in the pre-crisis global financial period, which represents a resilience factor

In 2019, the Portuguese banking system maintained its trend towards increased capital ratios, with the total capital ratio[99] reaching 16.9%, 1.8 p.p. higher than at the end of 2018. This evolution was mostly due to the variation in total own funds, which increased by 11.3%, in a context where risk-weighted assets decreased slightly.

The clear upward trend in the system's solvency, as measured by the evolution of this indicator, can be observed since 2008 - when the global financial crisis started - suggesting a greater ability on the part of institutions to cope with possible losses stemming from adverse shocks (Chart I.2.30), which is particularly relevant given the very negative current economic environment. These developments took place in the context of the quantitative and qualitative reinforcement of capital requirements observed in the post-crisis period through the Basel III Accord.[100] It should be added that the trend since 2008 has been based mainly on the reduction of risk-weighted assets, reflecting the process of adjustment of the level of indebtedness of firms and households, particularly after the Economic and Financial Assistance Programme (EFAP) started. Of particular notice is that the deleveraging observed in these years followed a prolonged period of strong increase in bank lending to firms and households. At the end of 2019, the total capital ratio stood at 7.6 p.p. above that observed in December 2008, the denominator evolution having contributed with 6.3 p.p. to this increase.

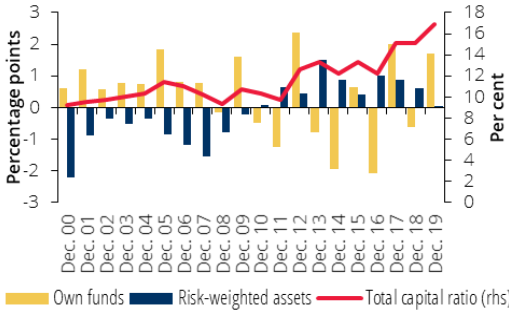
In 2019, the increase in total own funds reflected the Common Equity Tier 1 capital (CET 1[101]) growth - which represents around 84.5% of total own funds - and, to a lesser extent, the growth of Additional Tier 1 capital (AT 1) and Tier 2 capital (T2), mostly resulting from eligible instruments issuances in 2019 (Chart I.2.31). BPI and BCP placed on the market instruments eligible for AT1 amounting to EUR 275 million and EUR 400 million, respectively. With regard to Tier 2 capital, BCP and Caixa Económica Montepio Geral issued EUR 450 million and EUR 100 million, respectively. Additionally, it is worth mentioning the positive impact in Tier 2 resulting from the issuance of instruments worth PLN 830 million (corresponding to approximately EUR 183 million) by BCP's Polish subsidiary in January 2019. These issues are relevant to reinforce the institutions' own funds, but also for compliance with MREL requirements. It should be noted, however, that, as mentioned in Section 2.5, and as a result of the COVID-19 pandemic, the SRB announced, on 1 April 2020, a further relaxation of the regulatory requirements associated with MREL.

[99] Ratio of total own funds to risk-weighted assets.

[100] For more details, see Special issue "The macroprudential policy experience in the European Union: main challenges of the interaction between macroprudential instruments" (June 2019).

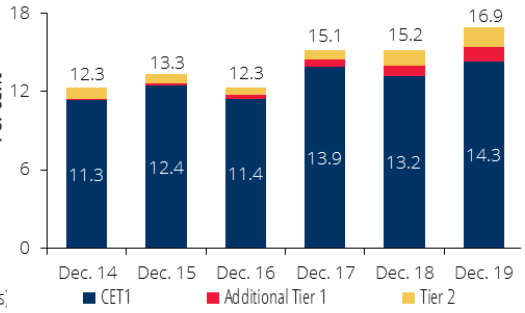
[101] The CET 1 ratio corresponds to the ratio between Common Equity Tier 1 and risk-weighted assets.

Chart I.2.30 • Contributions to the evolution of the own funds ratio



Source: Banco de Portugal.

Chart I.2.31 • Composition of the total capital ratio | Per cent



Source: Banco de Portugal. | Note: The sum of the three ratios corresponds to the ratio of own funds, present at the top of the bars.

The CET 1 ratio increased by 1.1 p.p. from December 2018 to 14.3%. Although this ratio improved across institutions, it was nevertheless followed by an increase in heterogeneity among institutions (Chart I.2.32). It should be noted, however, that the average CET 1 ratio is among the lowest in the euro area (approximately 3 p.p. below the median observed in September 2019), against a background where the average risk weight is one of the highest in the euro area, as mentioned further on in this section.

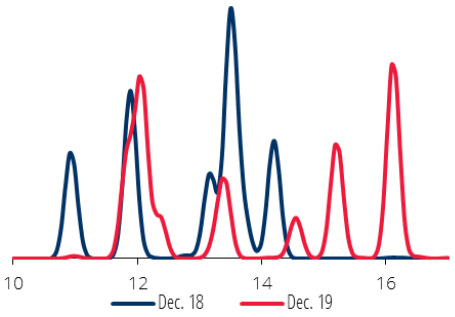
The increase in the CET 1 ratio was chiefly based on organic capital generation (a 0.94 p.p. contribution), with retained earnings evolving in line with the sector's profitability in 2018, reflecting the time lag in the recognition of positive own funds results[102] (Chart I.2.33). The other accumulated comprehensive income contributed with 0.21 p.p. to the CET 1 ratio reduction, reflecting actuarial losses associated with defined benefit pension funds, partially offset by gains on financial assets valued at market value. In addition, it should be noted that the deferred tax assets item made a positive contribution of 0.21 p.p. to the ratio evolution.

In the aftermath of the COVID-19 pandemic, the Banco de Portugal and the ECB/SSM decided to call on institutions not to distribute dividends for 2019 and 2020, to increase their performance in funding the economy and their ability to absorb potential losses. Given, on the one hand, the economic impacts resulting from the pandemic crisis, particularly intense in 2020, and, on the other hand, the increase in the profitability of the system in 2019, this recommendation is of particular importance for the financial year 2019. Although in some cases this distribution was scheduled, the major institutions of the system opted for suspending it, strengthening their ability to respond to the demanding challenges in a context of high uncertainty. Nonetheless, the capacity of organic capital generation in the coming years is expected to be conditioned by a deterioration in the profitability of the banking system, which, if negative, may even lead to a decline in capital levels.

[102] This follows from the regulatory provisions, which provide that, when results are negative, they are recognised in own funds in the current period and, when results are positive, a number of conditions for their recognition in own funds are met, namely the approval of accounts at the general meeting and by the auditor (article 26 no. 2 of the CRR).

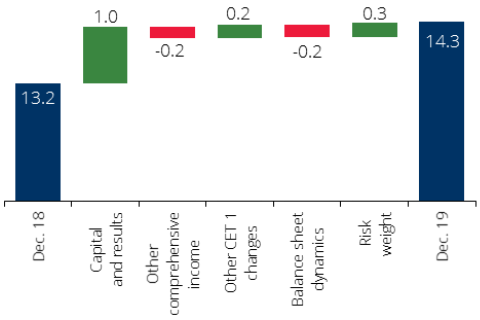
In this context, stress should be laid on the importance of several measures taken by the ECB and the Banco de Portugal to safeguard financial stability. In particular, the possibility for institutions to temporarily operate with capital levels below the capital recommendation (P2G) and the combined capital buffer[103]. These measures total EUR 1,260 million and EUR 5,539 million (0.7 p.p. and 3.0 p.p. of total capital ratio, respectively, as at December 2019). Particular emphasis should be placed on the fact that these buffers were created following the regulatory changes that followed the previous global financial crisis with the aim of mitigating pro-cyclical action by institutions, also providing greater ability to deal with risk materialising situations (Section 1.2). Overall, these measures total EUR 6,821 million[104]. In addition to this amount is the voluntary total capital buffer, i.e., the portion of the total capital ratio that institutions have in addition to regulatory requirements, which totalled EUR 6,407 million at the end of 2019 (3.4 p.p. of total capital ratio, as at December 2019). As explained in the Special issue "Policy measures in response to the COVID-19 pandemic of relevance to financial stability" there are several factors that may cause institutions to choose to maintain part of these buffers, among which is the ability to absorb potential losses in the future and strategic or market discipline issues.

Chart I.2.32 • CET 1 – Empirical distribution | Per cent



Source: Banco de Portugal. | Note: Empirical distribution obtained using a Gaussian kernel that weights institutions by their assets.

Chart I.2.33 • CET 1 – ratio and contribution to change | Per cent and percentage points



Source: Banco de Portugal.

Risk weighted assets (RWA) decreased by 0.3% in 2019, mainly associated with the internal ratings based approach (IRB) - particularly the reduction in equity exposures - and, to a lesser extent, the standardised approach. With regard to this latter, there was a change in the composition of the various risk classes[105], with defaults and other exposures decreasing, as a counterpoint to the increase in retail exposures and to elements associated with particularly high risks[106].

[103] See Circular Letter No CC/2020/00000017 of the Banco de Portugal.

[104] This amount also encompasses the impact resulting from the reciprocity mechanism inherent in the countercyclical capital buffer (Section 1.2).

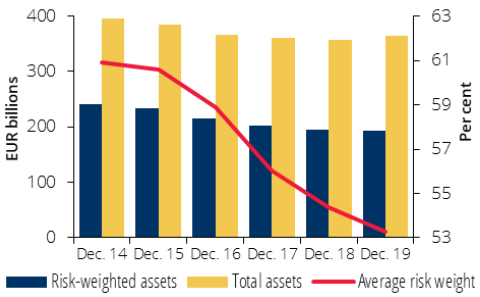
[105] Exposures for which capital requirements are calculated are assigned to the exposure classes set out in Article 112 of the EU Regulation 575/2013 (Capital Requirements Regulation – CRR).

[106] These exposures have a risk weight of 150%.

The reduction in risk-weighted assets occurred in a context in which the total assets of the banking system increased by 2% and the exposure to sovereign debt securities[107] rose by around 3%, resulting in a decrease of 1.1 p.p. in the average risk weight[108] compared to end-2018, to 53.3% (Chart I.2.34). Thus, the average risk weight continued its downward trend in recent years, despite remaining one of the highest in the euro area in September 2019 (Chart I.2.35).

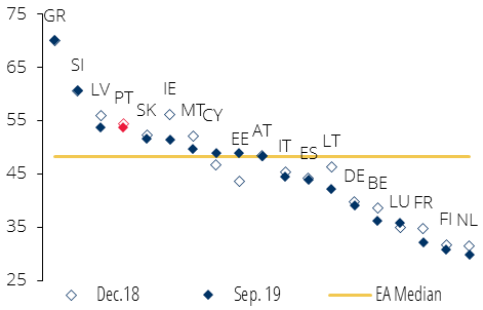
At the end of 2019, the prudential leverage ratio[109] rose by 0.6 p.p. to 7.9%, reflecting the aforementioned increase in Tier 1 capital, above that in total banking system exposure. This ratio is 0.9 p.p. above the euro area median and is higher than the minimum benchmark defined by the Basel Committee on Banking Supervision (3%). This requirement will become mandatory as of the new CRR application date (28 June 2021).

Chart I.2.34 • Average risk weight – Contributions



Source: Banco de Portugal. | Note: The average risk weight corresponds to the ratio between the risk-weighted assets and total assets.

Chart I.2.35 • Average risk weight - International comparison | Per cent



Source: European Central Bank (Consolidated Banking Data). | Note: The average risk weight corresponds to the ratio between the risk-weighted assets and total assets.

[107] Sovereign debt securities issued by euro area countries, issued in their national currency, are associated with a zero risk weight.

[108] The average risk weight corresponds to the ratio of risk-weighted assets to total assets.

[109] The prudential leverage ratio is the ratio of Tier 1 capital to total exposure.

Box 1 • The importance of credit moratoria in the context of the COVID-19 pandemic

The COVID-19 pandemic is an unprecedented shock for the Portuguese, European and world economies. The abrupt decline in firms' turnover within a very short period and the reduction in household disposable income, whether due to an increase in unemployment or as a result of a decrease in compensation of employees, due to simplified lay-off procedures[110], have had a highly significant impact on their liquidity level, posing a threat to the regular fulfilment of their credit-related obligations.[111] Therefore, if no appropriate measures had been taken, the credit risk of a significant number of borrowers may have materialised for the financial system, thus jeopardising financial stability.

Chart C1.1 illustrates the results of a simple projection exercise which, on the basis of credit stock in good standing[112] at the end of March 2020, estimates the liquidity needs associated with the regular principal and interest repayments between early April and late March 2021 for households[113] and non-financial corporations (NFCs). In the household segment, the estimated liquidity needs amount to €12.2 billion, distributed among housing loans and loans for consumption and other purposes. In the NFC segment, the estimated figure is €17.3 billion, with the highest liquidity needs associated with smaller-sized firms, lower credit risk firms and the trade and industry (manufacturing, mining and quarrying) sectors.

The public moratorium regime

Against this background, and given the severity and materiality of the risks involved, the Portuguese Government – as also observed in other European countries – established a public moratorium regime under Decree-Law No 10-J/2020 of 26 March 2020 (hereinafter referred to as Decree-Law). This regime, in force between 27 March 2020 and 31 March 2021[114], lays down a set of extraordinary measures to protect obligors and creditors, namely: (i) an extension – under the same terms, with all elements related to the credit agreement and for a period equal to the duration of the moratorium – of credit agreements with principal payment at the end of the contract (bullet loans) and in effect on the date of entry into force of the Decree-Law; (ii) in respect of credit agreements with partial repayment of principal or partial maturity of other cash amounts, a suspension – for the period in which the measure is in effect – of the payment of principal, income and interest with maturity scheduled until the end of that period;[115] (iii) prohibition of the revocation of credit line agreements and loans granted for the amounts contracted at the date of entry into force of the Decree-Law.

[110] The simplified lay-off regime consists of a temporary reduction of the normal working period or the suspension of employment contracts on the initiative of the firms. During the period of reduction or suspension of the employment contract, employees receive two thirds of their gross wage if such amount is between one (lower bound has been set at €635) and three monthly minimum wages (upper bound has been set at €1,905). As such, employees with higher wages may experience, in absolute and relative terms, a large wage reduction.

[111] See the May 2020 issue of the *Economic Bulletin*, Special issue entitled "The economic impact of the pandemic crisis", for an analysis of the short term impact of the pandemic on the financial situation of firms and households.

[112] In this exercise, the regular debt service associated with the stock of loans available in the Central Credit Register on 31 March 2020 was estimated, without considering possible recourse to already contracted lines of credit still to be used at that date. All overdue loans were also excluded.

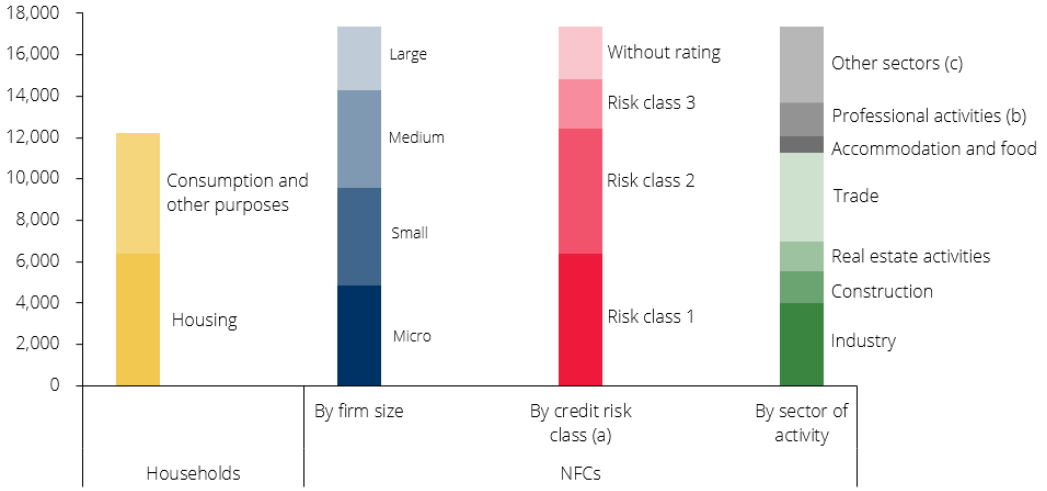
[113] In line with the regulatory framework applicable to national accounts, the household segment includes households and sole proprietors.

[114] The public moratorium regime, with an initial duration until 30 September 2020, was extended by virtue of Decree-Law No 26/2020 of 16 June 2020. The current beneficiaries may nevertheless oppose to the (otherwise automatic) extension of effects of the moratorium by 20 September 2020. New beneficiaries are entitled to request for the application of the public moratorium until 30 June 2020, which may be extended in the future.

[115] The Decree-Law establishes an automatic extension on the contractual plan for the partial payment of principal, income, interest, fees and other charges for a period identical to that of the suspension, and that interest due during the moratorium period will be capitalised on the amount of the loan with reference to its due date at the contractual rate in force, unless the bank customer has only requested suspension of the principal repayments.

This regime is applicable to credit agreements entered into by natural persons (residents and non-residents[116]) and legal persons with their head office or business activity in Portugal, including sole proprietors or entities of the social economy, which are not part of the financial sector. For natural persons, the public moratorium, originally only applicable to credit agreements for the purchase of permanent residence, now applies, by virtue of Decree-Law No 26/2020 of 16 June 2020, to all mortgage loan agreements, leasing agreements on immovable property for housing and consumer credit agreements for educational purposes.

Chart C1.1 • Projection for regular principal and interest repayments of households and NFCs between early April of 2020 and late March 2021 | EUR millions



Source: Banco de Portugal. | Notes: For households, the calculation of the regular reimbursement of interest and principal was estimated based on monetary and financial statistics data (banking system data), to which scaling factors were applied to allow their extrapolation to the entire population (financial system). In order to estimate the interest component, the average interest rates on stocks published by the Banco de Portugal were used. For firms, the estimate was based on information on (non-securitised) loans available in the Central Credit Register. For the purposes of this exercise, all overdue loans were excluded. Maturing payments of principal were estimated only for loans with a specified payment structure. (a) Credit risk is based on the ratings made available by Banco de Portugal, which were estimated in accordance with the methodology presented in the article by Antunes, Gonçalves and Prego (2016), "Firm default probabilities revisited", *Banco de Portugal Economic Studies*, vol. 2, No 2, April 2016. The lowest risk class (risk class 1) includes firms whose one-year probability of default (PD) is below 1%; risk class 2 covers firms whose one-year PD is above 1% and below 5% and, finally, the highest risk class (risk class 3) includes companies whose one-year PD is above 5%. (b) It includes Professional, scientific and technical activities (Section M) and Administrative and support service activities (Section N). (c) It includes all other sectors not individually shown in the chart.

Access to the moratorium depends on cumulative compliance with a set of requirements by the obligors, as laid down in Article 2(1) and (2) of the Decree-Law. Application of the moratorium regime involves specific prudential treatment (see below "Prudential implications of the public and private moratoria regimes").

The Portuguese public moratorium regime is similar to other regimes adopted by other countries of the European Union, namely Italy and Spain (Table C1.1).

The private moratoria regime

In conjunction with the public moratorium, and within the scope of initiatives taken by sectoral associations, several entities authorised to grant credit have adopted measures to make their

[116] Originally only applicable to residents, the scope of application of the moratorium was extended to include non-resident natural persons by virtue of Decree-Law No 26/2020 of 16 June 2020.

customers' compliance with the contractual obligations easier and more flexible for credit operations not covered by the public moratorium – the so-called private moratoria.

Table C1.1 • Characteristics of the public moratorium regimes in Portugal, Spain and Italy

	Portugal	Italy		Spain	
Eligible credits	Credits		Mortgage credits		Non-mortgage credits
Subjective scope	Firms and natural persons	Small and medium-sized corporations	Natural persons	Firms and natural persons	
Entry into force	27/03/2020	17/03/2020		18/03/2020	01/04/2020
Duration of the moratorium	12 months	6 months	18 months	3 months	
Characteristics	Suspension of principal and interest instalments or only principal instalments			Suspension of principal and interest instalments	
	Requested by the borrower				
	Without public guarantee	With partial public guarantee		Without public guarantee	

Source: Banco de Portugal. | Note: The information presented on the characteristics of the public moratorium regimes in Spain and Italy is mainly based on information available on the European Systemic Risk Board (ESRB) website on policy measures in response to the COVID-19 pandemic.

As at the date of this publication, three private moratoria, exclusively for natural persons and applicable on a voluntary basis, are in force. They were promoted by the APB – Associação Portuguesa de Bancos (Portuguese Banking association) (hereinafter "APB moratorium"), ASFAC – Associação de Instituições de Crédito Especializado (Association of Specialised Credit Institutions) (hereinafter "ASFAC moratorium") and ALF – Associação Portuguesa de Leasing, Factoring e Renting (Portuguese Association of Leasing, Factoring and Renting) (hereinafter "ALF moratorium") respectively.

These private moratoria were created in the context of the issuance of Guidelines by the European Banking Authority (hereinafter "EBA") on legislative (public) and non-legislative (private) moratoria on loan payments to be applied in light of the COVID-19 crisis (EBA/GL/2020/02, hereinafter also "Guidelines"). They seek to align their characteristics with the provisions of these Guidelines and, thereby, ensure a favourable prudential and accounting treatment for credits covered by the moratoria (see Chapter V below). Thus, the possibility of requesting for the application of these moratoria is not limited to the associated institutions,[117] so that a higher level of representativeness of the respective target segment of obligors and/or exposures may be achieved.

The underlying purpose of these moratoria is to complement the public moratorium, which is evident both in the characteristics that distinguish them, which are non-exhaustively summarised below, and in the alignment (but not absolute matching) with certain characteristics of the public moratorium, e.g. borrowers' eligibility criteria[118] and the measures to support credit exposures.[119] In addition, without

[117] The list of institutions that requested for the application of each moratorium is published on the APB and ASFAC websites (only in Portuguese).

[118] More precisely, and without prejudice to their specificities, all private moratoria lay down the following eligibility criteria: the borrower must not be in default based upon the criteria described for the public moratorium in Article 2(1)(c) of the Decree-Law and either the borrower or any of the relevant household member must be covered by any of the social protection measures listed in paragraph 2 of that Article as eligibility criteria to safeguard the unfavourable professional or social situation of borrowers due to the pandemic context. Decree-Law No 26/2020 of 16 June 2020 introduced, as alternative criterion, an actual loss of at least 20% of the household's overall income, in line with the eligibility framework laid down for private moratoria at the time the original version of the Decree-Law was in effect.

[119] In general terms, the suspension of the payment of principal or, at the option of the participating borrower, also interest (resulting in its capitalisation), income or guarantees that have matured during the same period, and the consequent extension of the initial contractual maturity of the loan for a period similar to that of the suspension/extension.

prejudice to their subsequent entry into force, such private moratoria refer to credit operations contracted no later[120] than the original date of publication of the public moratorium regime.

The APB Protocol[121] provides for two types of moratoria, depending on whether they relate to mortgage or non-mortgage credit (the latter with an initial amount of less than €75.000). Their duration differs according to the type concerned.[122] It establishes an eligibility framework for resident or non-resident borrowers, which is identical for both types[123] and provides similar[124] criteria to those laid down in the public moratorium.[125]

The moratorium promoted by ASFAC aims to cover the contractual types included in the personal credit segment that are not comprised by the public moratorium regime.[126] It extends to the situation in which the spouse[127] – and not the borrower – is covered by any of the social protection measures provided for in the public moratorium regime, with a significant impact on the financial situation of the household.[128] The borrower may request its application for a shorter period than its duration[129]. In contrast to the public moratorium, the borrower may choose to maintain the amount of the monthly instalment similar to the "pre-moratorium" amount, by extending the maturity of the agreement for a period longer than that of the duration of the moratorium.

In turn, the ALF moratorium is for leasing agreements on immovable and movable property,[130] not covered by the public moratorium regime and entered into by resident and non-resident borrowers. The range of alternative eligibility criteria to safeguard the unfavourable economic or social situation of the borrower is similar (although not completely[131]) to that of the public moratorium. In line with the ASFAC moratorium, it is effective until 30 September 2020 and provides for, albeit under different terms, a flexible framework for adjustments to the payment plan resulting from its application, both in terms of its duration and the amount of the respective instalments.[132]

[120] I.e. credit operations contracted until 26 March 2020 or, in the case of the ASFAC moratorium, until 18 March 2020 (without prejudice to the acceptance of applications for participating in the moratorium made by borrowers as of the latter date in the case of the APB moratorium).

[121] With effect as of 15 April 2020 and in force until the end of the longest period of the types of moratoria.

[122] In mortgage credit, the end of the duration period coincides with that of the public moratorium, while for non-mortgage credits it ends 12 months after entering into the respective agreement.

[123] Contrarily, borrowers who are not covered by the public moratorium regime are expressly eligible for mortgage credit for own and permanent residence, since they do not meet any of the set eligibility criteria.

[124] As separate eligibility criterion, the reduction in income of at least 20% relates only to the borrower's own income or that of a household member, and not (necessarily) to the overall household income, as required by the public moratorium regime – see footnote 118.

[125] This regime is automatically applicable to beneficiaries already covered by the public moratorium regime on account of other eligible operations, otherwise the borrower is required to certify compliance with all tax and Social Security obligations.

[126] E.g. personal credit agreements, car credit, credit card, credit lines, provided that these are contracted outside the scope of professional activity (ASFAC moratorium, clauses 3 and 4).

[127] Or a household member with an equivalent status.

[128] The impact on the household income is not quantified, by contrast with the public moratorium regime – see footnote 118 above.

[129] The ASFAC moratorium is effective between 10 April 2020 and 30 September 2020.

[130] Giving rise to two separate documents. Both entered into force on 11 May 2020.

[131] If the member of the household (and not the borrower) is the subject of the eligibility criteria to safeguard the unfavourable professional or social situation of the borrower arising from the pandemic context, the relevant criteria, among the social/professional protection measures provided for in Article 2(2) of the Decree-Law, consist only of the situation of isolation or assistance and the temporary income reduction of more than 20%, not the household's overall income, but either the borrower's or any of the household member's– see footnote 118.

[132] The borrower may choose to keep the initial contractual maturity unchanged or adjust the amount of the instalment by extending the payment maturity (this latter option is in line with the ASFAC moratorium) for a minimum period equivalent to the duration of the moratorium up to a maximum of 12 months.

As of the subsequent entry into force of the mentioned Decree-Law No 26/2020 on 17 June 2020, the loan agreements benefiting from a private moratorium at this date, whose types of credits fall under the current legal framework, are now covered by the public moratorium regime, upon fulfilment of the respective eligibility criteria.

Prudential implications of the public and private moratoria regimes

On 2 April 2020, the EBA published the "Guidelines on legislative and non-legislative moratoria on loan repayments applied in light of the COVID-19 crisis", and applicable as of that same date.

These Guidelines establish the terms and conditions with which the extension of payment terms underlying credit operations, associated with a public or private moratorium (hereinafter "General Payment Moratoria" or "GPM") must comply to avoid default on the part of the obligor, or application of the forbearance measure. In this context, all moratoria regimes should have been created or agreed upon as a response measure to the pandemic context and applied before 30 September 2020[133] (the regimes already in force on 2 April 2020 are covered by the Guidelines). The beneficiary population should correspond to a wide range of obligors, including large segments of borrowers or exposures. While the borrowers' credit analysis may not be a criterion for selecting beneficiaries, GPM should not target exclusively obligors who were already experiencing financial difficulties before the pandemic outbreak. Among the different contractual elements, only the duration and amount of the principal and/or interest instalments of covered exposures can be changed under the moratorium regime, and provided that these changes are uniformly proposed to all the target beneficiaries of the GPM.

Defining a public or private moratorium as a General Payment Moratorium will prevent the immediate identification of exposures covered by that moratorium as defaulted and/or forborne exposures if they have not previously been classified as such, as these moratoria were introduced as a response to the COVID-19 pandemic and are not specific to certain borrowers, and they apply to an extended universe of customers or types of credit. However, while a moratorium regime that does not meet the requirements of the Guidelines may be applied to a wide range of exposures, even if these are currently classified as performing, the impact on banks' balance sheet and their own funds is likely to be significant.

By means of Circular Letter No CC/2020/00000022, the Banco de Portugal highlighted the importance of the supervised institutions[134] complying with the Guidelines and that these would be taken into account in the interpretation of the applicable legal and regulatory provisions for verifying such compliance.

Use of moratoria

According to preliminary data, collected by the Banco de Portugal under Instruction No 13/2020, between 27 March 2020 and 31 May 2020, the statements for joining the public moratorium regime (before the publication of the Decree-Law No 26/2020, which expanded the scope of the public moratorium regime) covered about 195,000 credit agreements with households and about 211,000 credit agreements with firms. Of these agreements, about 94% were covered by some type of support measure. In most agreements, total suspension of the payment of principal and interest was requested (support measure requested for in about 90% of the credit agreements with households and 70% of credit agreements with firms). The private moratoria covered about 302,000 credit agreements, of which about 174,000 were related to consumer credit and the

[133] The obligation to apply the moratorium regimes before 30 September 2020 does not affect the duration of a moratorium. When the Guidelines were published, the set time limit was30 June, but EBA recently extended it to 30 September (https://eba.europa.eu/eba-extends-deadline-application-its-guidelines-payment-moratoria-30-september).

[134] Both credit institutions and entities listed in Article 1 of Notice of the Banco de Portugal No 11/2014.

remainder related to mortgage credit. In both credit categories, most borrowers requested a suspension of the payment of principal, or of principal and interest, with an extension of the contractual maturity. However, as regards consumer credit, most borrowers chose to suspend the payment of principal and interest, while for mortgage credit the most frequent option was to suspend the principal component only.

On the basis of information provided by the eight largest banking groups[135] operating in Portugal, it may be concluded that, until 18 June, these banks' exposure to credits subject to the application of (public or private) moratoria regimes amounted to about €39 billion (about 22% of the total portfolio of credit to firms and households). Data also show that, in relative terms, requests for the application of the moratoria in the segment of credit to firms (about 29% of the credit portfolio) exceeded the share recorded in the segment of credit to households (about 17% of the credit portfolio). According to banks' estimates, until 30 September 2020 instalments associated with these credits amount to around €2.8 billion in the segment of credit to firms and €0.6 billion in the segment of credit to households.

Conclusion

General Payment Moratoria constitute an important instrument to mitigate liquidity risk as they provide a time window for the protection of borrowers and, thereby, the financial system. Nevertheless, when there is no associated public guarantee – as in Portugal – the risk to the financial sector is not reduced. Thus, while at an initial stage, the access to the moratorium regime helps to preserve the creditworthiness of most borrowers, provided they comply with the application criteria laid down in the Guidelines, at a later stage, particularly post-moratorium, the analysis of the economic and financial viability of firms and the payment capacity of households once again become prominent indicators in credit risk assessment. Moreover, debt may not be the most appropriate form of financing for many firms.

The economic and financial consequences of this pandemic may extend well beyond the expected duration of the moratoria regimes, and, after their termination, there may be an increase of credit default in both households and firms. Therefore, the moratorium regimes must be accompanied by other measures to support the liquidity and solvency of the various economic agents and to re-launch the economy.

[135] Currently, the eight largest banking groups in Portugal are: BCP, BPI, Caixa Económica Montepio Geral, CGD, EuroBic, Grupo Caixa Agrícola, Novo Banco and Santander Totta.

Box 2 • Bank exposure to sectors most sensitive to the impact of the COVID-19 pandemic

In recent months, the global economy has been significantly affected by the COVID-19 pandemic. In the context of the necessary and difficult balance between the management of the health crisis and its adverse economic effects, a sharp drop in economic activity has been observed, with no historical parallel in the last decades, despite a wide and diverse range of public measures.

In this context, non-financial corporations face significant challenges to meet their commitments in the short term, given the sharp fall in their activity and, thereby, in their cash-flows. The magnitude of this challenge will depend on a set of business characteristics, one of the most relevant being associated with the rigidity of its cost structure, i.e. how high or low the expenses the firm has to pay are, regardless of its level of activity. This dimension should be of a structural nature at the level of the business sectors, despite the idiosyncratic dimension associated with the management and business model of each enterprise. Also relevant for determining the challenge for firms are issues related to their financial structure, in terms of liquidity or solvency/indebtedness, which can determine the greater or lesser ease in securing/renewing financing from the banking system. Taken together, these dimensions, the activity sector, liquidity and solvency are thus highly relevant for assessing the level of risk that banks have in their portfolios of credit granted to non-financial corporations in the context of the emergence of the pandemic.

Sectors that are most sensitive in the short term to the impact of the COVID-19 pandemic

Some sectors have been identified as most sensitive in the short term to the impact of the COVID-19 pandemic. In the absence of a single identification, this Box uses two classifications, from different sources. Firstly, that of the European Central Bank (ECB), which is based on sensitivity indicators of the capital market, identifying six sectors. The ECB's classification is complemented with that of the International Labour Organisation (ILO), which is based on real time economic and financial data, identifying five high-impact and two medium-high impact sectors.[136]

Taking the Portuguese standard for economic activity classification (CAE - Rev.3)[137] as a starting point, a high degree of overlap between the sectors that are identified in the two sources (Table C2.1) may be observed. The differences are at two levels. On the one hand, mining and quarrying (B) are not considered by the ILO. This discrepancy is mitigated by the minor importance of this sector in the European countries concerned in this Box. In turn, the ILO adds two sectors, Real Estate Activities (L) and Administrative and Support Services (N). These two sectors, and in particular the former, take on far greater importance in the banks' portfolios than mining and quarrying. Thus, for the purposes of assessing the exposure of the banking sector to the most sensitive sectors, the following analysis will first be based on the identification by the ECB, complemented by the additional sectors included by the ILO. This choice allows for a total identification of the sensitive sectors, which, in the case of Portugal, is broadly consistent with the results of the Fast and Exceptional Enterprise Survey – COVID-19 (Banco de Portugal and Statistics Portugal), legitimising the specific analysis of the Portuguese banking sector as shown below.[138]

[136] The ECB's classification may be seen in its *Financial Stability Review*, May 2020. The International Labour Organisation's classification appears in the ILO Monitor: *COVID-19 and the world of work.* Second edition, Updated estimates and analysis, 7 April 2020, available at https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_740877.pdf.

[137] This classification is equivalent to the classifications of economic activities in the European Union – NACE-Rev.2.

[138] It is important to bear in mind that the aggregation in question may, to some extent, be overly simplified. Indeed, in some sectors, there is still considerable heterogeneity in the impact of the pandemic across sub-sectors. For example, the Fast and Exceptional Enterprise Survey data illustrate that the impacts reported in manufacturing (C) have differed substantially from one sub-sector to the other. This heterogeneity among sub-sectors tends to be lower in Accommodation and food service activities (I).

Table C2.1 • Sectors that are most sensitive in the short term to the impact of the COVID-19 pandemic

CAE Rev.3	Sector	ECB	ILO
Agriculture, forestry and fishing	A		
Mining and quarrying	B	X	
Manufacturing	C	X	1
Electricity, gas, steam, hot and cold water and cold air	D		
Water supply; sewerage, waste management and remediation activities	E		
Construction	F		
Wholesale and retail trade; repair of motor vehicles and motorcycles	G	X	1
Transportation and storage	H	X	2
Accommodation and food service activities	I	X	1
Information and communication	J		
Financial and insurance activities	K		
Real estate activities	L		1
Professional, scientific and technical activities	M		
Administrative and support service activities	N		1
Public administration and defence; compulsory social security	O		
Education	P		
Human health and social work activities	Q		
Arts, entertainment and recreation	R	X	2
Other services	S		

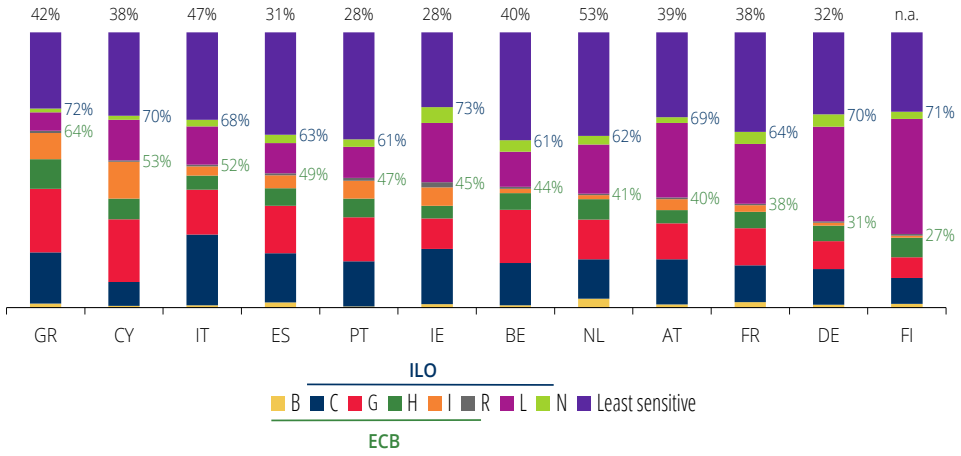
Sources: ECB and International Labour Organization. | Note: In the ILO's classification, "1" is used for sectors that experience a high impact and "2" for sectors that experience a medium-high impact. The organisation identifies three additional categories with lower impact.

Exposure of European banks via loans to non-financial corporations in the sectors most sensitive to the impact of the COVID-19 pandemic[139]

In 2018, exposure through loans to the most sensitive sectors identified by the ECB was concentrated in Manufacturing (C) and Wholesale and retail trade, repair of motor vehicles and motorcycles (G) (Chart C2.1). There is also a significant dispersion among countries of the weight of these sectors in the total portfolio of loans to non-financial corporations. The highest figure was 64% in Greece, followed by a number of other countries that have all been particularly affected by the sovereign debt crisis. In Portugal, this weight corresponded to 47%. At the other end of the distribution are France, Germany and Finland (38%, 31% and 27% respectively).

[139] This section uses data obtained from the supervisory reports (FINREP), which are based on consolidated activity and therefore include non-domestic activity. Except for Portugal, the latest available data on this sectoral breakdown of loans in euro area countries are for 2018, the data being provided on a yearly basis. It should be noted, however, that the structure of the loan portfolios should in principle be relatively stable, so these data should enable a good portrait of the most recent situation. On the other hand, the inclusion of international activity should not constitute an obstacle to the legitimacy of the analysis carried out at sectoral level in view of the global nature of the pandemic and the similarity of the conduct of most national authorities in relation to the health crisis.

Chart C2.1 • Loans to NFCs in 2018 – breakdown by activity and share of total risk-weighted assets | Per cent



Source: ECB | Notes: At the top of each column, the exposure to the eight most sensitive sectors as a percentage of risk-weighted assets. Next to each column, the six sectors (ECB) and the eight sectors (ECB + ILO) identified as most sensitive to the effects of the COVID-19 pandemic as a percentage of the NFCs loan portfolio. Countries ordered by weight of the six sectors identified by the ECB in the loan portfolio. n.a.: data not available.

However, looking also at the most sensitive sectors identified only by the ILO and in particular real estate activities (L), the distribution of the indicator among countries becomes more homogeneous, standing between 61%, Portugal, and 73%, Ireland.[140]

In view of the structure of the loan portfolio to NFCs, it is also important to assess the significance of these exposures in the total risk-weighted assets of the different banking systems. It can be seen that share of exposure to the most sensitive sectors also points to significant dispersion among the countries in question. At one end of the distribution, this indicator stands at 53% for the Netherlands, despite the relatively small share of the sensitive sectors identified by the ECB in the total portfolio of loans to non-financial corporations (41%), and even of the total number of sensitive sectors (62%). Also with relevant exposure to risk-weighted assets, Italy (47%) and Greece (42%) have the highest concentration of the most sensitive sectors identified by the ECB (64 and 52% respectively).

For Portugal, exposure to the eight most sensitive sectors as a percentage of risk-weighted assets stood at 28%, the lowest of all the countries concerned. At the end of 2018, the portfolio of loans to NFCs accounted for 38% of the total portfolio of loans to customers.[141]

[140] Real estate activities are of considerable importance for some European countries, which may be linked to specific features of the housing market in those countries, in particular to how housing is provided (e.g. due to a large rental market or social housing). In Finland, the real estate sector is clearly more important in the overall economy (https://www.bofbulletin.fi/en/2018/2/the-finnish-real-estate-investment-market/) and there is a significant share of social housing (http://www.housingeurope.eu/resource-1323/the-state-of-housing-in-the-eu-2019). In Germany, Austria and France homeownership is clearly lower (homeownership ratio https://www.ecb.europa.eu/pub/economic-bulletin/articles/2018/html/ecb.ebart201807_02.en.html#toc6).

[141] This portfolio includes loans to NFCs, households, general government and other financial corporations.

In addition to reflecting different compositions in their exposures through loans to NFCs (among sectors that are more and less sensitive to the effect of the pandemic), the dispersion among countries in this metric also reflects, to some extent, different average risk weights. Despite a downward trend in recent years, the average risk weight for the Portuguese banking system remains one of the highest in the euro area (Section 2.6).

The situation in Portugal[142]

As mentioned above, although lower than that seen in most of the other euro area countries analysed, the exposure of the Portuguese banking sector to NFCs through loans to the sectors most sensitive to the effects of the pandemic is nevertheless significant. When considering domestic activity, the total exposure via loans to the six sectors identified by the ECB amounts to 53% of the portfolio, which is heavily concentrated in Manufacturing (C, 19%), and in Wholesale and retail trade; repair of motor vehicles and motorcycles (G, 18%). Transportation and storage (H) and Accommodation and food service activities (I) are next, both at around 7.5% of the portfolio. The other two sectors identified by the ECB represent a minimal fraction of the portfolio. Considering the two additional sectors identified by the ILO, exposure to sensitive sectors is increased by around 15%, mainly through Real estate activities (L, 13%). Of the other sectors, and although considered non-sensitive, the Construction sector (F) stands out, representing 11% of the total portfolio.

The magnitude of the impact of the pandemic on the different sectors of activity will also depend on the financial situation of their NFCs. A dimension that is of particular importance in the current context is liquidity, which will be assessed using the ratio between Currency and bank deposits and Short-term financing.[143] This metric makes it possible to assess a firm's ability to meet short-term liabilities in the absence of additional liquidity resulting from the ordinary running of its business. Lower values of the ratio mean that a firm is more sensitive, in terms of liquidity, to the extension of the pandemic and its adverse effects on the generation of cash flows. It should be noted, however, that this calculation does not consider the emergence of new liquidity needs that will stem, for example, from the gross margin becoming insufficient to meet the operation's fixed costs, particularly staff costs.[144]

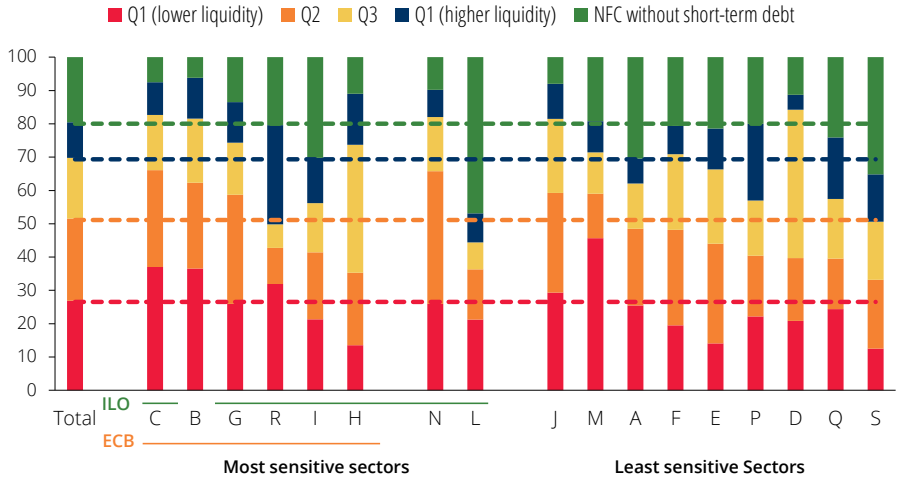
The 25th, 50th and 75th percentile of the distribution of the liquidity ratio were calculated taking all the resident NFCs with short-term financing, 0.10, 0.73 and 4.91 respectively. The figures obtained indicate that a very significant proportion of resident NFCs is in a vulnerable situation in terms of liquidity, despite the progress that the sector has made in recent years, as mentioned in previous editions of the Financial Stability Report. By way of illustration, in 2010 half the firms had a liquidity ratio not exceeding 0.35, representing 65% of the total amount of loans to resident NFCs. Based on these distribution positions, the structure of loan amounts recorded in the Central Credit Register (CCR) can be assessed, by NFCs' liquidity class, and excluding overdue loans (Chart C2.2).

[142] This analysis is based on data from the Central Credit Register (CCR) for December 2019 and the Simplified Corporate Information (IES) for 2018, which enable an analysis focused on domestic activity and the characteristics of resident NFCs.

[143] The concept of short-term funding considers NFC's liabilities with loans and debt securities, with a residual maturity of less than 1 year.

[144] On this channel of impact on NFCs see part 2 of the Special Issue "The economic impact of the pandemic crisis", *Economic Bulletin*, Banco de Portugal, May 2020.

Chart C2.2 • Breakdown by liquidity ratio quartiles and NFCs without short-term debt | Per cent



Source: Banco de Portugal (CCR and IES). | Note: The correspondence between the letters and the sectors may be found in Table C2.1. Sectors ordered by the entity that identifies the sectors (ECB and ILO) and by the joint weight of the first two quartiles of the liquidity ratio.

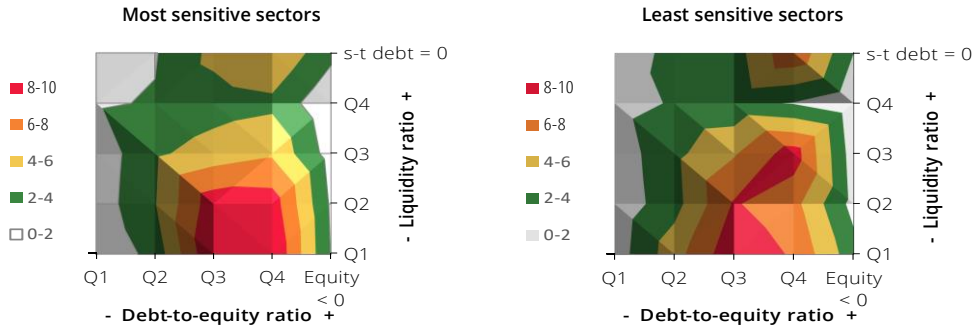
The distribution per liquidity quartiles presents considerable heterogeneity among the activity sectors considered. Using the median value of the ratio as a benchmark, Transportation and storage (H) and Real estate activities (L) are in a positive situation. More fragile situations include exposures to Manufacturing (C) and Administrative and support service activities (N). For some sectors, vulnerability is low since they include NFCs which, despite having bank credit, do not have short-term liabilities. More relevant cases at this level for NFCs are found in Real estate activities (L) and Accommodation and food service activities (I).

As mentioned above, a more fragile liquidity situation could be overcome should the NFC have access to additional funding. In this context, another dimension to be assessed is linked to the strength of the firm's capital position. Ceteris paribus, better capitalised firms will be in a better position to obtain bank financing and thus address (short term) difficulties in liquidity. This dimension will be assessed using the debt-to-equity ratio.

Joint distributions of the two analysis dimensions appear in Chart C2.3 for the two groups of NFCs, which includes the eight sectors identified as most sensitive to the effects of the pandemic and the remaining ones in aggregate.

As far as the NFCs of the sectors most sensitive to the effect of the pandemic are concerned, there appears to be a significant concentration of loans to firms that are at the same time in the worst situation in terms of liquidity (1st and 2nd quartiles) and equity (3rd and 4th quartiles of the debt-to-equity ratio and exposures to NFCs with negative equity). In the set of loans to the most sensitive sectors (70% of total loans to NFCs registered with the CCR), this exposure represents 42% of the portfolio. This evidence portrays a context of increased fragility for a significant part of banks' exposure to these sectors. The distribution for the least sensitive sectors (30% of the portfolio of loans to NFCs) is more uniform, with exposure to the most vulnerable segments (liquidity and equity) down to 36%. For these sectors, exposure to the 1st and 2nd debt-to-equity quartiles represents 21% of the total exposure, which compares with 19% for sensitive sectors.

Chart C2.3 • Joint distribution of liquidity and debt-to-equity ratios | As a percentage of loans to NFCs registered in the CCR



Source: Banco de Portugal. | Note: The different colours indicate the intensity of the exposure in the portfolio of the identified sectors. Red indicates higher exposure (between 8% and 10%), while grey indicates lower exposure (between 0 and 2%). For example, for the most sensitive sectors, exposures to firms that have a combination of 1st and 2nd quartiles in liquidity and 3rd and 4th quartiles in debt-to-equity ratio are between 8% and 10%.

Given this general framework, it is important to analyse the sectors representing the largest shares of the loan portfolio in greater detail. Among the exposures to sectors with the most unfavourable liquidity distribution, Administrative and support service activities (N) and Manufacturing (C), stand out as they have, at the same time, a more significant concentration in the higher levels of debt-to-equity. The identified segments have a share of 58% and 55% respectively. Wholesale and retail trade; repair of motor vehicles and motorcycles (G) has a share of 45%. On a positive note, Real estate activities (L), Transportation and storage (H) and Accommodation and food service activities (I) stand out since their combination of lower liquidity and increased fragility in equity is of around 30%.

Finally, although Construction (F) is not considered one of the sensitive sectors in the current context, given the material exposure to it, the share of exposure that combines the worst liquidity and equity situations is 39%, and exposures in the 4th quartile of the debt-to-equity ratio with negative equity represent 48% of the total.

Conclusion

The analysis makes it possible to detect vulnerable situations associated with short-term economic and financial developments in the COVID-19 pandemic.

Although the sectors most sensitive to the effects of the pandemic account for a relatively high proportion of total bank loans to NFCs in Portugal, when they are analysed as a percentage of risk-weighted assets, they represent a relatively small exposure in the European landscape.

However, the portfolio of bank loans to NFCs has significant exposure to NFCs with low liquidity, in particular in some of the sectors identified as most sensitive. In addition, some sectors are characterised by a combination of liquidity and capital weaknesses, which tends to amplify their associated risk. These include Administrative and support service activities (N), Manufacturing (C) and, to a lesser extent, Wholesale and retail trade; repair of motor vehicles and motorcycles (G).

Finally, it is important to note that the analysis presented is focused on sectors which have been identified as sensitive to the effects of the pandemic in the short term. However, this analysis does not address potential liquidity shortfalls and capital degradation stemming from the combined effect of a reduction in revenues and the rigidity of operational costs. In addition, the scale of the effects of the pandemic means that, even if in the short term the effects are more intense in some sectors of activity, they may extend to other sectors of NFCs and necessarily to other institutional sectors. In this context, it should be noted that banks are also exposed through the credit granted to households whose reference person is employed in these sectors (Box 3)

Box 3 • The financial situation of Portuguese households in pre-crisis periods

The present crisis, resulting from the need for confinement and from business disruptions due to the COVID-19 pandemic is having a far-reaching impact on household finances. A large share of workers will face (or are already facing) a reduction in their disposable income due to temporary or permanent closure of firms. The International Labour Organization (ILO) estimates a 12.9% decline in working hours in Europe and Central Asia in the second quarter of 2020, identifying accommodation and food services, real estate and administrative activities, manufacturing and trade as the most vulnerable sectors to the impacts of this downturn.[145]

In Portugal, end-May estimates pointed to over 1.3 million people working in firms that had applied to the simplified layoff regime, most of them in manufacturing, trade, and accommodation and food services. Furthermore, around 129 thousand workers applied for unemployment benefits.[146] Banco de Portugal forecasts a rise in the unemployment rate from 6.5% to 10.1% in 2020, although still quite lower than the 16.2% peak reached in the last crisis.[147]

In spite of the severe consequences for the wellbeing of a substantial percentage of households, there may also be repercussions for financial stability if households fail to service their debt. In parallel, the greater financial vulnerability of households has been found to compound the negative effects on the economy of housing price shocks, rendering expansionary credit shocks less effective.[148] Consequently, the deterioration of the financial situation of households may potentially be reflected in the solvency of banks, which are usually their main creditors.

Although total household debt has declined since the end of the economic and financial crisis, this sector has continued to record a low saving rate.[149] Insofar as behind aggregate values there is heterogeneity in population income and indebtedness, an analysis of household vulnerability using micro data provides a more in-depth picture of the build-up of household resilience. The analysis in this box is based on the first and third waves of the Portuguese Household Finance and Consumption Survey (ISFF, Portuguese acronym for *Inquérito à Situação Financeira das Famílias*),[150] held in 2010 and 2017 respectively, thus comparing the financial situation before the outset of the two major crises. Furthermore, given that households will not be equally hit by the crisis, in particular due to the different impacts by sector of economic activity, this analysis will be complemented with details on the financial situation of households employed in potentially more vulnerable sectors.

The financial situation of households in 2010 and 2017

The debt-to-income (DTI) ratio fell markedly from 224% in 2010 to 133% in 2017 for indebted households, in line with the adjustment of the financial position of households seen in aggregate data. This ratio declined substantially across all income groups, especially in the first and second

[145] *ILO Monitor: COVID-19 and the world of work*, International Labour Organization, fourth edition, 27th May 2020 (https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/briefingnote/wcms_745963.pdf).

[146] Data on the simplified layoff regime consider the period between 31 March and 27 May, while applications for unemployment benefits are based on data for 1 March to 27 May, from the Office of Strategy and Planning of the Ministry of Labour, Solidarity and Social Security.

[147] "European Economic Forecast – Spring 2020", European Commission, *Institutional Paper 125*, May 2020.

[148] Couaillier, C. and Scalone, V. (2020) "How does Financial Vulnerability amplify Housing and Credit Shocks?". Banque de France, *Working Paper Series* no. 763, April 2020.

[149] For further details on the household adjustment process, see Box 3 "Developments in non-financial private sector indebtedness in Portugal and the euro area in the past 30 years", Banco de Portugal, *Financial Stability Report*, December 2019.

[150] The results refer to values extrapolated to the population, i.e. they were obtained from the weighted answers of each sample household, using as weights the number of households in the population with similar characteristics. There is, however, uncertainty underlying the production of the survey data, which may render subtle differences between the results of the two waves to not be statistically significant. . In addition, euro-denominated variables are in nominal terms. . The figures presented by different characteristics of households with the exception of income (age, labour status, sector of activity) are based on the reference person of each household, which does not take into account some heterogeneity that may exist in the household composition. For further details on the survey see https://www.bportugal.pt/en/page/portuguese-household-finance-and-consumption-survey.

income quartiles, and in all age groups, particularly those aged 35 and less. Likewise, the debt-service-to-income (DSTI) ratio declined considerably, from 20% in 2010 to 14% in 2017. This decline was broadly based across all income and age classes, and occurred chiefly in the lowest income quartile, from 59% to 35%. In spite of the reduction in these ratios, the share of indebted households remained unchanged, standing at 46% in 2017. However, it is quite heterogeneous across income levels, ranging from 21% to 65% for the lowest and the highest quartile respectively. With the exception of the first income quartile, the proportion of indebted households in the other quartiles declined (Chart C3.1). The share of indebted households also decreased significantly for self-employed and unemployed persons, rising in households whose reference person was retired.

The median debt amount declined significantly, particularly in the lower income quartiles. Developments in the share of households with different types of debt are not even (Chart C3.2). The share of households with only mortgage debt declined from 31% in 2010 to 26% in 2017, and more sharply in the second income quartile. In turn, the proportion of households with only non-mortgage debt rose from 7% in 2010 to 10% in 2017. This rise was also seen across all income quartiles and age groups, with a recorded increase of 9 percentage points in the class of households whose reference person was aged 35 and less, standing at 20% in 2017.

Chart C3.1 • Share of indebted households and indebtedness level, by income quartile | Per cent

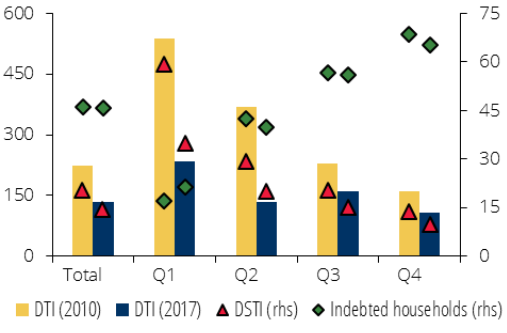
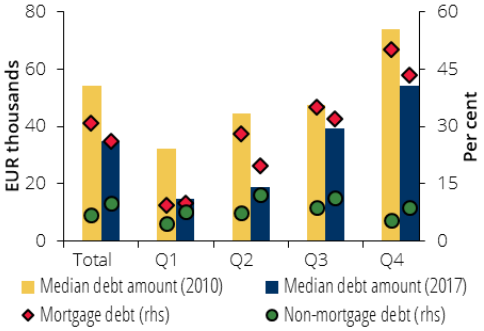


Chart C3.2 • Debt amount and share of indebted households by type of debt and income quartile



Source: ISFF (2010 and 2017). | Notes: DTI and DSTI were computed for indebted households considering all types of debt. The debt amount corresponds to the median amount of total households. The categories 'mortgage debt' and 'non-mortgage debt' are mutually exclusive, and may include households with credit lines, overdrafts and/or credit cards, alongside the formerly mentioned types of debt. The share of households with both mortgage and non-mortgage debt (not shown in the chart) was 7% in 2010 and 8% in 2017, having increased for the 3rd and 4th income quartiles.

Comparing 2010 to 2017 shows that the median value of total assets held by households declined slightly, albeit more substantially for those aged 35 and less and for indebted households. Most of the change was due to a decrease in real assets, broadly based across income quartiles and age groups, with the exception of the two oldest age groups. The youngest group recorded a reduction both in real and financial assets, the former reflecting the fact that fewer young households own their main residence.[151] In turn, the reduction in ownership of real assets is associated with a pronounced decrease in this age group's median debt amount, since many of these younger households did not take out mortgages (Chart C3.3).

The median value of liquid assets[152] held by households remained unchanged between 2010 and 2017. However, the lowest income quartile declined, contrary to the highest income quartile, which increased strongly. In addition, the value of liquid assets held by indebted households declined slightly. Liquid assets are more easily mobilised in the event of the need to address unexpected

[151] "Portuguese Household Finance and Consumption Survey: results for 2017 and comparison with the previous waves", *Banco de Portugal Economic Studies*, Banco de Portugal, Volume VI – No 1, January 2020.

[152] Deposits held by households (sight and saving accounts) were considered liquid assets.

events. In fact, according to the ISFF, the provision for unexpected events is considered the most important reason for saving by households that have the ability to do so, having gained importance between 2010 and 2017 (from 55% to 70%). Although reasons such as purchasing an own home and paying off debts have declined in importance, saving for old-age provision and for holidays have increased (Chart C3.4).

The share of households whose expenses exceed their income (financially stressed households) decreased from 11% in 2010 to 9% in 2017. Simultaneously, the share of households whose income exceeds their regular expenses increased from 21% to 27%. This increase was particularly pronounced for non-indebted households (Chart C3.5). While recourse to accumulated savings was the most common means of addressing the disparity between expenses and income in 2010, the share of financially stressed households to do so in 2017 was lower (Chart C3.6). This holds true for both indebted and non-indebted households. In 2017 the most frequently mentioned source of additional means to meet expenses was referring to friends and relatives for support, which may be troublesome if these households lose their ability to assist financially stressed households or if they have not yet regained the financial position held prior to the latest economic and financial crisis. Another alternative mentioned by households to cope with a financially tight situation was to leave bills unpaid. Despite remaining stable over time for total households in a financially stressed situation, indebted households recorded a 4 percentage point reduction.

Chart C3.3 • Total assets, real assets and debt, by age groups | EUR thousands

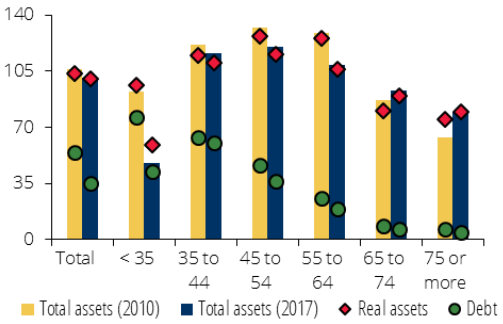
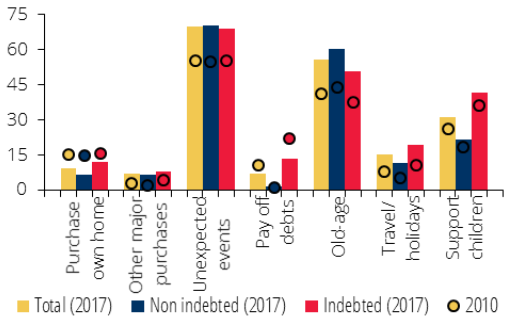
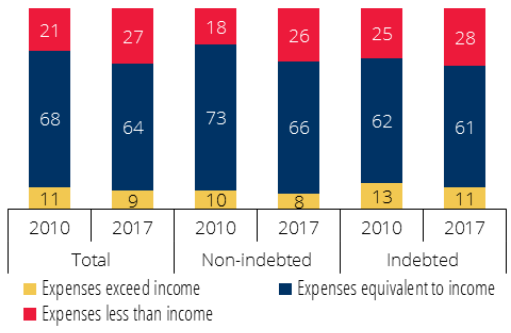


Chart C3.4 • Most important reasons for saving | Per cent



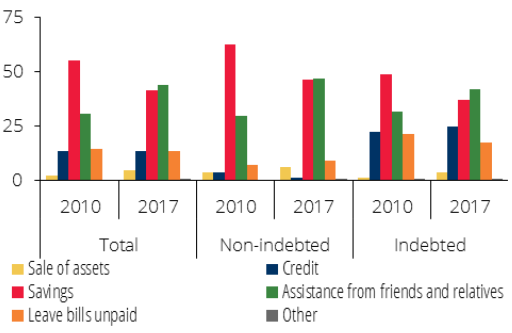
Source: ISFF (2010 and 2017). | Notes: The figures depicted in the left-hand side chart correspond to the median amount of households' total assets, real assets and debt. The figures in the right-hand side chart correspond to the reasons deemed most important for saving by households whose regular expenses did not exceed their income. These reasons are not mutually exclusive. Other reasons also considered important to save for, not illustrated in the chart, were bequests, investment in financial assets, setting up a business or financing investments in an existing business, taking advantage of state subsidies and other reasons.

Chart C3.5 • Household saving capacity | Per cent



Source: ISFF (2010 and 2017).

Chart C3.6 • Additional means to meet expenses | Per cent



Source: ISFF (2010 and 2017). | Note: The additional means to meet expenses presented in the chart are not mutually exclusive.

Household vulnerabilities in the context of the current crisis

The current crisis originates in the real side of the economy, due to the partial or full interruption of the activity of non-financial corporations. This affects households through the employment channel, with persons with no stable income and/or working in sectors of activity most impacted by the crisis being particularly vulnerable. Hence, this part focuses on the financial situation of households whose reference person is employed in one of these sectors, according to the 2017 ISFF.[153] Eurostat data show that these sectors accounted for 60% of employment in Portugal in 2018, with manufacturing and trade playing the most relevant role.

The share of indebted households is heterogeneous across sectors, at 82% in the transportation and storage sector and 51% in the arts, entertainment and other services sector. However, in the latter, the DTI ratio is the highest in all sectors. The DSTI, at 14% on average in 2017, ranges between 13% in the transportation and storage and industry sectors and 21% in the arts, entertainment and other services sector. Accommodation and food services and real estate and other service activities have the lowest and highest median amount of total debt respectively (Chart C3.7).

Debt composition varies considerably among households employed in different sectors. As a whole, 60% of indebted households only hold mortgage debt, 18% only have non-mortgage debt and 19% have both types of debt. The accommodation and food services sector stands out, since just 40% of indebted households only have mortgage debt and 28% only hold non-mortgage debt. This sector also has the highest share of households that only hold debt as credit lines, overdrafts and/or credit cards (Chart C3.8). This may be the reason underlying the lower median debt value of households employed in this sector, given that mortgage debt entails a higher debt amount than non-mortgage debt.

The median value of total assets held by households whose reference person works in arts, entertainment and other services or in accommodation and food services is lower than in the other sectors (Chart C3.9). Households in these sectors have the lowest median income[154] and hold the lowest median amount of liquid assets. In addition, households employed in accommodation and food services appear to be more financially constrained, since 78% of their income is used to cover food and utilities expenses (Chart C3.10).

In fact, this sector had the highest share of financially stressed households in 2017, exceeding the value of total households by 4 percentage points (Chart C3.11). In most cases the share of financially stressed households employed in vulnerable sectors is higher than that for households employed in less vulnerable sectors. The most important source of additional means of addressing the disparity between income and expenses for the accommodation and food services sector was assistance from relatives and friends (Chart C3.12). In addition, 32% of households employed in this sector were leaving bills unpaid to address liquidity shortages. Households employed in the transportation and storage sector resort mostly to savings and credit, with the former possibly resulting from this sector's higher median income, while in the arts, entertainment and other services sector a significant share of households resorts to assistance from relatives and friends.

[153] The sectors of activity under analysis considered as the most vulnerable, based on the ECB and ILO classifications (Box 2), were mining and quarrying; manufacturing, electricity, gas and water; water supply (B-E), trade (G), transportation and storage (H), accommodation and food services (I), real estate, professional, administrative and support service activities (L-N), and arts, entertainment and recreation services; other service activities; activities of households as employers; undifferentiated goods- and services-producing activities of households for own use; activities of extraterritorial organisations and bodies (R-U). Some sectors are aggregated in the ISFF due to a limited number of observations. The sectors of activity were identified as the sector in which the reference person works for households whose reference person is an employee and as the sector of activity of a business of the household, when the reference person is self-employed and there is only one business owned by the household. The share of persons working in the sectors identified with these data is comparable to that seen in the whole economy.

[154] Not only does median household income differ across vulnerable sectors of activity, but also its stability, as the share of households with permanent contracts ranges from 57% in arts, entertainment and other services to 90% in the transportation and storage sector. Income instability renders households even more prone to financial difficulties in the wake of the current crisis.

Chart C3.7 • Share of indebted households, indebtedness level and debt amount, by sector of activity | EUR thousands or per cent

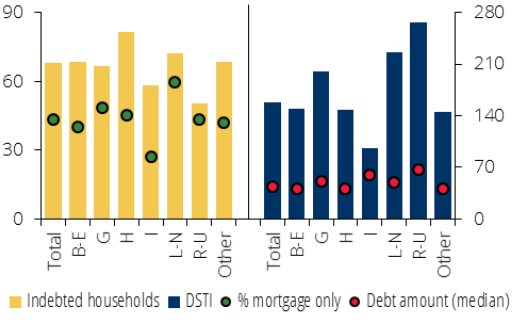
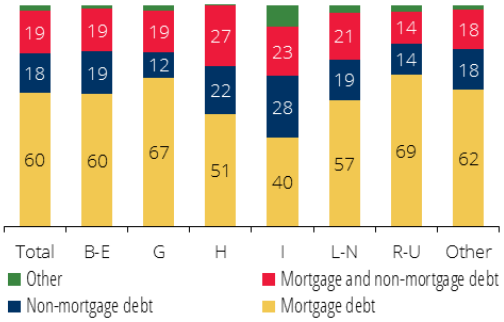


Chart C3.8 • Share of indebted households by type of debt and sector of activity | Per cent



Source: ISFF (2017). | Notes: The total presented in the chart corresponds to the figures for households whose reference person is an employee or self-employed, and for which we can identify the sector of activity in which that person works. The less vulnerable sectors are included in "Other". The figures depicted for the amount of debt correspond to the median amount. The categories of each type of debt are mutually exclusive, and may include households with credit lines, overdrafts and/or credit cards (if they only have this type of debt they are represented in "Other"). The right-hand side axis of the chart on the left is included for scale, referring only to the DTI.

Chart C3.9 • Amount of total assets and share of real and financial assets, by sector of activity

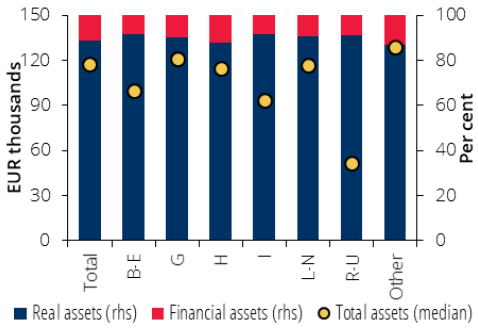
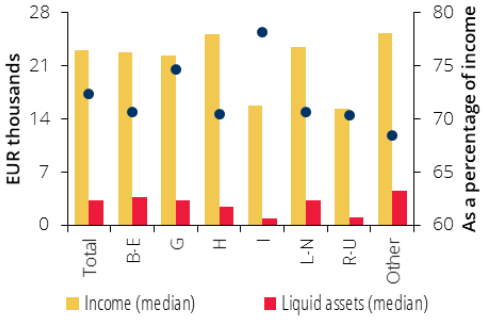


Chart C3.10 • Income, primary expenses and liquid assets of households, by sector of activity



Source: ISFF (2017). | Notes: The total presented in the chart corresponds to the figures for households whose reference person is an employee or self-employed, and for which we can identify the sector of activity in which that person works. The less vulnerable sectors are included in "Other". Deposits held by households (sight and saving accounts) were considered liquid assets. (a) Corresponds to the average ratio of monthly expenses on food and utilities to income.

Chart C3.11 • Household saving capacity, by sector of activity | Per cent

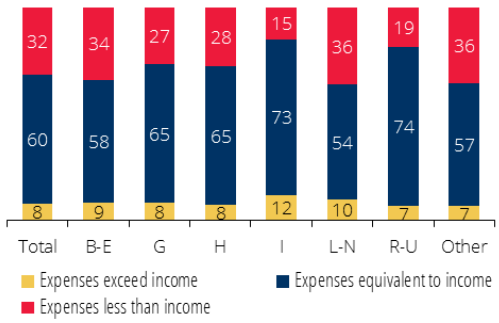
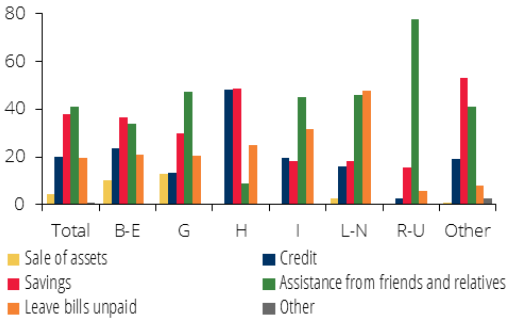


Chart C3.12 • Additional means to meet expenses, by sector of activity | Per cent



Source: ISFF (2017). | Notes: The total presented in the chart corresponds to the figures for households whose reference person is an employee or self-employed, and for which we can identify the sector of activity in which that person works. The less vulnerable sectors are included in "Other". The additional means to meet expenses presented in the chart are not mutually exclusive.

Conclusions

In the current economic environment, firms are forced to interrupt or reduce activity, resulting in a decline in their ability to pay their employees' wages. Notwithstanding government measures,[155] this is causing a reduction in household disposable income which, coupled with the uncertainty underlying the future economic juncture, gives rise to a reduction in consumption and consequently a feedback effect. Similarly, the number of households in financial distress is likely to increase, which may ultimately impact on the financial sector.

According to the analysis in this box, it may be concluded that the decline in Portuguese households' indebtedness in the past few years has reflected a reduction in the median debt of households and a decline in the DSTI and DTI ratios. However, one of the main contributory factors is the decrease in mortgage debt, which is also reflected in the decline in asset holdings (especially real assets). In addition, the proportion of financially stressed households has declined. At aggregate level, households appear to have increased their resilience in comparison with their financial situation before the latest economic and financial crisis.

The current situation will have a differentiated impact on firms and households. In developed economies, the most secure and higher paid jobs may be performed remotely.[156] As a rule, this does not apply to most lower paid jobs, which may cause households more vulnerable to shocks to bear the highest financial burden.[157] In Portugal, the share of financially stressed households employed in the sectors of activity that have been hit hardest by the crisis is higher than in other sectors. Households employed in accommodation and food services or in arts, entertainment and other services show the lowest median income and median liquid assets, but also have a lower debt level. These households seem to be more financially constrained since a high share of their income is spent on food and utilities. In turn, households employed in some of the other vulnerable sectors have a higher median income and a lower share of financially stressed households. However, in these sectors there is also a higher share of indebted households, which may face some financial pressure in the event of a reduction in income. Hence, some households are vulnerable to the ongoing crisis, which is expected to have a large negative impact on the economy as a whole.

[155] "The economic impact of the pandemic crisis", Banco de Portugal, *Economic Bulletin,* May 2020.

[156] With reference to the "Fast and Exceptional Enterprise Survey - COVID-19, Week from 27 April to 1 May" of Statistics Portugal and Banco de Portugal, there seems to be a considerable variation in the share of Portuguese firms with remote working arrangements across sectors of activity (https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_destaques&DESTAQUESdest_boui=431948930&DESTAQUESmodo=2&xlang=en).

[157] Sánchez et al. "COVID-19 and Financial Distress: Employment Vulnerability", Federal Reserve Bank of St. Louis (https://www.stlouisfed.org/on-the-economy/2020/march/covid-19-financial-distress-employment-vulnerability).

Box 4 • The capitalisation of non-financial corporations in pre-crisis periods – the importance of retained earnings

Developments in the financial situation of Portuguese firms since 2010

The COVID-19 pandemic is an extremely adverse economic shock, with highly significant short-run effects on the activity of Portuguese firms. Moreover, the current juncture is characterised by a high degree of uncertainty about the duration of the pandemic, as well as the subsequent economic recovery timeline profile, and, therefore, its overall economic impact. Despite the fact that the short-run effects of the pandemic are more visible at corporate liquidity level, thus justifying a wide range of public and private initiatives at this level, their ability to survive in unfavourable environments over longer periods also depends critically on their level of capitalisation.

Although the economic and financial indicators of Portuguese non-financial corporations (NFC) have improved significantly since the onset of the sovereign debt crisis, it is important to understand to what extent the sector is now better prepared to face this challenging environment than in the past. Accordingly, this box aims to compare the financial situation of Portuguese firms at end-2019, before the COVID-19 pandemic struck, and in 2010, before the sovereign debt crisis.

The ongoing growth of the economic activity over the past few years has been reflected in historically high NFC profitability ratios. Return on equity, defined as the ratio between net income and equity, remains above 8% since the third quarter of 2017, reflecting a buoyant economic activity and a drop in interest expenses, against a backdrop of low interest rates. Similarly, return on assets, defined as the quotient between EBITDA[158] and assets, exceeded, in 2019 and for the fourth consecutive year, its historical average[159] (7.8% and 7.0%, respectively), remaining below the 2010 figure (8.7%).[160] The evolution of profitability at aggregate level encompasses, however, some heterogeneity by firm size. In fact, SMEs[161] recorded an increase in their return on assets ratio since 2010 (from 5.1% to 7.1% in 2019), while large enterprises recorded a reduction (from about 14.5% in 2010 to 10% in 2019).

Along with the increase in profitability, there was, in aggregate terms, an increase in liquidity (as measured by the stock of currency and deposits) of firms that, at the end of 2019, had reached 23% of GDP (at the end of 2010 it represented 21% of GDP), the highest value since the beginning of the series in 1994.[162] Taking as a reference the period between 2010 and 2018 (the last year with information from IES[163] available), it can be observed that this increase was cross-cutting to most sectors of activity. However, the growth recorded in real estate, accommodation and food services sectors is noteworthy. As a percentage of assets, the liquidity of these sectors increased from 3.0% and 5.9% in 2010 to 7.0% and 8.8% in 2018, respectively. Despite this positive development, at the end of 2018, the liquidity ratio in the real estate activities sector remained below the average for NFC (around 8%). It should also be noted that the increase in liquidity was more accentuated in smaller firms. The improvement in the liquidity position was also differentiated over time and according to the level of corporate indebtedness. Between 2013 and 2016, the increase in liquidity particularly benefited the less indebted firms, which already had, on average, greater liquidity buffers. However, from 2016 onwards, the increase in liquidity seems to have benefited the most heavily indebted firms.[164]

[158] EBITDA corresponds to earnings before interest, taxes, depreciation, and amortisation.

[159] Statistics on non-financial corporations in the Central Balance Sheet Database (Banco de Portugal) available as from 2006.

[160] NFCs' return on assets in 2010 was inflated by an operation associated with a large economic group.

[161] The term SMEs covers micro, small and medium-sized enterprises.

[162] The stock of currency and deposits as a percentage of GDP was obtained from National Financial Accounts data, available up to the fourth quarter of 2019. The more granular data (by firm size or sector of activity) used in the rest of this paragraph are based on information from IES (Simplified Corporate Information, from the Portuguese "Informação Empresarial Simplificada"), only available up to 2018.

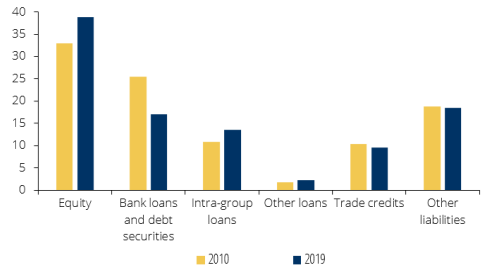
[163] *IES – Informação Empresarial Simplificada* (Simplified Corporate Information)

[164] See, in this regard, *Financial Stability Report* of June and December 2019.

The context of low interest rates and the progressive reduction of the sector's indebtedness was also reflected in the increased capacity of firms to meet their financial commitments. The interest coverage ratio[165] of Portuguese firms stood at 7.4, at the end of 2019 (5.1 in 2010), which corresponds to the highest value of the whole series.[166] These favourable developments were observed in most sectors of activity and particularly in the SMEs segment.[167]

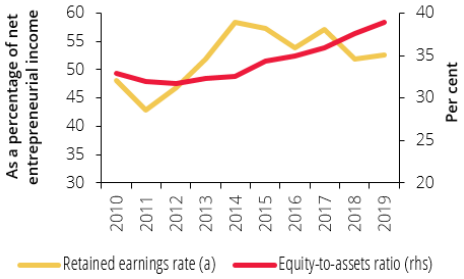
In a context marked by the need of the sector to deleverage, there has been, since 2010, a rearrangement of the funding structure of Portuguese NFCs, favouring equity, and group loans to the detriment of outside capital (Chart C4.1). The equity-to-assets ratio stood at 38.9%[168] at the end of 2019, having increased by around 6 percentage points over 2010. In turn, the weight of obtained funding on assets stood at around 33%, a reduction of 4.9 percentage points compared with 2010. This evolution was largely explained by the contribution of SMEs, whose equity-to-assets ratio increased by 10.4 percentage points (from 26.9% in 2010 to 37.3% in 2018), as large corporations recorded a slight decrease in their equity-to-assets ratio over this period (from 36.5% in 2010 to 35.4% in 2018). The increase in the equity-to-assets ratio of Portuguese firms benefited from the significant increase in retained earnings rate that occurred during the sovereign debt crisis, in a context marked by great uncertainty in global terms and tighter credit standards by the financial sector (Chart C4.2). Notwithstanding the fact that the retained earnings rate of Portuguese firms has been progressively decreasing since 2014, it remained, at the end of 2019, above its historical average.[169]

Chart C4.1 • NFC funding structure | As a percentage of assets



Source: Banco de Portugal (statistics on non-financial corporations from the Central Balance Sheet Database).

Chart C4.2 • Retained earnings rate and equity-to-assets ratio



Source: Statistics Portugal and Banco de Portugal. | Notes: Retained earnings have been computed based on national accounts data. The equity-to-assets ratio is based on data from the Statistics on non-financial corporations from the Central Balance Sheet Database. (a) The NFC distributed income rate corresponds to the ratio of non-distributed income of corporations to net entrepreneurial income. On the other hand, net entrepreneurial income corresponds to the balance of primary income added to uses for distributed income of corporations and reinvested earnings of foreign direct investment firms (entrepreneurial income) net of taxes on income and wealth.

[165] The interest coverage ratio is calculated as the ratio of EBITDA (earnings before interest, taxes, depreciation and amortisation) to interest expenses.
[166] Statistics on non-financial corporations in the Central Balance Sheet Database (Banco de Portugal) available as from 2006.
[167] For further details see the December 2019 *Financial Stability Report*.
[168] According to data from the Central Balance Sheet Database, available from 2006 onwards, the equity-to-assets ratio reached, in 2019, the highest value of the historical series.
[169] The average retained earnings rate since 1995 stood at 51.5%.

The reduction in leverage and the distribution of income

The reduction in indebtedness and the increase in equity also translated into a reduction in the leverage ratio of Portuguese firms, assessed on the basis of the ratio of liabilities to the sum of liabilities and equity. By analysing balance sheet information, available in the BACH database[170] for several European countries, it is possible to break down the contributions to the change in the leverage ratio between 2010 and 2018.[171]

The changes in equity may be attributed to three factors: a) net income for the year; b) changes in the revaluation account, adjustments in financial investments and other comprehensive income; and c) other changes in capital. The latter component can be interpreted as a proxy for net capital injections into the firm by shareholders. Accordingly, distributed income and the purchase of own shares by the firm constitute a negative net capital injection, contributing to a greater leverage, while an increase in capital results in a positive net injection and thus contributes to lower leverage. The contributions to the change in liabilities can be broken down into (a) financial debt[172] and (b) non-financial debt.[173]

Chart C4.3 presents the contributions to the change in the leverage ratio in Portugal, Spain, and Italy. The factor that contributed the most to the reduction in the NFC leverage, in the three countries analysed, was the net income for the year. Financial debt contributed to the reduction in the leverage ratio in Portugal and Spain, and to an increase in Italy. The results also show that, despite the increase in the retained earnings rate mentioned above, Portugal was the country where shareholders benefitted from the highest net income distribution (most negative net capital injection), which contributed more negatively to the reduction in the leverage of Portuguese firms, when compared to the other two countries under analysis.

The deleveraging process of Portuguese firms shows some heterogeneity when analysed by firm size (Chart C4.4). Medium and large-sized enterprises are characterised by having positive net income and negative net capital injections (distributed income). Large corporations even recorded a slight increase in their leverage ratio in the period under review, with the distribution of income (net of capital injections) exceeding net income generated. On the other hand, micro and small-sized enterprises registered a positive net capital injection (the capital reinforcement by shareholders exceeded the net income distribution) and a negative contribution from the net entry of companies (the entry of new enterprises, typically less leveraged than those leaving the market, contributed to the reduction of leverage). Finally, it should be noted that, despite the reduction recorded between 2010 and 2018, the leverage of NFCs in Portugal remains significantly above that observed in most euro area countries.[174]

In most of the activity sectors under analysis, positive net income was the factor that contributed the most to the reduction in the leverage ratio, and the distribution of income (net of capital injections) the factor that hampered the deepening of the deleveraging process the most (Chart C4.5). The accommodation and food services, construction, and real estate activity sectors, which have been hard hit by the sovereign debt crisis, are exceptions. In fact, these three sectors saw a net injection of capital by shareholders, which offset the negative net income and contributed to a reduction in the leverage ratio. Financial debt contributed to the reduction in the leverage ratio in all sectors of activity, with the exception of manufacturing, real estate and

[170] This database aggregates information on the balance sheets and accounts of firms in 13 European countries, including Portugal. Microeconomic information in the database relating to Portugal and Italy shows high representativeness (about 100% of firms). Despite its lower representativeness, Spain was included in the analysis due to its link with the Portuguese economy.

[171] The breakdown of the change in the leverage ratio shown in this box follows the methodology used in Box 6 of the October 2018 issue of the *Economic Bulletin* of Banco de Portugal.

[172] Financial debt is subject to interest payments and includes bank loans and debt securities issued.

[173] Non-financial debt is not subject to interest payments and corresponds to all liabilities which were not considered as financial debt.

[174] In this respect, see Chart I.3.31 of the *Financial Stability Report* of June 2019.

accommodation and food services. The increase in indebtedness in these sectors is related to a buoyancy showcased over the past few years. In the construction sector, the significant contributions of financial debt reduction and exit of firms (negative net entry) should be highlighted.

Chart C4.3 • Contributions to changes in the leverage ratio between 2010 and 2018 | In percentage points

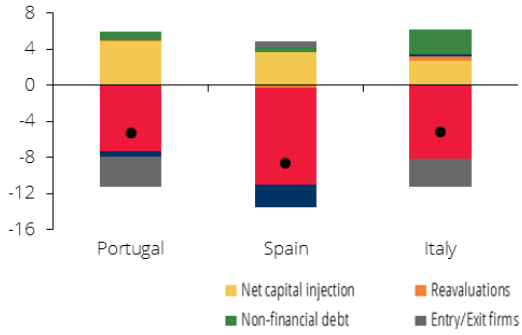
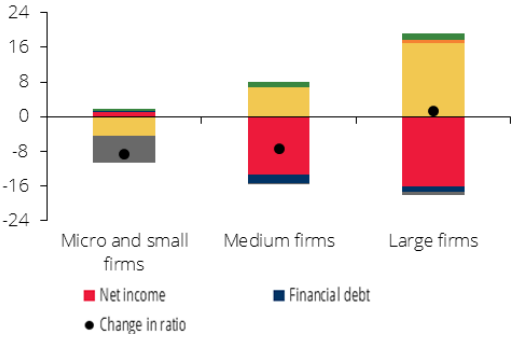
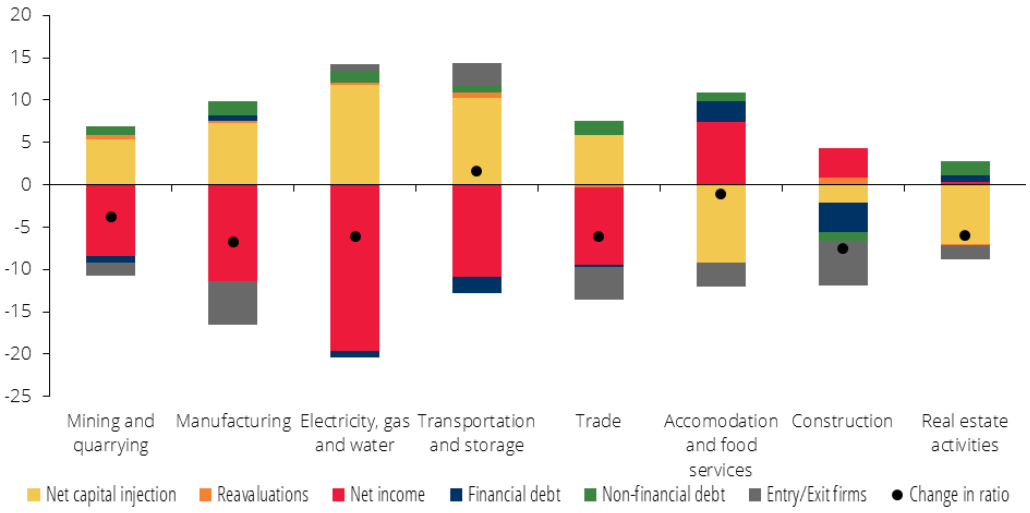


Chart C4.4 • Contributions to changes in the leverage ratio between 2010 and 2018, by firm size (in Portugal) | In percentage points



Source: BACH (Banco de Portugal calculations).

Chart C4.5 • Contributions to changes in the leverage ratio between 2010 and 2018, by sector of activity (in Portugal) | In percentage points



Source: BACH (Banco de Portugal calculations).

Income distribution in a context of great uncertainty

The reduction in economic activity and hence the decline in cash-flow generation represents a challenge to the ability of firms to meet their commitments already in the short term. In a context of high liquidity needs, the financial soundness of a firm is a determining factor in the ability to absorb potential losses that may occur in the future and also in obtaining/renewing funding from the financial sector or the market. It should be noted that in 2018 about half of the firms that distributed

dividends had bank debt.[175] Although these firms had a lower leverage ratio than firms which did not distribute dividends (54% in the former and 64% in the latter), their liquidity buffer, assessed on the basis of the ratio of the stock of currency and deposits to short-term financing[176], was significantly lower (54% in firms that distributed dividends, compared to 76% in those that did not).

Conclusions

The recovery of the economic activity, the context of low interest rates and the reduction in the level of indebtedness led to an increase in profitability, liquidity, capitalisation and, ultimately, in the debt sustainability of Portuguese firms. The greater financial robustness of Portuguese non-financial corporations in the current environment, compared to 2010 figures, largely reflects their greater capacity to generate and retain earnings (although they fall short of that observed in other countries, such as Spain, for example). Accordingly, Portuguese firms show a greater resilience than in the recent past to tackle the adverse economic shock stemming from the current environment. Notwithstanding the consequences of the COVID-19 pandemic on the SNF sector will be largely determined by the severity and duration of the economic shock.

In a context of great uncertainty and complexity, it is essential that firms manage their dividend distribution policies carefully, aligning them not only with the current environment and their financial situation, but also with the promotion of their sustainability and long-term resilience, socially desirable goals. Therefore, shareholders' remuneration should occur through the increase/preservation of the future value of the firms, thus compensating them for any lower distribution of dividends at the present time.

[175] Information concerning the resolution for net income allocation for the financial year 2018 (income to be distributed in 2019). The year 2018 is the last with information available from IES.

[176] Short-term financing includes NFCs liabilities with loans and debt securities with a residual maturity of less than 1 year.

Box 5 • Interlinkages in the Portuguese financial system

The financial system is characterised by several interlinkages between its different subsectors.[177] This entails positive aspects, such as increasing efficiency in financial intermediation activities, but it can also boost risk spreading throughout the system[178]. Against this backdrop of pandemic and deteriorating economic and financial prospects, the analysis of the underlying systemic risks is of greater importance.

This analysis distinguishes direct interlinkages, such as direct exposures between financial institutions, and indirect interlinkages, referring to exposures of different institutions to common risks. It should be noted that the combination of the two types of interlinkages may amplify the impact of the risks underlying them.

Direct interlinkages[179]

Over the past few years, there has been a cross-cutting reduction in the size of the financial system subsectors, as measured by total financial assets as a percentage of GDP, although more markedly in the case of banks and other financial intermediaries. Nonetheless, there is still a significant difference between the financial subsectors, with the banks' share at around 190% of GDP in 2019, while the remaining subsectors account for 115% of GDP (Chart C5.1). The weight of the financial system subsectors in the Portuguese economy is lower than the euro area average figures and, in some cases, this gap has been growing in recent years, particularly in investment funds.

Although the exposure[180] of the financial system to its subsectors, as measured by the size of the direct interlinkages, has been reduced in 2019, this type of interlinkage reached 20.6% of total exposures (an 8.2 p.p. reduction from 2012 and 2.7 p.p. from 2018).

Since 2012, there has been a decrease in direct interlinkages, in general, due to the cross-cutting reduction in exposures to banks which, among total exposures, are the most significant in the balance sheet of each subsector. In the case of banks, the weight of this exposure was reduced by 3.1 p.p., due to a decrease in deposits and holding of securities, associated with a significant decrease in the market financing of this subsector, offset by the increase in deposits held by the non-financial sector (Section 2.5). In the case of insurance corporations and pension funds and other financial intermediaries, exposure to banks, as a percentage of their assets, dropped by 17.2 p.p. and 10.2 p.p., respectively. The decrease in the holding of debt securities issued by other financial intermediaries also contributed to the reduction of the number of interlinkages associated with banks.

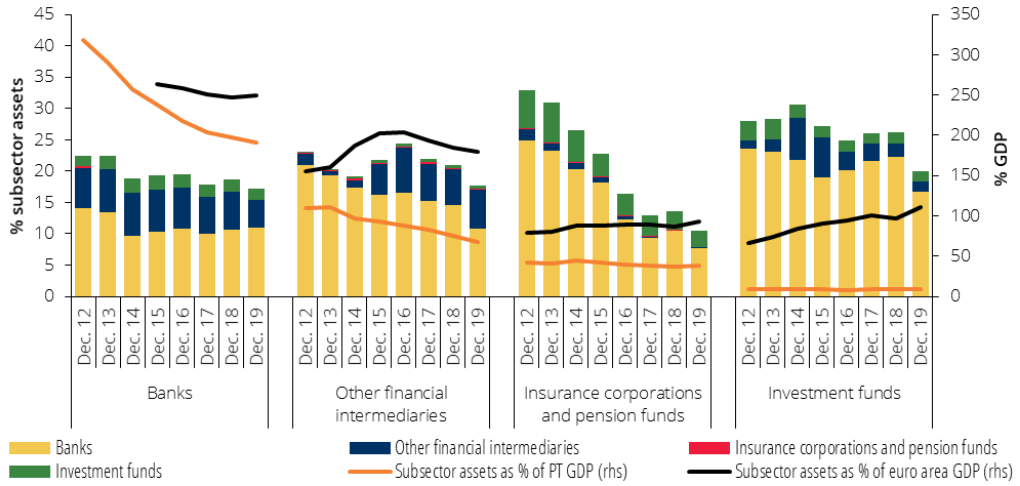
[177] For the purposes of the analysis in this box, the resident financial system excludes the Central Bank, unless otherwise indicated. In addition, the following resident subsectors are considered: Other Monetary Financial Institutions (OMFI), Other Financial Intermediaries, Other Financial Intermediaries and Financial Auxiliaries (OFIFA), Insurance Corporations and Pension Funds (ICPF) and Investment Funds (IF). OMFIs include banks, savings banks, mutual agricultural credit banks and money market funds, while OFIFAs include, for example, credit financial institutions, brokerage firms and investment fund management corporations. To simplify, these groups of institutions, OMFIs and OFIFAs, will henceforth be referred to as banks and other financial intermediaries, respectively. For more details on this classification, see "Nomenclature of financial instruments and breakdown of institutional sectors in the *Statistical Bulletin*": https://www.bportugal.pt/sites/default/files/anexos/DESNOM_novo.pdf.

[178] The Special Issue "Direct and indirect interlinkages in the Portuguese financial system", published in the *Financial Stability Report* of June 2018, includes a more detailed analysis of the positive and negative aspects associated with this type of interlinkage.

[179] The following sources of information were used for the analysis of direct exposures: National Financial Accounts and Monetary and Financial Statistics of the Banco de Portugal.

[180] The following financial assets were considered in the calculation of exposure: deposits, debt securities, loans, shares and other units in investment funds and listed shares.

Chart C5.1 • Relative size of the financial system subsectors and direct interlinkages between them



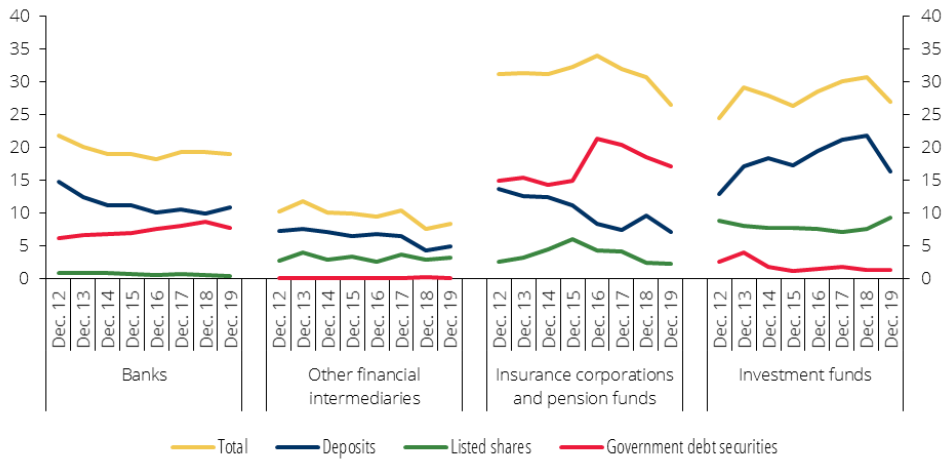
Sources: Banco de Portugal and European Central Bank (*Quarterly Sector Accounts*). | Notes: The following financial assets were considered in the calculation of exposure: deposits, debt securities, loans, shares and other units in investment funds and listed shares. Total non-consolidated assets of each sector were also considered.

In an adverse environment, the risks associated with direct interlinkages may be mitigated or amplified by certain factors, such as, for example, holding more liquid instruments that allow to tackle (i) stress situations in the financial markets (assets that are easily tradable or can be liquidated immediately at minimum losses) and (ii) liabilities with shorter maturities. Based on information from the national financial accounts and using a proxy for more liquid asset instruments[181], an attempt was made to characterise the subsectors position at end-2019, as well as the evolution of the weight of these instruments in total assets in recent years (Chart C5.2).

The most liquid asset instruments have a significant weight in the total balance sheet in most subsectors. Nevertheless, between 2012 and 2019, the exposure to these assets dropped, except for investment funds. Some heterogeneity in their composition is also noteworthy, with deposits having a more relative weight in banks, investment funds and other financial intermediaries. In the case of banks, the decrease in more liquid asset instruments between 2012 and 2019 (a decline from 2.8 p.p. to 19.1% of total assets) mainly reflected the decrease in the weight of deposits held vis-à-vis the Rest of the World, while there was an increase in exposure to domestic public debt.

[181] In this case, deposits, resident government debt securities and listed shares are considered the most liquid asset instruments. This is a rather restricted definition, given that the level of aggregation of national financial accounts does not allow for the maturity profile of each instrument nor for the breakdown of the Rest of the World by counterparty sector. It should be noted that in national financial accounts the nomenclature of instruments "is based mainly on liquidity, negotiability and the legal characteristics of financial assets and liabilities", *Supplement to the Statistical Bulletin* ,October 2016, on National Financial Accounts, Banco de Portugal.

Chart C5.2 • Highly liquid assets | As a percentage of total assets of the subsector



Source: Banco de Portugal. | Notes: For the most liquid asset instruments, deposits, resident government debt securities and listed shares were considered. The calculation of deposits also included the positions of the subsectors vis-à-vis the Central Bank. Total non-consolidated assets of each subsector were also considered.

In the insurance corporations and pension funds subsector, the decrease in the share of deposits to about half in the period under review (reduction from 6.6 p.p. to 7.1% of total assets, in 2019) was offset by an increase in exposure to long-term instruments, such as domestic public debt securities, which accounted for 17% of total assets in 2019, or with no defined maturity[182], in a context of low interest rates and pressure on profitability. With regard to other financial intermediaries, the reduction in the weight of assets with the highest liquidity (from 1.9 p.p., to 8.4%) was mainly due to developments in deposits, while the remaining items stabilised.

In the case of investment funds, the adjustment between 2012 and 2019 in the instruments of assets with the highest liquidity resulted mainly from a 3.4 p.p. increase in the weight of deposits to 16.3% of total assets, despite the sharp decrease in the last year (a reduction of 5.5 p.p. against a weight of 21.8% in total assets, in 2018). In addition, at the end of 2019, around 98% of the Securities Investment Funds (SIF) and 36% of the Real Estate Investment Funds (REIF) were open-ended funds.[183] This sub-sector is particularly exposed to adverse liquidity situations in the context of the COVID-19 pandemic (Section 1.1). However, in Portugal, and in contrast to the euro area, there was no significant increase in the relative weight of investment funds, which held steady at modest levels, corresponding to around 9% of GDP, in 2019 (0.1 p.p. decrease on the 2012 figure[184]), while in the euro area it represents 110% of GDP (43.5 p.p. increase on the 2012 figure) (Chart C5.1). Although investment funds do not have direct access to funding from the Eurosystem,

[182] In particular, other instruments held on the balance sheet, such as shares and other units in investment funds.

[183] Corresponding to 68% of total assets of the investment funds subsector. It should be noted that total assets of this subsector, at the end of 2019, were made up, in identical parts, by securities investment funds and real estate investment trusts.

[184] Despite the significant variations observed over the time horizon considered.

the fact that most open-end SIFs and REIFs belong to management companies within banking groups (78% and 58% of the overall net value, respectively), may act as a mitigating factor in the event of adverse developments that may jeopardise the liquidity of this subsector, since these groups may, in part, support the liquidity needs of these investment funds. However, in a framework of relevant direct interlinkages, the risks, for banks, of supporting these group entities may also amplify shock spreading in the financial system, even if, in the current context, this risk is mitigated by the relative size of investment funds vis-à-vis the banks and the accommodation degree of the monetary policy (Section 2.5).

Indirect exposure – the example of public debt securities[185]

In addition to direct interlinkages between financial institutions, the similarity in investment strategies is another factor that, by increasing the indirect interlinkages mentioned above, may also boost the systemic risk in the financial system in Portugal. In the aftermath of the international financial crisis, the protracted low interest rate environment, the regulatory framework and the high liquidity context favoured a common and growing exposure to sovereign risk which, against a backdrop of high general government debt, poses a vulnerability to the Portuguese financial system. However, it should be noted that the monetary policy recently adopted by the ECB mitigates the probability of a sudden shock in the sovereign debt market (Section 1.1). Among the institutions that make up the financial system, the increase in sovereign debt concentration was particularly relevant for banks, insurance corporations and pension funds. Between 2013 and 2019, banks and insurance corporations and pension funds increased the proportion of sovereign debt securities in their portfolios[186] by 15.4 p.p. and 10.8 p.p., to 39.3% and 44.5% respectively (Chart C5.3).[187]

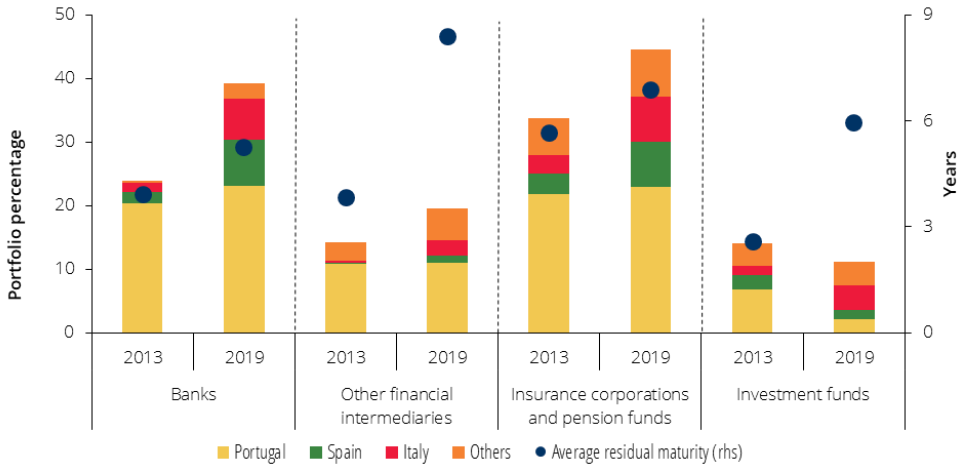
There has also been increased exposure to sovereign debt securities issued by other European countries and an extension of average maturities. Although financial agents have sought to diversify the geographical basis of sovereign debt, investment in other jurisdictions has focused mainly on securities issued by Spain and Italy (Section 2.3), whose yields tend to be positively correlated with Portuguese public debt, thus limiting the potential hedging gains related to diversification strategies. Between 2013 and 2019, there was also an increase in the average maturity of the portfolio, from 4 to 6 years. This increase was particularly significant in the portfolios held by the other financial intermediaries and investment funds, from 3.8 to 8.4 years and 2.6 to 5.9 years, respectively. To a lesser extent, insurance corporations and pension funds also saw their average residual portfolio maturity increase from 5.7 in 2013 to 6.9 years in 2019. For banks, there was also a slight increase in the average residual maturity of public debt securities held from 3.9 in 2013 to 5.2 years in 2019. Thus, the similarity in investment strategies adopted makes the portfolios of all these institutions more vulnerable to market risk and reinforces the systemic risk, given that a sudden rise in yields may trigger a synchronised and significant devaluation of the assets held by financial institutions in Portugal.

[185] For the purposes of the analysis of indirect exposures, data from the Integrated System of Securities Statistics (SIET) of Banco de Portugal were used as a source of information.

[186] For the total portfolio value, the following were considered: government debt securities, private debt securities, participation units and equity were considered.

[187] For a time horizon analysis of the valuation method of the government debt portfolio held by banks, see Section 2 of this Report.

Chart C5.3 • Relative weight of public debt in the portfolio of securities held by the financial system

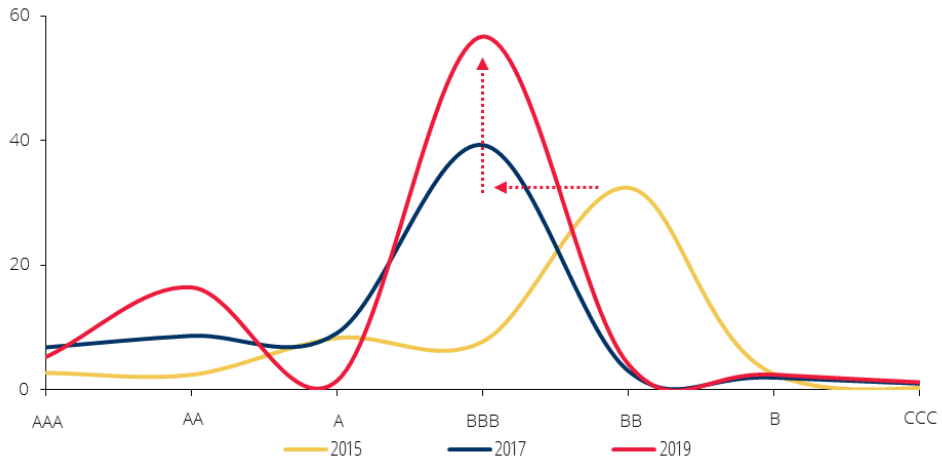


Sources: *Refinitiv* Portugal and Banco de Portugal.

Over the past five years, the growth of the national and international economy has contributed to the improvement of the credit quality of public debt held by the financial system. This trend also resulted, on the one hand, from the fiscal adjustment undertaken by the euro area Member States and, on the other hand, from the accommodative monetary policy adopted by the ECB, which made it possible to reduce market financing costs for these sovereigns. All in all, these effects globally improved the risk assessment carried out by the leading rating agencies for the investment grade, which, in turn, facilitated investment by the financial system and increased foreign demand for these securities. However, given the persistence of interest rates at historically low levels, the pressure on the profitability of the financial system also encouraged the concentration in public debt securities at the investment-grade level, making the financial sector, in particular banks and insurance corporations, particularly vulnerable to potential rating downgrades of these securities (Chart C5.4).

This vulnerability is particularly relevant given the current context of increased sovereign financing needs to tackle the economic impacts of the pandemic crisis and potential impact on yields. The uncertainty observed in the current juncture, associated with additional increases in sovereign debts, due to fiscal incentives adopted in most countries in the euro area, may trigger risk-averse behaviour. The fears hanging over public debt sustainability could result in a downwards rating revision of these securities below investment grade.

Chart C5.4 • Historical composition of the rating of the sovereign debt portfolio held by the financial system in Portugal | EUR billions



Sources: *Refinitiv* Portugal and Banco de Portugal. | Notes: For the financial sector, public debt securities held by banks, insurance corporations, pension funds, investment funds, financial auxiliaries and other financial intermediaries were considered. For presentation purposes, the credit rating was converted to the rating given by Fitch.

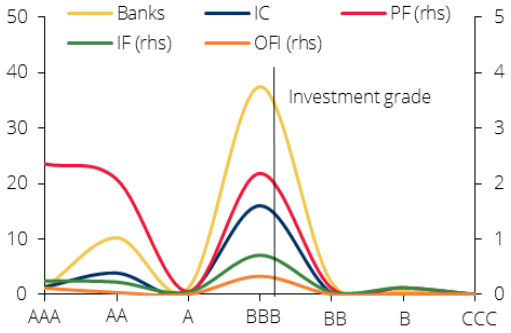
This potential downgrade to non-investment grade would limit the demand for these securities and may lead some financial agents, such as pension funds and insurance corporations, to sell part of their positions. All in all, these effects could result in a sharp fall in the price of these securities and an increase in financing costs. In a context of a high proportion of public debt with longer maturities, a rating downgrade may promote a significant devaluation of these securities and could have systemic effects on the financial system. The intensity of these effects would, however, be heterogeneous according to the concentration and composition of the portfolios of these subsectors (Chart C5.5). In fact, a cross-cutting increase[188] of 100 basis points in the yields associated with these securities would be particularly relevant for pension funds and insurance corporations, where a devaluation of their portfolios of 8.7% and 4.6%, respectively, is estimated (Chart C5.6). Accordingly, but to a lesser extent, a similar shock in financing costs could trigger a devaluation in securities held by banks worth 4.3%.

Conclusion

Despite the reduction in size and cross exposures between the subsectors of the Portuguese financial system observed in recent years, direct interlinkages are still relevant for financial stability. It should be noted, however, that the weight of these subsectors in the economy is lower when compared with the euro area average, particularly in the case of investment funds. Concomitantly, exposure to government debt securities has increased considerably, particularly in the case of banks and insurance corporations and pension funds, also increasing the vulnerability of the system to an increase in sovereign debt yields, given also the extnsion of maturities across the various subsectors. This risk is, however, mitigated by the ECB's monetary policy decisions, in the current context, which contribute to reducing the fragmentation of debt markets in the euro area.

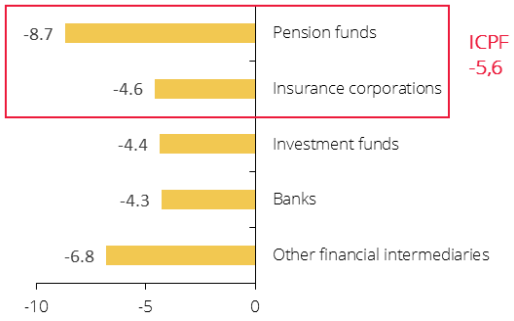
[188] The exercise assumes a scenario of rising financing costs across all geographies and maturities (yield curve) in all public debt securities.

Chart C5.5 • Composition of the sovereign debt portfolio by sector as at December 2019 | EUR billions



Sources: *Refinitiv* Portugal and Banco de Portugal. | Notes: Insurance corporations (IC), Pension funds (PF), Investment funds (IF), Other financial intermediaries (OFIs).

Chart C5.6 • Impact of an increase in financing costs on the public debt securities portfolio - December 2019 | As percentage of each sector's portfolio



Sources: *Refinitiv* Portugal and Banco de Portugal. | Notes: The exercise assumes a scenario of rising financing costs across all geographies and maturities (yield curve) in all public debt securities (100bps). The impacts are measured as a proportion of the securities portfolio held by each sector and it is assumed that the securities are valued at their market value. The exercise does not assume potential hedging strategies.

Box 6 • The importance of cyber risk in the context of the COVID-19 pandemic

Cyber risk is intrinsically linked to digitalisation, the integration of technology in services and the increased interdependence of information systems. The current pandemic and the measures taken in response have led to increased use of "new technologies", whilst heightening the importance and criticality of cyber risk. This box examines this issue from the perspective of the financial sector, focusing on the banking sector.

Background

Cyber risk is the combination of the probability of cyber incidents occurring and their impact.[189] Within this context, a cyber incident is an event, whether resulting from malicious activity or not, that: (i) jeopardises the cyber security of an information system or the information the system processes, stores or transmits; and/or (ii) violates security policies or procedures or acceptable use policies. The impact may occur at a technical and/or business level and may include financial losses, reputational damage or disruptions in activity.

Cyber risk differs from other sources of operational risk due to the: (i) speed of propagation, intensified by an environment where most information systems, some of which automatic, are interconnected; (ii) scale of propagation, which may cross sectors and geographical borders, in a context of interdependent systems and networks, with the potential to affect entities and/or systems that are not the primary target of the attack; (iii) malicious intent in most actions that trigger cyber incidents. In addition, the changing and evolving nature of cyber risk differentiates it from other risks, although this feature is intrinsically related to malicious intent. In the context of the pandemic, many cyber attacks were carried out disguised as warnings or information on the pandemic itself.

Cyber risk is very significant in the financial system, as technology is present throughout the financial services value chain and these services are essential to the functioning of the economy itself, be it via payment systems, financial investments, credit granting, or deposit taking.

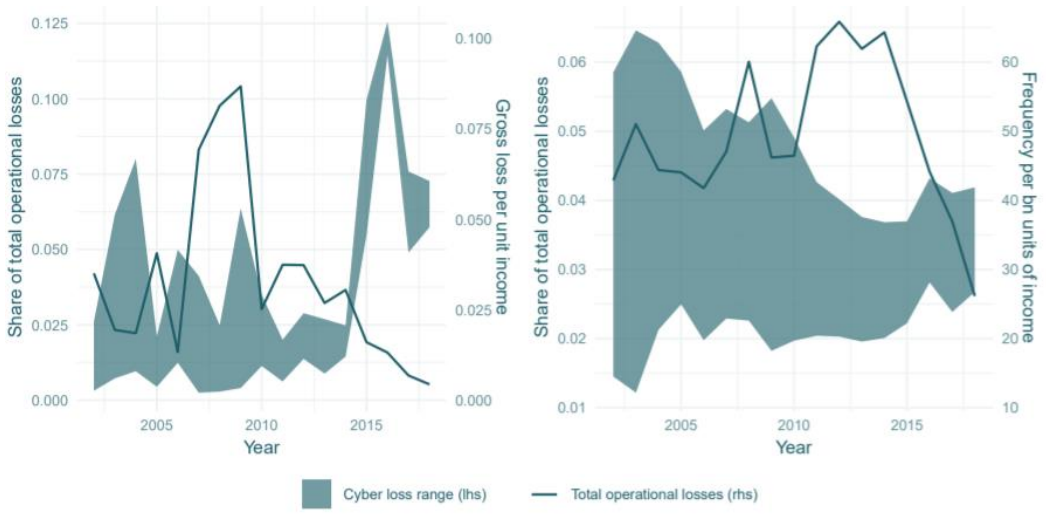
The financial system has certain characteristics that amplify the potential impact emerging from cyber risk. First, the high interconnectedness and interdependence of the financial system's institutions and subsectors, including at cross-border level. Second, the dependence of these institutions on common financial and non-financial providers, such as those of payment services infrastructures, e.g. SWIFT and cloud services. Third, increasing digitalisation and high reliance/use of confidential and extremely sensitive data both from financial services customers and from institutions themselves. Financial institutions need to ensure data confidentiality, integrity and availability in order to carry out their regular activities, but also to maintain confidence (and the perception of reliability) in the financial system. This latter aspect is particularly important within a context where safeguarding confidence in the financial system, and among its participants, is vital to its smooth functioning and to financial stability.

In turn, the financial sector is also an appealing target for cyber attacks due to the potential monetary gain and the financial data that might be obtained from a successful cyber attack.

At present, losses from cyber incidents in the financial sector are relatively small compared to total operational losses, but are on the rise (chart C6.1). However, losses from cyber incidents may account for a higher share of operational losses in extremely adverse scenarios.

[189] From the Cyber Lexicon of the Financial Stability Board (FSB) (https://www.fsb.org/wp-content/uploads/P121118-1.pdf).

Chart C6.1 • Losses and frequency of cyber and operational incidents



Source: *BIS working papers*, No 840, *Operational and cyber risks in the financial sector*, February 2020. | Note: Data for 2002-2018.

Importance of authorities' intervention in managing/mitigating cyber risk

At individual level, institutions may have some constraints, or even disincentives, in adopting measures to mitigate cyber risk. On the one hand, the interconnectedness of financial institutions and existing channels of contagion require risk mitigation to be the result of enhanced security by all institutions, including smaller and potentially more fragile institutions. Within this context, there may be a "bottom alignment", owing to the fact that one institution enhancing its security against cyber risk may not be sufficient if the other institutions do not. On the other, institutions tend not to have an overall perspective that allows them to identify common vulnerabilities and/or dependencies, among other things due to the fact that, due to reputation or competition reasons, institutions may have some reservations in sharing information on cyber attacks they have been a target of, its impact, and security measures implemented. In addition, for an individual institution, the cost of developing certain more complex solutions to effectively mitigate cyber risk may be significant and higher than the potential losses arising from a cyber attack. There may also be a question of moral hazard because financial institutions bear losses from cyber incidents that may be related to less prudent behaviour by their customers, who consequently have no incentive to adopt a more cautious behaviour.

These limitations point to the importance of solutions based on coordination and cooperation among entities and the role authorities may play in fostering its development and implementation (in addition to any intervention that arises from the consequences of cyber risk materialising). [190]

[190] The final stages of a systemic crisis resulting from a cyber incident may be similar to those of a traditional crisis, i.e. the events giving rise to the situation are distinct, but the issues seen during the most acute phase of the crisis (e.g. lack of liquidity) may be identical. From this perspective, intervention by national and international authorities remains relevant, in addition to other factors that are crucial to managing systemic crises, such as coordination among authorities, internal and external communication, clear division of tasks and availability of information.

Microprudential perspective

Considering the aforementioned characteristics of cyber risk and the factors that may amplify the impact of these risks, were they to materialise, financial institutions must adopt appropriate measures to manage their level of cyber risk and implement risk controls and an appropriate strategy and internal organisation that contribute to ensuring their "operational resilience".

As regards prudential supervision specifically, the Single Supervisory Mechanism (SSM) calls on banks to develop their cyber resilience at the human resource and technical levels, focusing first on raising the awareness both of staff and bank customers concerning the real and present danger of cyber attacks and second on simplifying the technological landscape, keeping it adaptable and up to date on an ongoing basis and mitigating risks that are often associated with legacy.[191]

The SSM also encourages the entities under its direct supervision to have efficient crisis management procedures in place to ensure they are prepared for a worst-case scenario resulting from a cyber attack with a significant impact on an entity's activity or other events with a similar impact.[192]

More specifically, the SSM and the Banco de Portugal carry out their supervisory activities supported by several processes and tools, consistent with the existing legal and regulatory framework, in order to ensure that financial entities have adequate control of their cyber risk. More specifically, IT and cyber risks have been identified as a supervisory priority,[193] materialised in initiatives such as: (i) an annual review under the Supervisory Review and Evaluation Process (SREP); (ii) on-site inspections; (iii) the development of specific thematic reviews on relevant specific risk factors, e.g. secure use of cloud services and market infrastructures; (iv) cyber incidents reporting;[194] (v) other initiatives, at a less advanced level of implementation, such as conducting intrusion tests in a coordinated manner.

In addition to the SSM, other European entities/authorities, such as the European Commission, the European Banking Authority (EBA), the Basel Committee on Banking Supervision and the Europol, have been developing initiatives in response to growing concerns around financial activity technological risks.[195] Within this context, it is important to ensure that the regulatory framework is properly coordinated and coherent.

Cyber risk as systemic risk

From a macroprudential perspective, it is important to understand under what circumstances, and through which channels, cyber risk goes from an operational issue, which might gravely affect one or several institutions, to becoming systemic and a risk for financial stability.

In this respect, in 2017 the European Systemic Risk Board (ESRB) established a working group focusing on cyber risk as systemic risk, which: (i) identified the main common vulnerabilities across various Member States; (ii) clarified concepts; (iii) assessed the potential impact on financial stability and economic activity on the basis of a conceptual model which enables the

[191] https://www.bankingsupervision.europa.eu/press/publications/newsletter/2019/html/ssm.nl190213_4.en.html.

[192] https://www.bankingsupervision.europa.eu/press/publications/newsletter/2019/html/ssm.nl190515_1.en.html.

[193] https://www.bankingsupervision.europa.eu/banking/priorities/html/ssm.supervisory_priorities2020~b67449d936.en.html.

[194] Supervised financial institutions have the obligation to report severe or significant cyber incidents and severe incidents related to the provision of payment services (Instructions No 21/2019 and No 1/2019 of the Banco de Portugal respectively).

[195] For example:

- Directive (EU) 2016/1148 of the European Parliament and of the Council setting out measures for a high level of security of network and information systems (NISD), transposed into the Portuguese legal framework by Law No 46/2018 of 13 August.
- G7 Fundamental elements of cybersecurity for the financial sector.
- EBA Guidelines on ICT and security risk management (EBA/GL/2019/04 of 29 November 2019).
- European Commission legislative proposals on virtual assets and operational resilience (recently on public consultation).

understanding of cyber risk and how it grows from an isolated incident to a systemic crisis; (iv) presented an analysis of scenarios that sought to replicate recent cyber incidents, which made it possible to rank vulnerabilities and shock amplifiers.

The boundary between microprudential focus and systemic risk is crossed when the cyber incident surpasses the operational sphere and critically affects the financial realm and confidence in the financial system and/or among financial institutions. Specifically, after the initial shock, the evolution and amplification of subsequent impacts is dependent, on the one hand, on the amplifiers (e.g. the aforementioned interconnectedness of financial institutions) and contagion channels (operational, confidence and financial), and, on the other hand, on the systemic mitigants in place. A systemic event occurs when financial loss surpasses the loss-absorbing capacity of the financial system and/or when there is a disruption to critical functions supporting economic activity. For example, this may happen in a situation where uncertainty regarding the origin, scale and duration of the cyber incident and/or lack of confidence in the institution that has been the target of the cyber attack causes the activity of the other financial institutions to also be significantly affected, considerably impacting lending to the economy.

Within this context, the ESRB established the basis for the work currently under development, more focused on the potential role of macroprudential policy in identifying and, if necessary, developing systemic mitigants. More specifically, the following focus areas were identified: (i) developing capacity to analyse systemic cyber risk; (ii) monitoring systemic cyber risk; iii) promoting cooperation across the financial sector, namely among financial institutions; (iv) identifying already existing macroprudential instruments which may be relevant to mitigate cyber risk, amplifiers and/or contagion channels; (v) calibrating macroprudential tools for a framework that considers cyber risk; (vi) strengthening communication among financial institutions and competent authorities and among authorities at national and international level.

Current context: COVID-19 pandemic

Until the outbreak of the COVID-19 pandemic, the frequency, impact and level of sophistication of cyber incidents had been rising,[196] becoming increasingly political in nature.[197] In addition, the financial sector was the target of three times as many cyber attacks as other sectors. During the pandemic, this trend intensified and the number of incidents increased,[198] shifting towards topics and weaknesses relating to the COVID-19 pandemic. However, to date, these incidents have not had a significant impact on the activity of financial institutions or the functioning of the financial system.

Against this background, several recommendations on cybersecurity were issued by European and national authorities, including the Banco de Portugal, aimed at financial institutions and financial services customers. These include:

- The warning of 17 March 2020 of the National Security Cabinet's Cybersecurity Centre,[199] identifying inter alia the main types of cyber attacks related to the COVID-19 pandemic observed since the start of February 2020.

[196] See ESRB, *Systemic Cyber Risk*, 2020, or M. Boer and J. Vazquez, *Cyber Security & Financial Stability: How cyber-attacks could materially impact the global financial system*, 2017, IFF Institute of International Finance. For example, the latter indicate that a single cyber attack may cost close to USD 6 trillion.

[197] See C. Leuprecht, *Mitigating Cyber Risk across the Financial Sector*, 2019, Centre for International Governance Innovation.

[198] The Public Prosecution Service's Cyber Crime Office points to an increase of around 230% in cyber crime in March, which may have exceeded 300% in April (Informative note of 17 April 2020 "Covid 19: Cibercrime em tempo de pandemia") (in Portuguese only).

[199] https://www.cncs.gov.pt/recursos/noticias/alerta-covid-19-e-as-ciberameacas/ (in Portuguese only).

- The warnings of 17 March 2020 of the Public Prosecution Service's Cyber Crime Office on credit card use and other situations identified in national credit institutions, warning consumers of the situation and resulting risks.[200]
- The European Central Bank's letter of 3 March to supervised institutions recommending that they assess cyber risk as part of the diagnosis of their operational preparedness in the context of the COVID-19 pandemic, focusing in particular on potential fraud aimed both at customers and institutions.[201]
- The EBA statement of 26 March on the need for financial institutions to adopt measures to protect consumers and on the functioning of payment services across the European Union, in particular recommendations for consumers on how to prevent potential fraud and other risks.[202]
- The press releases of the Banco de Portugal of 16 and 17 March 2020[203] and the Circular Letter of the Banco de Portugal No CC/2020/00000017,[204] including a number of recommendations to financial institutions and bank customers to prevent successful cyber attacks, in particular those related to use of payment services and/or affecting the continued provision of critical services by institutions.
- The Circular Letter of the Banco de Portugal No C/2020/00000029[205] which discloses the EBA Guidelines on information and communications technology (ICT) and security risk management (EBA/GL/2019/04), recognising, as seen in a recent EBA press release,[206] that these are a set of best practices whose observance by the institutions is particularly important in the current COVID-19 context, where ICT continuity and security are crucial to the functioning and stability of the financial system.

Within this context, and although cyber attacks have not had an impact on the activity of financial institutions or the functioning of the financial system to date, it is essential that financial entities, financial market infrastructures, bank customers and competent authorities continue to act in a coordinated manner in order to ensure the cyber resilience of the financial system in the current context and, ultimately, ensure financial stability.

[200] http://cibercrime.ministeriopublico.pt/en.

[201] https://www.bankingsupervision.europa.eu/press/letterstobanks/shared/pdf/2020/ssm.2020_letter_on_Contingency_preparedness_in_the_context_of_COVID-19.en.pdf?d1c8dc2780e2055243778bedf818efeb.

[202] https://www.bportugal.pt/en/comunicado/covid-19-eba-issues-statement-consumer-protection-and-payment-related-measures.

[203] https://www.bportugal.pt/en/comunicado/press-release-banco-de-portugal-covid-19-response-measures and https://www.bportugal.pt/comunicado/privilegie-pagamentos-sem-contacto-sao-comodos-e-seguros (in Portuguese only).

[204] https://www.bportugal.pt/sites/default/files/anexos/cartas-circulares/405553872_8.docx.pdf (in Portuguese only).

[205] https://www.bportugal.pt/cartacircular/cc202000000029 (in Portuguese only).

[206] https://eba.europa.eu/eba-provides-further-guidance-use-flexibility-relation-covid-19-and-calls-heightened-attention-risks.

Box 7 • An analysis of household credit flows in 2019 based on microdata

New household credit has been increasing since 2013, reversing the fall seen between 2007 and 2012. According to the Monetary and Financial Statistics of the Banco de Portugal, total new credit agreements for house purchase and consumer credit amounted to around EUR 10.6 and EUR 5.2 billion respectively, in 2019. By contrast, in 2013 total new credit agreements were only EUR 2.0 billion in credit for house purchase and EUR 2.2 billion in consumer credit. This evolution reflected, until the end of 2019, an increase in the level of consumer confidence, fuelled by expectations of continued growth in disposable income, against a backdrop of low interest rates. Concomitantly, the stock of credit for house purchase fell further, albeit at ever slower rates, while the stock of consumer credit grew strongly.

The May 2018 *Economic Bulletin* of the Banco de Portugal published an analysis of new credit for house purchase and repayments between September 2009 and September 2017. In this analysis it was concluded that: (i) the dynamism registered in total early repayments between September 2009 and September 2017 was associated with borrowers who did not take out new credit for house purchase in the following six months; (ii) most new credit agreements for house purchase were entered into by borrowers holding no housing credit debt at the time the new credit was taken out; and finally, (iii) borrowers who had repaid early and did not take out new credit were generally older than those who had taken out new credit, therefore, the profile of these borrowers is heterogeneous. Thus, results obtained suggested that a relative stability in aggregate debt balances for housing credit hid considerable debt heterogeneity per debtor.

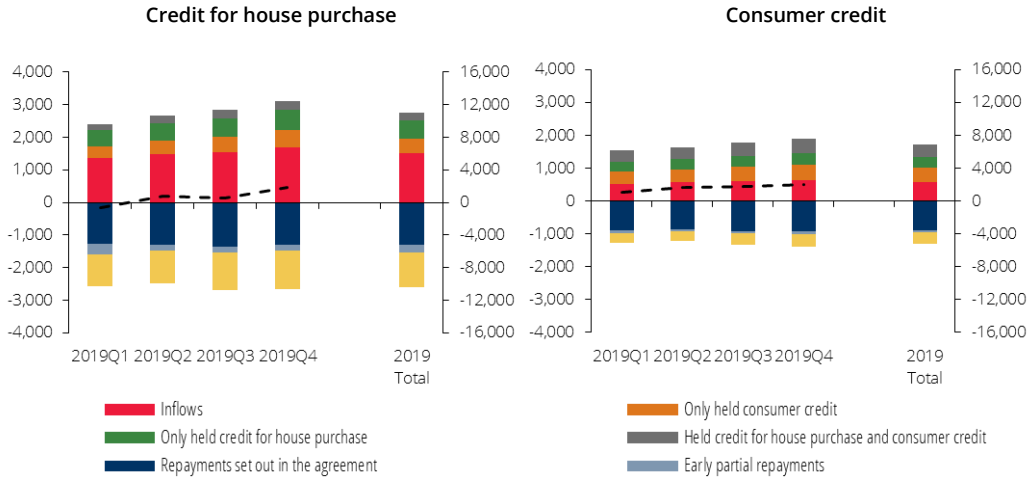
This Box aims to analyse household credit flows in 2019, in particular credit for house purchase and consumer credit. It first describes to what extent the number of new credit agreements can be explained by credit granted to borrowers who made a full repayment within a period close to the date of the new credit agreement. This situation is quite common when individuals move home or change car, or transfer the credit to another financial institution, and although it contributes to a rise in total new credit agreements, the associated debt increase is generally small or even nil. The socio-economic characteristics of borrowers who have taken out new credit in 2019 are analysed below, in order to complement the analysis of developments in the level of new credit agreements with the distribution of credit by various borrower profiles.[207]

New credit agreements and repayment of household credit

Chart C7.1 shows developments in credit for house purchase and consumer credit flows. Throughout 2019, the number of new borrowers in the credit for house purchase segment increased, accounting for around 55% of total new credit agreements that year. New consumer credit agreements with borrowers who already held credit were more significant, accounting for around 66% in 2019. As regards repayments, total early repayments in credit for house purchase are of a particular importance (41% of total repayments in this segment in 2019). In consumer credit, the repayment set out in the agreement is more relevant (69% of total repayments in this segment in 2019).

[207] Information from the Central Credit Register (CRC).

Chart C7.1 • New credit agreements and repayment of household credit by type of borrowers' previous debt and by type of repayment | EUR millions



Source: Banco de Portugal. | Notes: Positive flows correspond to new credit agreements and negative flows to repayments208, the net flow being the difference between the two. New credit agreements are broken down into operations in which the borrower entered the credit market ("Inflows") and in operations in which the borrower: (i) only held credit for house purchase; (ii) only held consumer credit; or (iii) held credit for house purchase and consumer credit at the time the new credit was taken out. Repayments are broken down between the repayments set out in the agreement and early total or partial repayments.

Total early repayments associated with a new credit agreement

Table C7.1 decomposes the amount of total early repayments into four categories, those made by borrowers[209] who took out a new loan three months before, three months after or in the same month the total repayment was made, and those who did not enter into any new credit agreements. It also should be noted that total early repayments had a higher weight in credit for house purchase than in consumer credit (41% and 26%, respectively). According to these data, 46% of total credit for house purchase repayments were associated with new credit for house purchase (32%) or consumer credit (14%). In the case of personal and car credit, the percentage of repayments associated with new credit, both for house purchase and consumption, rose to 60% and 70% respectively.

Table C7.1 also shows that the majority of borrowers who have fully repaid in advance their credit for house purchase did not take out new credit for the same purpose in the three previous/following months. This profile repeats itself for car credit, where 35% of total early repayments are associated with new car credit, suggesting that asset turnover does not represent the main contribution to the buoyancy observed in repayments of the respective type of credit. In the case of personal credit, around 49% of borrowers who fully repaid personal credit also took out a loan of the same type.

[208]Expected repayments correspond to principal payments to be made in accordance with the amortisation schedule of the agreement. This payment, together with the interest payment, forms the loan instalment. Early repayments correspond to extraordinary principal payments which result in a debt relief faster than that provided for in the loan agreement. Partial early repayments (where the amount repaid is more than twelve times the monthly payment) correspond to a monthly payment of principal higher than provided for in the agreement. Total early repayment occurs when the borrower makes full payment of the outstanding amount before the maturity date of the agreement. This type of repayment can occur when, for example, the borrower decides to move to another house or change car, in credit consolidation situations, as well as when the borrower transfers the credit to another financial institution.

[209]In the analysis carried out in this Box, the option was for the borrower with the earliest date of birth as the main borrower of the agreement.

Table C7.1 • Total early repayments | As a percentage of type of credit repaid

Credit repaid	Credit for house purchase	Personal credit	Car credit
Point in time			
3 months before	33	43	47
3 months after	6	8	8
In the same month	7	9	15
No new credit	54	40	30
New credit agreements			
Credit for house purchase	32	8	8
Personal credit	11	49	27
Car credit	3	3	35
No new credit	54	40	30

Source: Banco de Portugal.

In addition, it is possible to analyse whether total early repayments associated with a new credit agreement tend to occur in the same credit institution or in different institutions (Table C7.2). Two distinct patterns can be observed. The first one is related to personal credit, where borrowers are more likely to choose the same institution where they have repaid the loan to enter into the new credit agreement (63%). In fact, some institutions have adjusted their business models, adapting their offer to products that include credit previously granted in a single agreement with a higher amount and longer maturity, referred to as consolidated credit. Thus, this pattern can be associated with credit consolidation within the same institution or with the borrower's loyalty to the institution. The second pattern is related to credit for house purchase and car credit, where borrowers usually enter into the new credit agreement with an institution other than that where they had made the total repayment (72% and 73%, respectively). This behaviour may be associated with a greater competition in these credit segments, which encourages borrowers to switch lenders to obtain more favourable financing conditions.

Table C7.2 • Total early repayments by credit institution | As a percentage of the type of credit repaid

	Credit repaid		
New credit agreement	Credit for house purchase	Personal credit	Car credit
Same institution for repayment	**28**	**63**	**26**
Credit for house purchase	23	8	0
Personal credit	5	55	3
Car credit	0	0	23
Institution other than that used for repayment	**72**	**35**	**73**
Credit for house purchase	47	6	11
Personal credit	19	25	36
Car credit	6	4	26

Source: Banco de Portugal.

Characterisation of borrowers when a new credit agreement is signed

The socio-economic characteristics of each borrower make it possible to obtain a more detailed knowledge of household indebtedness and of the distribution of credit by different borrower profiles. Chart C7.2 shows the distribution of credit for house purchase, personal credit and car credit by borrower's age, employment status and educational qualification on the date the agreement is signed. This analysis was carried out for new credit agreements entered into in 2019 and for credit stock in December 2019,[210] in order to evaluate any change in the borrowers' profile at credit origination.

Around 51% of the stock of credit for house purchase is concentrated in borrowers aged under 35 on the date the agreement is signed, while the percentage of credit taken out with borrowers aged 35-45 was around 35%. In 2019 a change could be observed in this profile, with a higher percentage of new credit agreements for house purchase concluded with borrowers aged 35-45 (42%) to the detriment of borrowers aged under 35 (34%).[211] In fact, the average age of borrowers at the time credit for house purchase was taken out was 36 years in stock and 39 years in new credit agreements in 2019. Finally, the immateriality of credit for house purchase granted to borrowers aged 55 and over, both in stock and in new credit agreements, warrants mention.

The distribution of the stock of personal and car credit by borrower's age at the time the agreement was signed was also more concentrated in the lower age brackets, in borrowers aged under 45 (54% and 61% respectively). However, there was a higher percentage of credit in the higher age brackets compared to credit for house purchase, which is associated with the fact that consumer credit maturities are much shorter than the maturities of the credit for house purchase. In fact, about 22% and 17% of personal and car credit respectively, were taken out with borrowers aged between 55 and 75. This distribution is reflected in the average age of borrowers at the time the agreement was signed, which is approximately 44 years in personal credit and 42 years in car credit, both in stock and in new credit agreements in 2019. Hence, there is no evidence that the borrowers' age profile at consumer credit origination has changed significantly in the most recent period.

With regard to employment status at the time the agreements were signed, both the stock of credit for house purchase, personal credit and car credit were predominantly concentrated in employees, with particular emphasis on the former (66%, 54% and 50% respectively). This category will tend to correspond to a lower risk profile, given that there is, in principle, a lower degree of uncertainty about borrower's income in the future, which contributes to a greater resilience against a potential deterioration of the economic conditions or an increase in interest rates, in the latter case with a particular impact on credit for house purchase. The distribution of the amount of new credit agreements by employment status is relatively similar to that of the stock.

[210] The credit stock as of December 2019 comprises 49-year term credit agreements.

[211] Box 3 shows that the financial conditions of younger borrowers have changed significantly after 2010, which can explain the lower percentage of credit granted to these borrowers in 2019.

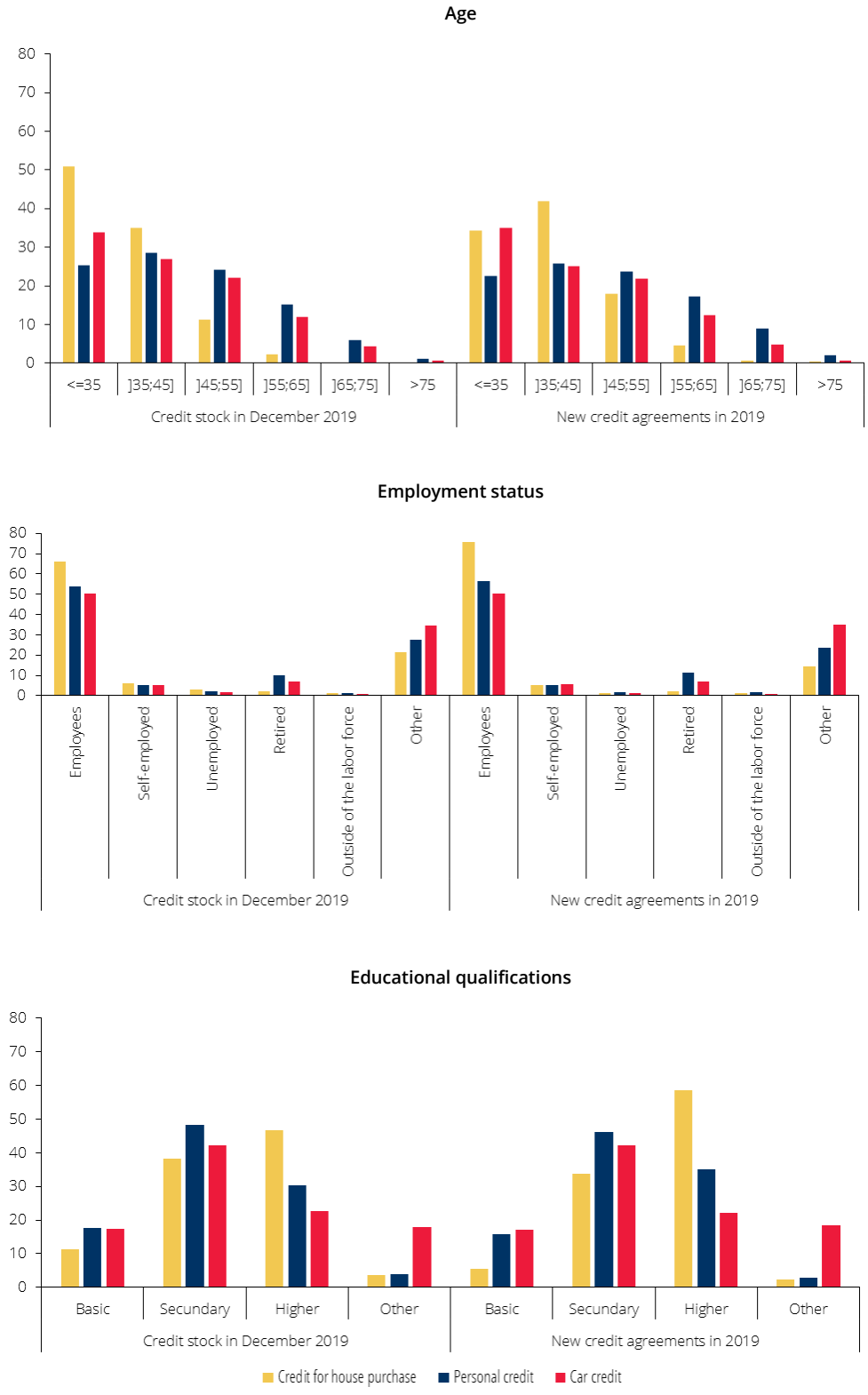
With regard to educational qualifications, most of the stock of credit for house purchase at agreement origination was concentrated in higher educated borrowers (around 47%). With respect to the stock of personal and car credit, the category with the greatest weight was that of borrowers with secondary education (48% and 42% respectively). When analysing the distribution of the amount of new credit agreements in 2019, there was an evident increase in credit for house purchase granted to borrowers with higher education (around 59%), compared with that observed in the stock (47%), with the profile of consumer credit distribution remaining relatively unchanged. Given that the income level tends to be positively correlated with educational qualifications (Chart C7.3), the trend seems to reflect an improvement in the risk profile of borrowers who took out a new credit agreement for house purchase in 2019.

For new credit agreements in 2019 it is possible to examine the borrowers' net monthly income[212] and the DSTI ratio associated with the credit agreement in order to assess the risk profile of the borrowers who entered into a new credit agreement. In this analysis, the DSTI ratio corresponds to the effective, i.e. it does not consider maturity-related interest rate increases and income shocks. In the calculation of the DSTI ratio all the borrower(s)' active instalments were incorporated, both for credit for house purchase and consumer credit, at the time the new agreement was signed. Chart C.7.4 shows that the proportion of credit with a DSTI ratio above 30% was higher in the lower income brackets, suggesting that the debt service had a greater weight for these borrowers. The weight of credit agreements with a DSTI ratio above 30% was around 27% in credit for house purchase and 50% in consumer credit. This difference reflects the different profiles between the two types of credit. In credit for house purchase, the interest rate is mainly variable, while in consumer credit the interest rate is predominantly fixed. In addition, the maturity of credit for house purchase is much higher than in consumer credit. In fact, considering that at the time the borrowers' solvency is assessed, the debt service capacity must be ensured over the lifetime of the agreement, the adoption of prudent credit granting criteria translates into a relatively lower DSTI ratio in credit for house purchase (the average DSTI ratio is around 24% in credit for house purchase as opposed to 32% in personal credit and 30% in car credit, Chart C.7.5). The increase in interest rate triggers an increase in debt service costs, which may become too high and compromise the ability of the most indebted and/or lower-income consumers to repay their debt, thereby increasing their default.[213] This risk is greater when the level of household debt is high. It should also be noted that the amount of new credit agreements in 2019 with a DSTI ratio above 30% and borrowers' income below EUR 1,200 represented around 4% of total credit for house purchase and 19% of total consumer credit. Hence, there is evidence of reduced credit granted to borrowers whose characteristics tend to be associated with a higher probability of default.

[212] Net income shall be deemed to be the annual income received by the borrower(s), less taxes and statutory social security contributions, as per the latest income tax return and/or information on income received in the three months before the creditworthiness assessment, pursuant to the provisions set forth in Banco de Portugal's Notice No. 4/2017, Article 7, of 22 September 2017.

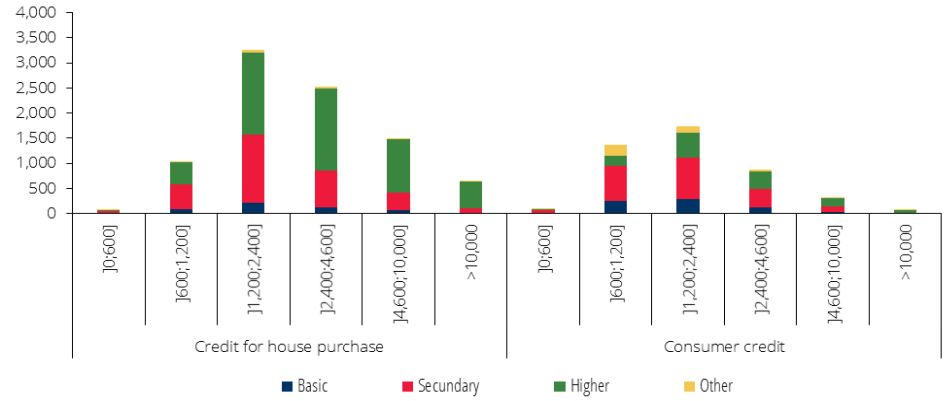
[213] In fact, the Recommendation establishes that the DSTI ratio used to measure borrowers' creditworthiness at the time the credit is granted should take into account interest rate rises according to maturity and shocks on income when borrowers are aged 70 and over at the maturity of the agreement and not yet retired In addition, the instalments of the loan agreements already signed, and the instalments of the new loan agreement will be considered in the calculation. It should be noted that the DSTI ratio that consumers will actually be exposed to will be lower than this, as it is calculated on the basis of interest rates in force and the current net monthly income level. As an example, assuming a 35-year-old borrower, with a monthly income after tax and compulsory social security contributions of EUR 1,500 and no other loans in the past, for a 40-year maturity loan agreement, variable interest rate, -0.25% reference rate and a fixed spread equal to 2.25 p.p., for the lifetime of the agreement, the DSTI ratio effectively supported by the borrower is 31%, equivalent to the DSTI ratio of 50%, taking into account an increase in the reference rate of 3 p.p. for agreements with a maturity of more than 10 years.

Chart C7.2 • Structure of credit granted by borrower characteristics at the time the credit agreement is signed | Per cent



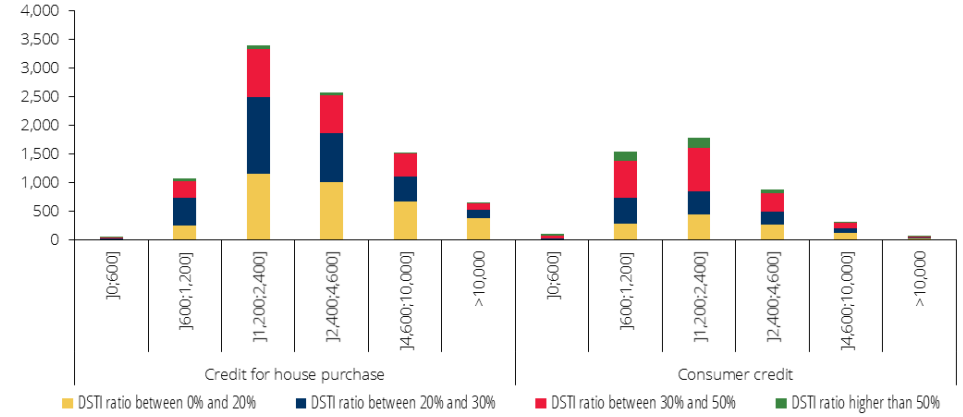
Source: Banco de Portugal.

Chart C7.3 • Credit granted by income bracket and education | In EUR millions



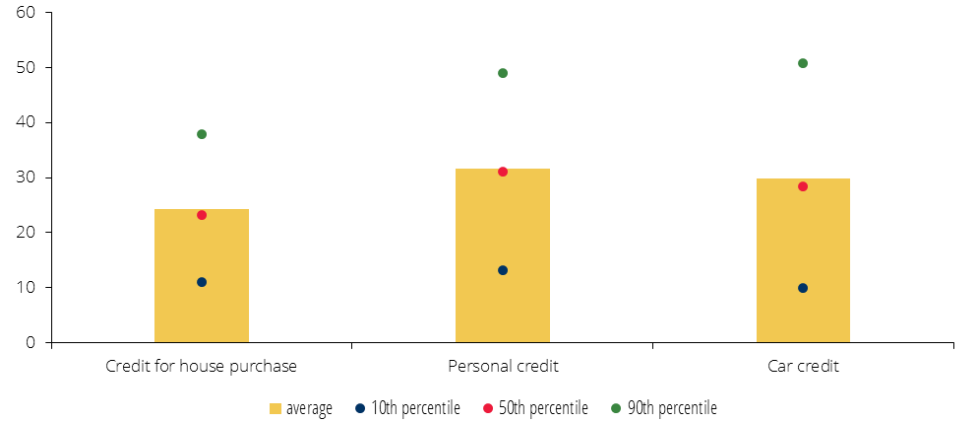
Source: Banco de Portugal.

Chart C7.4 • New credit agreements in 2019 by range of net monthly income and DSTI ratio | In EUR millions



Source: Banco de Portugal.

Chart C7.5 • Distribution of DSTI ratio associated with new credit agreements in 2019, by type of credit | Per cent



Source: Banco de Portugal.

Charts C7.3 and C7.4 show that more than 50% of the amount of credit for house purchase was concentrated in borrowers receiving net monthly income exceeding EUR 2,400, and there was also a significant volume of credit granted to borrowers whose net monthly income ranged between EUR 1,200 and EUR 2,400 (36%). By contrast, the distribution of consumer credit presents borrowers with lower net monthly income (35% for borrowers with a net monthly income of less than EUR 1,200), reflecting an easier access to this type of credit.

Conclusions

This Box examines the household credit flows throughout 2019 and shows that most new credit agreements for house purchase were associated with the inflow of new borrowers into the credit market. By contrast, most consumer credit operations in this period were taken out with borrowers who had already held some type of credit before. Also, the share of total early repayments was higher in credit for house purchase as compared to consumer credit. In the case of credit for house purchase, the majority of borrowers with full repayments did not take out new credit for house purchase within a period close to the repayment date. By contrast, in the case of consumer credit, most total early repayments were associated with new consumer credit. The conclusions regarding housing credit are in line with those published in the May 2018 *Economic Bulletin*.

Moreover, total early repayments associated with a new credit agreement tended to occur in different credit institutions. In the case of credit for house purchase and car credit, the borrower is more likely to take out a new credit in an institution other than that used for repayment. This behaviour may be associated with greater competition in these segments, which encourages borrowers to switch lenders for more favourable financing conditions. By contrast, in the case of personal credit, there seems to be a greater preference for the same institution where the credit was repaid to take out a new credit agreement.

It can also be concluded that in new credit agreements entered into in 2019, more than 50% of credit for house purchase was concentrated in borrowers receiving net monthly income exceeding EUR 2,400, there still being a significant volume of credit granted to borrowers whose net monthly income was in the EUR 1,200-EUR 2,400 range (36%). The distribution of consumer credit shows a greater concentration in borrowers with relatively lower net monthly income, reflecting easier access to this type of credit.

Finally, when analysing the distribution of new credit agreements in 2019 by socio-economic characteristics of borrowers, there was an increase in the percentage of credit associated with borrowers with a lower risk profile compared to the distribution of the stock of credit. In particular, the higher percentage of credit for house purchase and consumer credit granted to employees and to borrowers with a higher level of education and higher monthly net income stands out.

II Special issues

Policy measures in response to the COVID-19 pandemic of relevance to financial stability

Interaction of minimum regulatory requirements with the capital buffer requirement

Policy measures in response to the COVID-19 pandemic of relevance to financial stability

[This Special issue was prepared using information available as at 19 June 2020]

1 Introduction

On 11 March 2020, the World Health Organization (WHO) declared a global pandemic of infection by the novel coronavirus, known as COVID-19. This declaration stepped up the adoption of measures by the various countries to mitigate the spread of the disease, which led to the suspension of several activities and a serious disruption to economic activity in general. This sharp shock affected most economies worldwide, which face expectations of severe deterioration in output and income.[1] In contrast to the previous crisis that started in 2007-08, this is an exogenous shock to the financial system and is not directly related to a previous accumulation of macroeconomic and/or financial imbalances.

With some heterogeneity among European Union (EU) Member States, the international economic and financial context immediately before this shock was characterised by: (i) a still high level of indebtedness of firms and households; (ii) a protracted very low interest rate environment, encouraging a search-for-yield behaviour; (iii) signs of overvaluation in the securities market and the real estate market; (iv) accelerated growth in the non-banking financial sector, in some cases accompanied by increased leverage levels; and (v) a high confidence level on the part of economic agents, supported by expectations of continued growth in disposable income, boosting credit demand, although a fall in confidence levels had already been observed in some European countries.

Since the previous financial crisis, regulations and supervisory practices have been adopted both at national and international level to increase financial sector resilience. As for the banking sector, these resulted, among other things, in a strengthening of capital ratios and liquidity positions.

In early 2020, the interruption of production and distribution chains, due to the outbreak of COVID-19 in China, spread globally and became an adverse shock impacting both on supply and demand. Also, uncertainty regarding the duration and magnitude of such shock and the profile of economic recovery is still significant. In addition to the "health measures" mentioned above, national and international authorities have decided on a widespread adoption of measures to mitigate the economic and financial impact of this shock.

This analysis aims to put into perspective how the various types of measures are coordinated and complement each other and to compare the characteristics and size of responses implemented

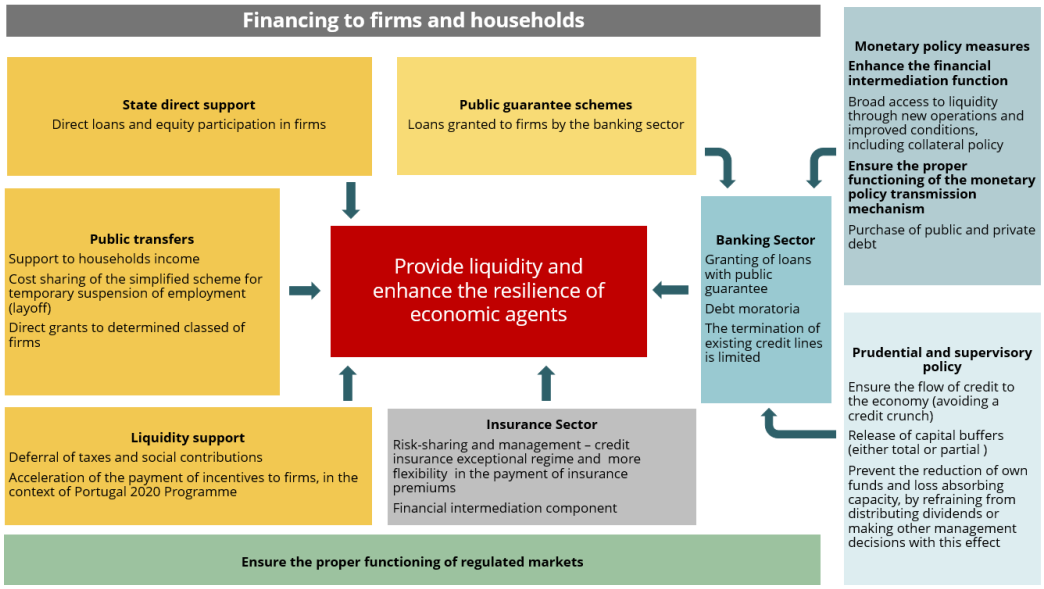
[1] According to the Banco de Portugal's estimates released in the June 2020 issue of the *Economic Bulletin*, Portugal is expected to experience a decline in GDP of 9.5% in 2020, with a return to 2019 output levels between 2021 and 2022, which depict expected growth rates of 5.2% and 3.8%, respectively. According to the ECB's projections released on 4 June 2020, euro area GDP is expected to decline by 8.7% in 2020 and to recover in 2021 and 2022, with estimated growth rates of 5.2% and 3.3% respectively. However, there is a high degree of uncertainty surrounding these projections, resulting from both the evolution of the pandemic and the measures adopted by the authorities.

in various European countries. It also assesses how adopted measures foster the recovery of economic activity and identifies potential situations of unlevel playing field at European level as a result of measures being taken. Finally, principles for phasing out the measures are considered in order to prevent such phasing-out from becoming an additional risk.

2 Measures to mitigate the impacts of the pandemic

In a first phase, the various measures adopted by governments targeted the economic agents that were immediately and directly affected by the health measures imposed to contain the pandemic.[2] On the one hand, at firm level, they intended to minimise the permanent destruction of productive capacity and job losses.[3] On the other hand, for households, they aimed to avoid an abrupt drop in income and its impact on consumption (Figure 1). But the nature of the crisis associated with COVID-19 has forced a wide range of authorities to take action.

Figure 1 • Interaction between the different types of measures adopted[(a)]



Source: Banco de Portugal. | Note: (a) This schematic approach does not aim to be exhaustive of the measures adopted, it is rather an example of the measures detailed in the remainder of the document.

The following subsections describe the measures taken by various institutions/authorities both at European and national level, to the extent that they relate to the goal of ensuring adequate liquidity

[2] The European Systemic Risk Board (ESRB) has been compiling a database on a weekly basis on the measures adopted at Member State level and by the various authorities at European level. This database is available at https://www.esrb.europa.eu/home/coronavirus/html/index.en.html. The summary of the measures taken at national level and approved by the European Commission under the Temporary Framework for State aid is available at https://ec.europa.eu/competition/state_aid/what_is_new/State_aid_decisions_TF_and_107_2_b_and_107_3_b.pdf.

[3] The Banco de Portugal's estimates, published in the June 2020 issue of the *Economic Bulletin*, point to an unemployment rate of 10.1% in Portugal in 2020, with an expected 8.9% reduction in 2021. According to the ECB's projections, released on 4 June 2020, the average unemployment rate in the euro area is expected to be 9.8% in 2020, rising to 10.1% in 2021.

levels for economic agents and making sure that the financial system continues to play its role in financial intermediation.

2.1 Framework at the EU level

The initial response of the European Commission (EC) was based on two pillars, namely the mobilisation of financial resources from the Community budget, through amendments to the Community legislation, and the relaxation of Community rules, comprising a temporary framework for State aid and the suspension of the limits contained in the Stability and Growth Pact (Table 1).

As regards the temporary framework for State aid in the context of the COVID-19 pandemic, the Member States are allowed to grant direct aid to firms, including through non-repayable direct grants or public guarantees for loans granted by the banking sector until December 2020.[4] Subsequently, the European Commission extended this framework to measures for the recapitalisation of firms and in the form of subordinated debt by laying down a set of rules regulating these operations.[5] In both cases, aid should be granted to firms that were not facing difficulties on 31 December 2019 (Figure 2). The amended temporary framework will be in place until the end of December 2020; however, given that solvency problems may only materialise at a later stage, the European Commission extended this period with regard to recapitalisation measures until the end of June 2021.

The adoption of budgetary policy measures by the various Member States, in addition to automatic stabilisers,[6] will necessarily entail a reduction in the budget balance and an increase in public debt. Therefore, and although the suspension of the Stability and Growth Pact rules[7] avoids excessive deficit procedures while in force, the issue remains as to how the costs of re-launching economic activity will be financed and regarding the impacts of the policies adopted in terms of developments in public accounts and, consequently, access by the sovereign to debt markets in the longer term. Additionally, the date for reinstatement of these rules is not yet set. This issue also interacts with decisions taken at other policy levels, namely monetary policy.

[4] Communications from the European Commission available at https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020XC0320(03)&from=EN and https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020XC0404(01)&from=EN.

[5] Available at https://ec.europa.eu/commission/presscorner/detail/en/ip_20_838. Amendment to the Communication from the European Commission available at https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020XC0513(01)&from=EN.

[6] This name derives from the fact that, in the absence of additional policy measures, these stabilisers have a mitigating effect on cyclical fluctuations: a decline in economic activity and an increase in unemployment automatically lead to a cut in taxes and social contributions paid to the State and an increase in social benefits (such as unemployment benefits). A decline in economic activity thus leads to a deterioration in the fiscal balance.

[7] In accordance with the Statement of EU ministers of finance of 23 March 2020, following a proposal from the European Commission, the conditions for the use of the general escape clause of the EU fiscal framework were fulfilled, i.e. a severe economic downturn in the EU. Available at https://www.consilium.europa.eu/en/press/press-releases/2020/03/23/statement-of-eu-ministers-of-finance-on-the-stability-and-growth-pact-in-light-of-the-covid-19-crisis/.

Figure 2 • Temporary framework for State aid in the context of the COVID-19 pandemic

Direct grants or tax advantages, guarantees on loans and subsidised interest rates for public and private loans

- Maximum of 800,000 euros per undertaking
- Maximum duration of the guarantee: 6 years
- Maximum grace period: 18 months
- The cost of the loan/guarantee increases with its maturity/duration and also with the size of the undertaking

Recapitalisation aid to firms and provision of subordinated debt at favourable terms

- Aid superior to 250 million euros
  - Separate notification to the EC and individual assessment
- Conditions on the necessity, appropriateness and size of intervention
  - Aid should only be granted if no other appropriate solution is available
- Remuneration
  - The State must be sufficiently remunerated for the risks it assumes through the recapitalisation aid
  - Needs to incentivise beneficiaries and/or their owners to buy out the shares acquired by the State
- Exit of the State from the capital of the companies concerned
  - Member States should develop an exit strategy, in particular as regards large companies
  - Maximum duration of six years in the case of listed firms and seven years otherwise
- Governance
  - Until the State has exited in full, beneficiaries are subject to bans on dividends and share buybacks
- Prohibition of cross-subsidisation and acquisition ban
  - Ensure that beneficiaries do not unduly benefit from the recapitalisation aid by the State
- Subordinated debt cannot be converted into equity
  - Aid in the form of subordinated debt includes higher remuneration and a further limitation as to the amount compared to senior debt under the Temporary Framework

Source: Banco de Portugal and EC

In connection with the previous point, on 23 April 2020[8] the European Council approved the Eurogroup's proposal concerning additional resources to the Community budget, implementing a set of initiatives (put in place in the meantime) for immediate response to the crisis, totalling a potential amount of EUR 540 billion (Table 1).

An agreement was also reached on the establishment of a recovery fund with a magnitude proportional to the pandemic crisis and "targeted towards the sectors and geographical parts of

[8] https://www.consilium.europa.eu/en/meetings/european-council/2020/04/23/.

Europe most affected".[9] In view of the mandate received from the Council on 27 May, the European Commission issued a proposal for establishing a financial support instrument in the context of the economic consequences of COVID-19 (called "Next Generation EU"). This instrument is included in the EU's multiannual budget for 2021-27 and is to be financed by a very significant amount of debt issued by the Commission itself.[10] According to the proposal, the debt should be paid after 2027 and at the latest by 2058, using national contributions and possible new taxes at European level.

Table 1 • Measures adopted at EU level

European Commission (EC)	Mobilization of EU budget resources[(a)]: 0,6% of UE GDP in 2019	*Coronavirus Response Initiative* - Cohesion Policy funding (37 000 million euros). Unallocated funding within the 2014-2020 cohesion policy programmes (48 000 million euros). EU Solidarity Fund funding, directed to the countries more severely afflicted by the COVID-19 pandemic (800 million euros).
	Relaxation of Community rules	*Temporary framework for State aid in the context of the COVID-19 pandemic* - Member States are allowed to grant direct aid to firms, including direct grants or public guarantees for loans (until December 2020) and measures for the recapitalisation of firms and in the form of subordinated debt (until June 2021. Suspension of the limits contained in the Stability and Growth Pact.
European Investment Bank (EIB)	Loans to small and medium-sized enterprises (SME): 1,7% of UE GDP in 2019	Short term loans up to 40 million euros. Up to 200 million euros of additional financing.
European Stability Mechanism (ESM)	Credit lines up to 240 million euros, included in the *Enhanced Conditions Credit Line* (ECCL):[(b)] 1,7% of UE GDP in 2019	Financing of health related expenditure. Up to 2% of each Member State's GDP.
SURE program	Temporary loans to finance employment support measures and employee training:[(c)] 0,7% of UE GDP in 2019	Up to 100 million euros.

Source: Banco de Portugal and EC. | Note: Additional information available at: (a) https://ec.europa.eu/regional_policy/en/newsroom/coronavirus-response/. (b) https://www.consilium.europa.eu/en/press/press-releases/2020/05/08/eurogroup-statement-on-the-pandemic-crisis-support and https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/eu-financial-assistance/loan-programmes/european-stability mechanism-esm_en. (c) This support scheme encompasses the granting of loans to Member States under favourable conditions, in order to finance employment support measures, such as the temporary layoff.

Also in line with the European Commission proposal, this financial support, totalling EUR 750 billion, would take the form of grants (two-thirds) and loans (one-third). However, this proposal, including how the funds will be distributed among the Member States, still has to be discussed at the European Council, where it has to be negotiated until a unanimous agreement is reached. In addition, the multiannual financial framework revised by the Council must also be approved by the

[9] Communication available at https://www.consilium.europa.eu/en/press/press-releases/2020/04/23/conclusions-by-president-charles-michel-following-the-video-conference-with-members-of-the-european-council-on-23-april-2020/.

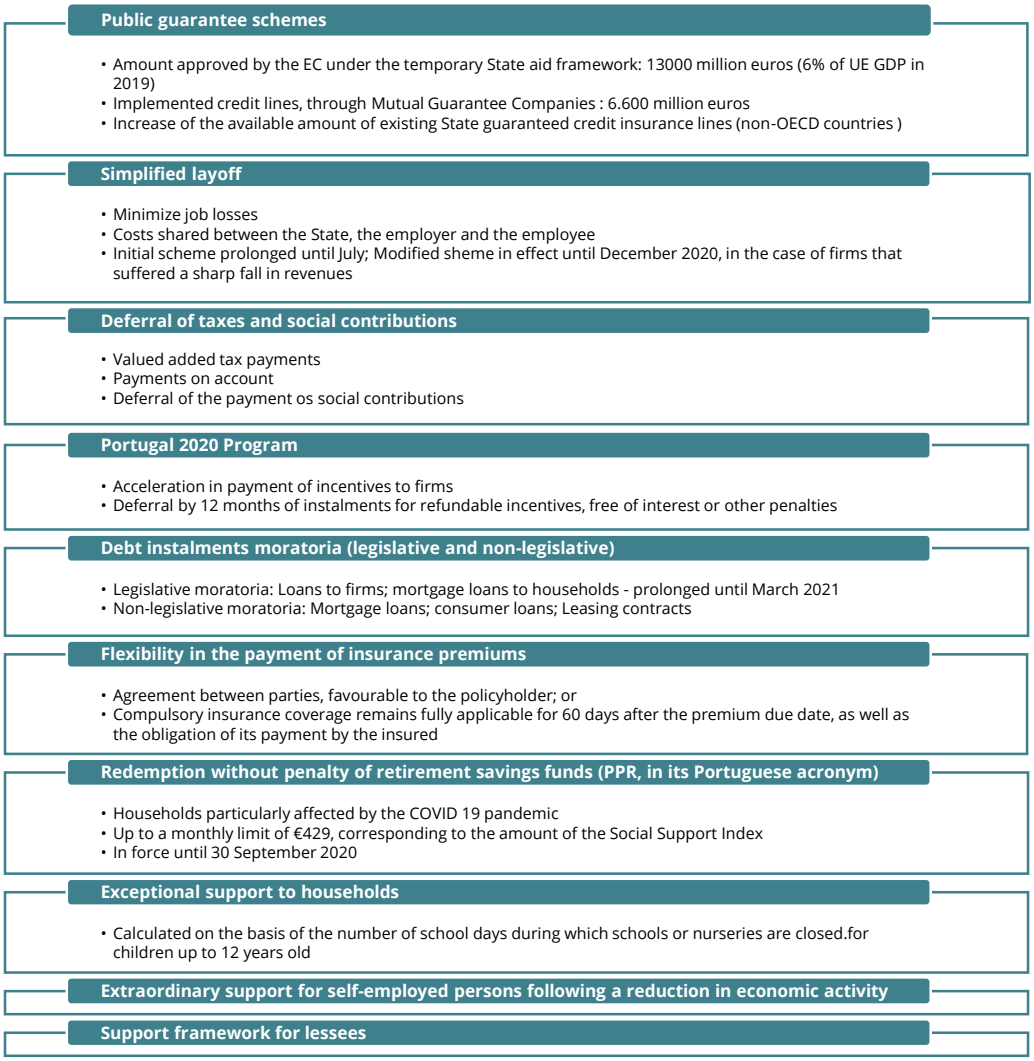
[10] See more information at https://ec.europa.eu/commission/presscorner/detail/en/ip_20_940.

European Parliament and the adoption of the own resources decision has to be ratified by all Member States in line with their constitutional requirements. In accordance with the timetable that the European Commission provided, the implementation of this multiannual financial framework would start in January 2021, without setting aside the possibility that some funds from this new instrument proposed by the European Commission might already be allocated to Member States in 2020.

2.2 Portuguese government measures targeting firms and households

In view of the sudden and abrupt interruption of various economic activities, as well as of related financial flows, measures adopted by the Government at national level aim at immediately providing some liquidity to the most affected economic agents, as well as minimising the destruction of productive capacity and preventing an interruption in firms' activity from resulting in their economic and financial non-viability. Moreover, these measures are exceptional and temporary (Figure 3).

Figure 3 • Portuguese government measures to support firms and households



Sources: Banco de Portugal; Internet sites of the entities responsible for implementing the measures.

Subsequently, a package of additional measures was approved, called the Economic and Social Stabilisation Programme (*Programa de Estabilização Económica e Social* – PEES),[11] whose main goal is economic recovery. On the one hand, the measures adopted at an initial stage were extended (e.g. the moratorium on loan repayments), enhanced (e.g. the amount of credits guaranteed by the State, measures to support household income and the scope of the moratorium on loan repayments and State-guaranteed credit insurance) or redrafted (simplified layoff). On the other hand, additional measures were drawn up, such as operationalising and extending the functions of the Banco de Fomento (including management of the firms' capitalisation fund), the creation of a financial vehicle whose goal is to ease access by small and medium-sized enterprises (SMEs) to the capital market, the launch of public works, and the change in the reference period for calculating social benefits so that these amounts reflect the impacts of the pandemic. Within the scope of the measures to support firms' liquidity and under the abovementioned Temporary Framework for State aid, on 4 April, the European Commission approved[12] a maximum overall amount of EUR 13 billion in loans guaranteed by the Portuguese State. These include the EUR 3 billion previously authorised by the European Commission to support SMEs in sectors particularly affected by the crisis (Decision from the European Commission of 22 March[13]). Under the same proceedings, direct State aid (grants) was also authorised up to an indicative ceiling of EUR 1.6 billion.

In the case of State-guaranteed loans, subject to the rules of this temporary framework, the duration of the support measures is limited to a maximum of six years (except in exceptional situations described in the amendment to the Communication from the European Commission published on 4 April[14]). In view of the approval of the PEES, the Portuguese Government has fully authorised the granting of EUR 13.4 billion[15] of credit lines with State guarantees, of which an amount of EUR 13 billion has been approved under the decisions from the European Commission referred to above, corresponding to the maximum limit. The guarantees are issued by Mutual Guarantee Companies, up to 90% of the amount involved, in the form of an autonomous demand guarantee and benefiting from a counter-guarantee by the Mutual Counter-Guarantee Fund covering 100% of the risk.[16,17] In order to support exporters, the Portuguese Government has also reinforced the available amount of existing State-guaranteed credit insurance lines covering transactions with non-OECD countries (Table 1 of the Annex). In addition, Decree-Law No 26/2020 of 16 June 2020 introduces adjustments to the special regime for granting personal guarantees by the State to cover credit insurance in transactions between firms in the internal market, which play an essential role both in boosting the internal market and maintaining the exporting capacity of Portuguese firms.

[11] According to Resolution of the Council of Ministers No 41/2020, available at https://dre.pt/application/conteudo/135391594. Short version available at https://pees.gov.pt/.

[12] Published on the European Commission website at https://ec.europa.eu/commission/presscorner/detail/en/ip_20_599.

[13] Published on the European Commission website at https://ec.europa.eu/commission/presscorner/detail/en/IP_20_506.

[14] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020XC0404(01)&from=EN.

[15] Details available at https://www.iapmei.pt/Paginas/COVID-19-Medidas-de-Apoio-as-Empresas-Financia.aspx. The €13.4 billion include the facility Capitalizar COVID-19, with a €400 million allocation.

[16] Decree-Law No 10-J/2020 of 26 March 2020, establishing extraordinary measures to protect the loans of households, firms, private social solidarity institutions and other entities in the social economy, as well as a special regime for State guarantees in the context of the COVID-19 pandemic. Available at https://dre.pt/application/conteudo/130779509.

[17] Characterisation available at https://www.spgm.pt/pt/catalogo/linha-de-apoio-a-economia-covid-19/, https://www.spgm.pt/fotos/produtos_documentos/20200504_documento_divulgacao_linha_de_apoio_a_economia_covid_19_21176266825eb045724d25e.pdf and https://www.pmeinvestimentos.pt /wp-content/uploads/2020/04/Documento-de-Divulgação-Linha-Credito-Capitalizar-2018_v12.pdf.

In order to minimise liquidity difficulties, additional measures were adopted, including the postponement of the payment of taxes and social contributions, advanced receipt of EU funds and a 12-month suspension of repayment of these funds, as well as the suspension of enforcement proceedings for lack of payment of taxes and social contributions. As regards special payments on account, the Economic and Social Stabilisation Programme released on 4 June[18] provides that firms with a marked fall in turnover will benefit from total or partial exemption from such payments (Table 2 of the Annex).

However, the Portuguese State grants non-repayable funds only in very exceptional cases, and these measures are intended to facilitate firms' cash management, differing from economic policy measures adopted by other EU countries, which have chosen to subsidise firms directly, especially SMEs.[19]

Finally, non-payment of rents by firms that have been closed for health reasons, including restaurants, does not constitute grounds for termination of the lease agreement until September 2020. Therefore, the lessee and the lessor must agree that payment of rent arrears may be made by June 2021 at the latest.[20]

Firms that have been affected most severely by the COVID-19 pandemic may resort to the simplified scheme for temporary suspension of employment (layoff). This scheme reduces wage expenditure and seeks to mitigate the rise in unemployment. On the one hand, firms resorting to this scheme may not dismiss workers covered by it within 60 days of its termination, whether through collective dismissal or redundancy. Under the framework in force from April to July 2020, workers covered by the layoff scheme receive 2/3 of the wage, with 70% of the cost being borne by the State and 30% by the firm. At the end of the layoff period, firms receive an extraordinary financial incentive to support the normalisation of their activity equal to the amount of a minimum wage per worker (EUR 635). This support is limited to firms with all tax and social security obligations duly fulfilled as at the end of 2019. In addition, the distribution of profits has been restricted in firms covered by the scheme. [21]

Under the PEES, the simplified layoff scheme was extended until July 2020 and amended for the period from August to December 2020. Support is stratified in this redesign in accordance with the period to which it applies (August-September and October-December), the decline in the firm's turnover and the share of hours worked. The aim of the new scheme is to encourage a return to business and increase workers' income compared to the scheme in force until July 2020, ensuring that hours worked are effectively paid by the employer. The extraordinary financial incentive to support the normalisation of firms' activity has been amended, and firms may choose between immediately receiving a minimum wage for each worker who is no longer on layoff and gradually receiving two minimum wages over a period of six months. Requirements are maintained as regards the prohibition of collective dismissals and redundancy. This measure will be partly financed by the European Commission's SURE mechanism mentioned above. Finally, some workers covered by the layoff scheme will be partly compensated for lost income. Thus, workers covered by the simplified layoff scheme between April and June (about 800,000), whose base wage ranges from one to two minimum wages (EUR 635 to EUR 1,270 per month), will receive a so-called

[18] Details available at https://pees.gov.pt/.

[19] Further details available in the database compiled by the ESRB, containing measures adopted at Member State level and by the various authorities at European level, https://www.esrb.europa.eu/home/coronavirus/html/index.en.html.

[20] According to Law No 4-C/2020, available at https://dre.pt/application/file/a/134605068, amended by Law No 17/2020, available at https://dre.pt/application/file/a/134605068.

[21] Employment may be suspended in whole or in part on the firm's initiative. The legal framework is available in Decree-Law No 10-G/2020 of 26 March 2020, which establishes an exceptional and temporary measure for the protection of jobs in the context of the COVID-19 pandemic (available at https://dre.pt/application/conteudo/130779506). The amendment introduced by the PEES can be found at https:/pees.gov.pt/.

stabilisation supplement, i.e. the receipt of a single grant, between EUR 100 and EUR 351, equal to the amount of the income loss corresponding to one-month layoff. This supplement is also financed by SURE.

In Portugal, a public credit moratoria regime for firms and consumers was also established,[22] which will be in force until 31 March 2020. Borrowers may communicate their intention to participate in it to lending institutions by 30 June 2020. This regime is mandatory for institutions and is intended for borrowers whose income or activity has been directly affected by the pandemic containment measures, including those with credit, tax and contributory obligations duly fulfilled at the time immediately preceding these measures. The same regime (i) prevents the termination of previously agreed credit lines (ii) provides for an extension of credit agreements with principal to be paid at the end of the contract, and (iii) establishes the suspension of payments of principal, interest and other pecuniary amounts. Subsequently, private moratoria were established on the initiative of industry associations.[23]

In addition, a regime for making the payment of insurance premiums more flexible was approved[24] and is in force until 30 September, under the assumption that a more favourable regime for the policyholder is agreed between the parties.[25] In the absence of such an agreement and in the event of non-payment of the premium or fraction by its due date, compulsory insurance coverage remains fully applicable for 60 days after the premium due date, as well as the obligation of its payment by the insured. Finally, if a risk covered by the insurance has been reduced or suppressed because the insured has been forced to interrupt or substantially reduce their professional activity as a direct or indirect result of the measures adopted in response to the pandemic, this legal regime allows the insured to request that the premium be reduced and paid in instalments.

Several household support measures have also been implemented, namely exceptional support to households[26] due to the closure of schools determined by the Government as of 16 March, extraordinary support due to the reduction of the economic activity of self-employed workers, and

[22] The public credit moratorium was introduced by Decree-Law No 10-J/2020 of 26 March 2020, establishing extraordinary measures to protect the loans of households, firms, private social solidarity institutions and other entities in the social economy, as well as a special regime for State guarantees in the context of the COVID-19 pandemic. Available at https://dre.pt/application/conteudo/130779509 and later amended by the PEES (Decree-Law No 26/2020). When it was introduced, the public credit moratorium was intended only for borrowers resident in Portugal; however, the PEES expanded the beneficiary population by including natural persons not residing in Portugal. In accordance with the regime in force between 27 March and 16 June 2020, the public credit moratorium for natural persons only applied to credit relating to residential immovable property for own and permanent residence. Following the implementation of the PEES, the public moratorium now includes all credit secured by a mortgage, property leasing agreements and consumer credit to finance education expenses, including academic and vocational training. Following the introduction of the PEES, income loss situations may now be claimed, in order to request a moratorium on payment of credits in respect of the borrower or another member of the relevant household. In addition to the income loss situations mentioned above, borrowers experiencing a temporary loss of at least 20% of their household's overall income as a result of the COVID-19 pandemic may also request that a public moratorium be applied. Further details available on the Banco de Portugal's website, at https://www.bportugal.pt/en/comunicado/covid-19-amendments-public-moratorium-applicable-loan-repayments.

[23] For more details, see Box 1 in this Report.

[24] Legal framework in Decree-Law No 20-F/2020 of 12 May 2020, establishing an exceptional and temporary regime for insurance available at https://dre.pt/application/conteudo/133491341).

[25] In particular, the following may be agreed on: payment of the premium at a later date than the beginning of the risk coverage, removal of automatic termination or non-extension in the event of non-payment, division of the premium amount, extension of the duration of the insurance contract, temporary suspension of the payment of the premium and temporary reduction of the premium in light of a temporary reduction of risk. In the absence of an agreement and in the event of non-payment of the premium or fraction on its due date, a compulsory insurance is automatically extended for a period of 60 days from the due date of the premium or fraction. The insurer must inform the policy holder of this mandatory regime.

[26] Decree-Law No 10-A/2020 of 13 March 2020.

the regime to be applied in case of a COVID-19-related sick leave or preventive isolation (Table 3 of the Annex).

In order to cope with the drop in household income, a support framework for lessees was launched, applicable to households with an income loss of at least 20%, whose expenditure on rents exceeds 35% of disposable income (after the reduction), complemented by a support framework for lessors in the event of non-payment by lessees.[27] Evictions due to lack of payment are suspended until September 2020.[28]

The PEES has changed some of these support mechanisms, by enhancing or extending them and creating further support complementing existing mechanisms. Thus, an automatic extension of unemployment benefits until December 2020 has been decided, and several mechanisms supporting the training of workers have been established.

An extraordinary mechanism to protect self-employed and informal workers lacking social protection was also introduced, providing for the payment of EUR 438.81 (corresponding to the Social Support Index – IAS, in its Portuguese acronym) between July and December 2020, and their mandatory inclusion into the social security system for a period of 36 months. Likewise, a social support line was created for cultural professionals who are not employees. Furthermore, an additional family allowance instalment will be paid in September 2020 to lower income brackets.

2.3 Monetary policy measures

The European Central Bank (ECB) has adopted extraordinary monetary policy measures[29] in addition to those already in place. On the one hand, it has ensured that the euro area banking sector had broad access to liquidity through new monetary policy operations and improved conditions for existing operations[30]. On the other, it has launched a new and very significant purchase operation for public and private debt, extending existing programmes in this field (Figure 4).

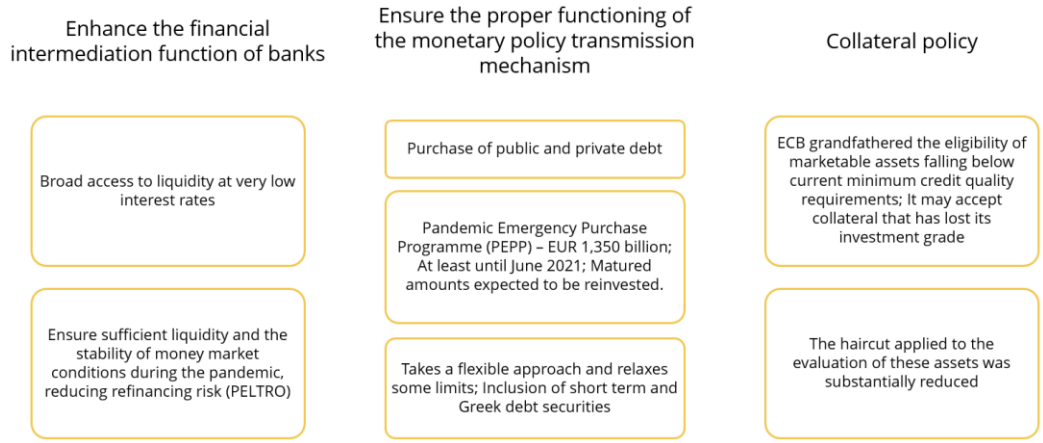
[27] The Portuguese institute for housing and urban rehabilitation (Instituto da Habitação e Reabilitação Urbana – IHRU) will grant interest-free loans to households showing an income loss of at least 20%, whose expenditure on rents exceeds 35% of disposable income (after the reduction). Alternatively, lessees are allowed to not pay rents without facing eviction up to one month after the end of the state of emergency, in which case lessors may request support from the IHRU.

[28] According to Law No 4-C/2020, available at https://dre.pt/application/file/a/134605068; as amended by Law No 17/2020, available at https://dre.pt/application/file/a/134605068.

[29] A summary of the measures adopted can be found at https://www.bportugal.pt/page/como-politica-monetaria-esta-ajudar-combater-os-efeitos-da-pandemia. See also https://www.ecb.europa.eu/home/search/coronavirus/html/index.en.html.

[30] Additional longer-term refinancing operations (LTROs) have been introduced, with a weekly periodicity and maturity on the date of the June TLTRO III, at the deposit facility rate (-0.50%) with allotment of the total amount bid. The conditions of targeted longer-term refinancing operations (TLTRO III) have been changed, in particular with a 50 b.p. reduction of the rate to be applied to these operations between June 2020 and June 2021, allowing the rate to be applied to be -1% for banks that meet their lending objectives. At the same time, the maximum amount that each bank will be entitled to borrow has been raised to 50% of the eligible loans.

Figure 4 • Extraordinary Monetary Policy measures



Sources: Banco de Portugal and ECB

In terms of liquidity-providing operations, in order to allow wide participation from monetary policy counterparties, several measures have been taken to extend the collateral framework. The discount applied to the evaluation of these assets was substantially reduced and the criteria for accepting non-marketable assets became more flexible. For accepting marketable assets, the ECB grandfathered, until September 2021, the eligibility of marketable assets used as collateral in Eurosystem credit operations falling below current minimum credit quality requirements, in order to limit the impact of possible downgrades in the future and may accept collateral that has lost its investment grade, as long as the new rating meets a minimum level of quality[31]. Among other measures, the ECB also announced a new series of longer-term refinancing operations associated with the pandemic emergency, known as Pandemic Emergency Longer-Term Refinancing Operations (PELTRO), in order to ensure sufficient liquidity in the euro area financial system and the stability of money market conditions during the pandemic.[32]

As for the purchase of debt securities, the Pandemic Emergency Purchase Programme (PEPP) is limited to a maximum of EUR 1,350 billion and is expected to last until at least June 2021, with matured amounts expected to be reinvested. In addition to the amount and time limit, this programme takes a flexible approach and relaxes some of the limits in existing asset purchase programmes.[33] These measures mitigate the risk of potential fragmentation in the euro area's government debt securities markets, similar to what was observed during the sovereign debt crisis in 2010-12, which disrupted the monetary policy transmission mechanism.

Successive changes to the monetary policy framework reflect how the Eurosystem adapted its response to the economic impacts of the pandemic crisis by increasing the size of its asset

[31] https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200422_1~95e0f62a2b.en.html.

[32] https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.mp200430~1eaa128265.en.html.

[33] In addition to medium and long-term debt, national central banks have been able to acquire short-term securities and Greek debt securities. Furthermore, although purchases are made on the basis of each country's capital key in the ECB, deviations are allowed throughout the programme between jurisdictions and asset classes, and it was also decided not to apply the limits that were in force for the purchase of public debt and that prevented the purchase of more than 33% of an issue or of the total debt issued by a given State. The private sector debt purchase programme has been extended to include the acquisition of short-term securities, i.e. commercial paper.

purchase programmes, adjusting their composition and duration, and exploring the options available within its mandate.

As a general rule, monetary authorities in other jurisdictions have also responded to the pandemic by implementing expansionary monetary policy measures, either by lowering interest rates or by intensifying and broadening the scope of asset purchases (such as the US Federal Reserve, the Bank of Japan and the Bank of England). Liquidity-providing measures for the financial system also included coordinated action between major international central banks, including the US Federal Reserve, the Bank of Japan and the Bank of England, for the provision of dollars at a lower than usual interest rate.

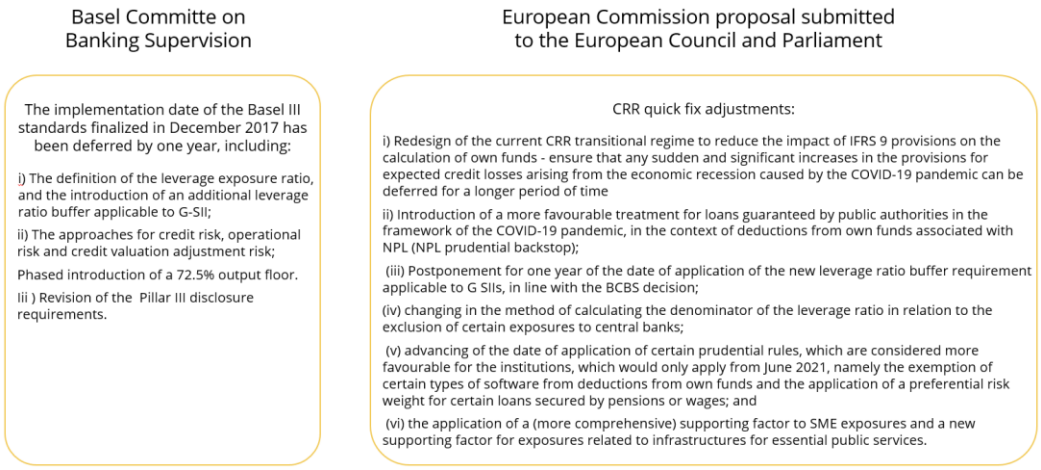
In addition, in the United Kingdom,[34] the Treasury and the Bank of England have announced the possibility of extending the existing credit line. This facility enables temporary financing of the Treasury, avoiding the need to resort to the public debt market at times of potential – albeit short-term – illiquidity, with the obligation to have the account settled at the end of each year.

In short, the authorities responsible for conducting monetary policy have acted quickly and significantly, ensuring broad liquidity provision to the banking sector at very low interest rates and promoting the functioning and non-fragmentation of private and public debt markets and the financing of the economy.

2.4 Prudential and supervisory policy measures in the banking sector

As a reaction to the materialisation of risks caused by the pandemic, regulatory and supervisory authorities have been implementing several measures to help banks ensure the flow of credit to the economy and maintain their loss-absorbing capacity (Figure 5).

Figure 5 • Changes to the regulatory framework



Sources: Banco de Portugal; BCBS and EC.

In terms of international guidelines, the Basel Committee on Banking Supervision (BCBS) has announced the postponement of the adoption of revisions to Basel III framework agreements for

[34] https://www.bankofengland.co.uk/news/2020/april/hmt-and-boe-announce-temporary-extension-to-ways-and-means-facility.

one year, particularly, revisions to the calculation of the leverage ratio and to the new leverage ratio buffer requirement applicable to global systemically important institutions (G-SIIs), the revision of the approaches for credit risk, operational risk and credit valuation adjustment risk, the introduction of a 72.5% output floor, and disclosure requirements under Pillar 3.[35] Consequently, the expected date of entry into force of these revisions is 1 January 2023, while the output floor will be phased in by 1 January 2028.

The BCBS also issued guidelines to relieve the impact associated with the COVID-19 pandemic, including prudential treatment of some measures adopted by governments with an impact on the banking sector and the expected loss calculation.[36]

On 28 April the European Commission submitted to the Council and the European Parliament a proposal for a Regulation[37] amending the European regulatory framework (Capital Requirements Regulation – CRR)[38] in a fairly limited manner, in order to take a set of measures in response to the COVID-19 pandemic ("CRR quick fix adjustments").

This proposal's main objective is to maximise the ability of credit institutions to grant loans and absorb losses in relation to the COVID-19 pandemic while preserving their resilience, and applies to the following: (i) redesign of the current CRR transitional regime to reduce the impact of IFRS 9 provisions on the calculation of own funds, in order to ensure that any sudden and significant increases in the provisions for expected credit losses arising from the economic recession caused by the COVID-19 pandemic can be deferred for a longer period of time; (ii) introduction of a more favourable treatment for loans guaranteed by public authorities in the framework of the COVID-19 pandemic, in the context of deductions from own funds associated with non-performing exposures (NPL), commonly referred to as NPL prudential backstop; (iii) postponement for one year of the date of application of the new leverage ratio buffer requirement applicable to G-SIIs, in line with the BCBS decision; (iv) changing in the method of calculating the denominator of the leverage ratio in relation to the exclusion of certain exposures to central banks, with a view to increasing the effectiveness of the transmission of monetary policy measures; (v) advancing of the date of application of certain prudential rules, which are considered more favourable for the institutions, which would only apply from June 2021, namely the exemption of certain types of software from deductions from own funds and the application of a preferential risk weight for certain loans secured by pensions or wages; and (vi) the application of a (more comprehensive) supporting factor to SME exposures and a new supporting factor for exposures related to infrastructures for essential public services.

With regard to microprudential supervisory authorities, the ECB – for significant institutions under its direct supervision – and the Banco de Portugal – with regard to less significant institutions subject to its supervision – allow such institutions to temporarily operate below Pillar 2 Guidance and the combined buffer requirement, and with liquidity levels below the liquidity coverage requirement.[39] Additionally, microprudential supervisory authorities have publicly communicated their intention to adopt a flexible approach to approving the institutions' capital conservation plans

[35] Communication from the Basel Committee's Group of Central Bank Governors and Heads of Supervision (GHOS) available at https://www.bis.org/press/p200327.htm.

[36] Available at https://www.bis.org/bcbs/publ/d498.htm.

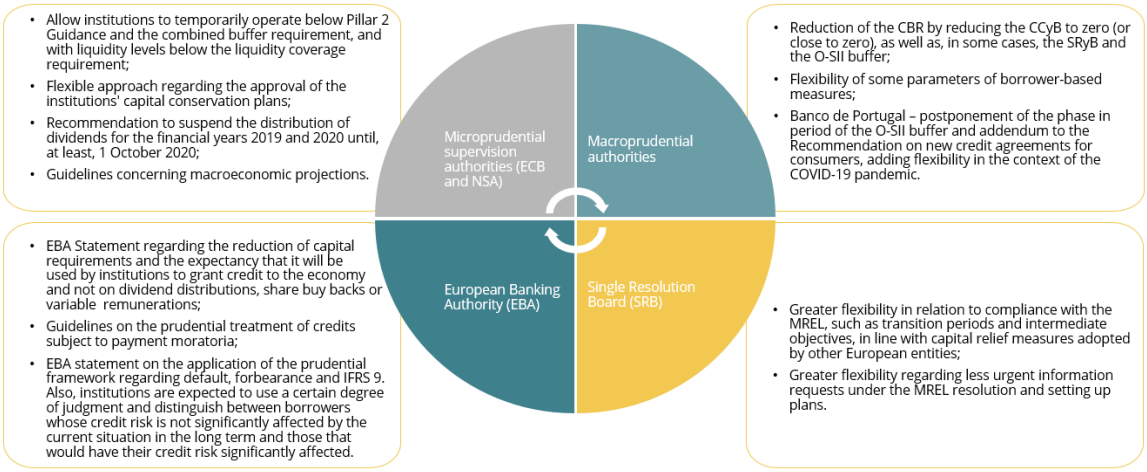
[37] Communication available at https://ec.europa.eu/commission/presscorner/detail/pt/qanda_20_757.

[38] The proposal includes amendments to Regulations (EU) No 575/2013 and 876/2019 of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms.

[39] The measures adopted by the ECB are available at https://www.bankingsupervision.europa.eu/press/pr/date/2020/html/ssm.pr200312~43351ac3ac.en.html and the Banco de Portugal press release can be found at https://www.bportugal.pt/en/comunicado/press-release-banco-de-portugal-covid-19-response-measures.

by strengthening incentives for them to use the combined capital buffer requirement.[40] In addition, they recommended all credit institutions within their supervisory perimeter to suspend the distribution of dividends for the financial years 2019 and 2020 until at least 1 October 2020.[41] Finally, the ECB announced that a measure envisaged in CRD V (the European Directive on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms[42]) would be brought forward, according to which directly supervised significant institutions are allowed to partially use capital instruments that do not qualify as CET1 to meet the specific capital requirement imposed by the supervisor (Pillar 2 requirement). This measure was initially scheduled to come into effect in January 2021. With regard to non-significant institutions under the direct supervision of the Banco de Portugal, this measure is already in force (Figure 6).

Figure 6 • Supervisory measures adopted by supervision and resolution authorities



Sources: Banco de Portugal; EBA,ECB and SRB

In terms of credits subject to payment moratoria, the EBA issued Guidelines,[43] followed by the Banco de Portugal,[44] on the prudential treatment of these operations. These Guidelines establish the terms and conditions that the extension of payment terms inherent in credit obligations, associated with public and private moratoria created in the context of the COVID-19 pandemic, should fulfil in order not to trigger classification as default of an obligor or the definition of

[40] On 20 March 2020, in the FAQs published on its website, the ECB reiterated that "(...) *in these difficult times, all capital buffers including the CCB may be used to withstand potential stress, in line with the initial intentions of the international standard setter on the usability of the buffers further specified that (...) " and further specified that "the ECB will take a flexible approach to approving capital conservation plans that banks are legally required to submit if they breach the combined buffer requirement.*" See https://www.bankingsupervision.europa.eu/press/pr/date/2020/html/ssm.pr200320_FAQs~a4ac38e3ef.en.html and https://www.bankingsupervision.europa.eu/press/pr/date/2020/html/ssm.pr200320~4cdbbcf466.en.html.

[41] Press release available at https://www.bportugal.pt/comunicado/comunicado-do-banco-de-portugal-sobre-recomendacao-de-nao-distribuicao-de-dividendos and https://www.bankingsupervision.europa.eu/press/pr/date/2020/html/ssm.pr200327~d4d8f81a53.en.html.

[42] Available at https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019L0878&from=EN.

[43] EBA/GL/2020/02 of 2 April 2020. Available at https://eba.europa.eu/sites/default/documents/files/document_library/Publications/Guidelines/2020/Guidelines%20on%20legislative%20and%20non-legislative%20moratoria%20on%20loan%20repayments%20applied%20in%20the%20light%20of%20the%20COVID-19%20crisis/882537/EBA-GL-2020-02%20Guidelines%20on%20payment%20moratoria.pdf.

[44] Circular Letter No CC/2020/00000022, implementing EBA Guidelines on legislative and non-legislative moratoria on loan repayments applied in light of the COVID-19 crisis, available at https://www.bportugal.pt/sites/default/files/anexos/cartas-circulares/408296740_3.docx.pdf.

forbearance measure, in accordance with the CRR and the EBA Guidelines on the application of the definition of default under Article 178 of the CRR.

The publication of these Guidelines was preceded by an EBA statement on the application of the prudential framework regarding default, forbearance and IFRS 9. In this statement, the EBA also points out that, by applying IFRS 9, institutions are expected to use a certain degree of judgment and distinguish between borrowers whose credit risk is not significantly affected by the current situation in the long term and those that would have their credit risk significantly affected.[45] This intends to mitigate the pro-cyclical potential behaviour of the provisioning rules inherent in this accounting standard. This recommendation is in line with the more general BCBS guideline mentioned above on the importance of not mechanically applying the accounting framework information in the estimate of expected losses.

ECB communications (SSM) were also relevant, providing the institutions subject to the ECB's supervision with guidance and references on the use of macroeconomic projections to avoid the use of overly pro-cyclical assumptions in estimating expected credit losses during the period covered by the COVID-19 pandemic. This measure takes into account the current context of greater uncertainty and very limited availability of reasonable and sustainable forward-looking information on the impact of the pandemic.[46]

At the macroprudential policy level, some authorities have reduced the combined capital buffer requirement (CBR) by reducing the countercyclical capital buffer (CCyB) to zero (or close to zero), as well as, in some cases, the systemic risk buffer (SRyB) and the buffer for systemically important institutions at national level (O-SII).[47] The Banco de Portugal has kept the countercyclical capital buffer at zero and decided to postpone the phase-in period of the capital buffer for other systemically important institutions. Therefore, the requirement for 1 January 2021 will equal the requirement in force since 1 January 2020.[48]

In line with some of the measures mentioned above and aiming at providing liquidity to households, the Banco de Portugal has decided to include an addendum to the macroprudential Recommendation on new credit agreements for consumers in the context of the COVID-19 pandemic. Thus, personal loans with maturities of up to two years and duly identified as intended to mitigate temporary liquidity shortages faced by households in the current context will no longer have to comply with a DSTI ratio limit and are also exempted from observing the recommendation of regular principal and interest payments. This measure applies to new personal credit granted between 1 April and 30 September 2020, when its adequacy will be reviewed by the Banco de Portugal. This addendum is complementary to the flexibility elements already available, which can be used in a stress scenario.[49]

The use of capital buffers may be conditioned by the existence of other parallel requirements, such as the leverage ratio, which are compulsory as a minimum requirement as of June 2021 and

[45] See https://www.bportugal.pt/comunicado/covid-19-autoridade-bancaria-europeia-emite-declaracao-sobre-aplicacao-do-quadro and https://eba.europa.eu/eba-provides-clarity-banks-consumers-application-prudential-framework-light-covid-19-measures.

[46] https://www.bankingsupervision.europa.eu/press/pr/date/2020/html/ssm.pr200320~4cdbbcf466.en.html and https://www.bankingsupervision.europa.eu/press/letterstobanks/shared/pdf/2020/ssm.2020_letter_IFRS_9_in_the_context_of_the_coronavirus_COVID-19_pandemic.en.pdf?b543f9408a8480e04748a3b0185d8cf3.

[47] Within the regulatory framework in force in the EU, the combined requirement for the buffer for systemic risk and other systemically important institutions at national level is the larger of the two. Thus, in some countries it was necessary to take into account the two requirements in a coordinated manner in order to reduce the combined buffer requirement.

[48] This macroprudential measure is detailed in the section Macroeconomic policy of this Report. The Banco de Portugal press release is available at https://www.bportugal.pt/en/comunicado/press-release-banco-de-portugal-decision-postpone-phase-period-capital-buffer-other.

[49] For further details see information available at https://www.bportugal.pt/en/page/ltv-dsti-and-maturity-limits.

the requirement for own funds and eligible liabilities under the banking resolution framework (MREL).[50] Therefore, the Single Resolution Board (SRB) has announced a package of supporting measures, including greater flexibility in relation to compliance with the MREL, such as transition periods and intermediate objectives, in line with capital relief measures adopted by other European entities (e.g. ECB), as well as less urgent information requests under the MREL resolution and setting-up plans.[51]

Taking into account the EBA's decision to postpone the 2020 EU-wide stress test,[52] the ECB and the Banco de Portugal have suspended similar work that was underway regarding institutions within the respective supervisory perimeters.[53] The ECB has also noted that the guidelines for each institution's reduction plans for non-performing exposures (NPLs) contain elements of flexibility, and the plans can be adapted to the exceptional circumstances caused by the pandemic. In addition, in-person activity related to supervision has been postponed and deadlines for institutions to report and answer customer complaints have been extended.

In order to ensure that banking services are available at all times and to preserve financial stability, banks are required, under the Legal Framework of Credit Institutions and Financial Companies (*Regime Geral das Instituições de Crédito e Sociedades Financeiras* – RGISCF), to have contingency and business continuity plans in place. These are meant to ensure their ability to operate on an ongoing basis and limit losses in the event of severe business disruption. In this context, the ECB – for significant institutions – and the Banco de Portugal – with regard to less significant institutions – have requested that these institutions take appropriate preventive measures to ensure the continuity of their business and the containment of financial losses in a pandemic situation. In addition, relevant deficiencies detected as a result of procedures to verify these institutions' readiness to cope with the current circumstances must be immediately reported, as well as the occurrence of COVID-19-related events with a significant negative impact on the institution.[54]

2.5 Supervisory policy measures in the non-banking segment of the financial sector

In line with the measures described in the previous sub-sections, at European level, the European Insurance and Occupational Pensions Authority (EIOPA) has recommended that insurance undertakings assess the possibility of firms and households experiencing liquidity constraints being able to postpone payments of premiums without suspending insurance and without jeopardising the solvency of insurance undertakings. In Portugal, a moratorium has been established which makes the payment of insurance premiums more flexible, as described above.[55]

In addition, the Government decided to authorise redemption without penalty of retirement savings funds (PPR, in its Portuguese acronym) to households particularly affected by the COVID-19

[50] As discussed in Special issue "Interaction of minimum regulatory requirements with the capital buffer requirement" of this Report.

[51] Details available at https://srb.europa.eu/en/node/966.

[52] https://eba.europa.eu/eba-statement-actions-mitigate-impact-covid-19-eu-banking-sector.

[53] https://www.bportugal.pt/en/comunicado/press-release-banco-de-portugal-covid-19-response-measures and https://www.bankingsupervision.europa.eu/press/pr/date/2020/html/ssm.pr200312~43351ac3ac.en.html.

[54] The package of measures adopted by the ECB-SSM and the EBA are available respectively at https://www.bankingsupervision.europa.eu/home/search/coronavirus/html/index.en.html#item3 and https://eba.europa.eu/coronavirus.

[55] The details of this payment moratorium can be found in Section 2.2 of this Special issue.

pandemic, up to a monthly limit of EUR 429, corresponding to the amount of the Social Support Index.[56] This possibility is in force until 30 September 2020.

The Portuguese Insurance and Pension Funds Supervisory Authority (Autoridade de Supervisão de Seguros e Fundos de Pensões – ASF) has also recommended that insurance undertakings and pension fund managers refrain from distributing dividends or making other management decisions that could lead to the reduction of own funds and loss-absorbing capacity. Additionally, the ASF has relaxed the calendars for information reporting and public disclosure, has recommended that insurance undertakings adjust their contingency plans to ensure their operational capability and has suspended all inspections scheduled for 2020. With regard to Pension Funds, the ASF has recommended that redemptions be particularly monitored and that customers be informed of penalties in case of early redemption.[57]

At the EU level, some national supervisory authorities for securities markets have temporarily suspended short selling operations of certain securities as a means of limiting the fall in price indices. In tandem with these suspensions, the reporting threshold for these transactions has been reduced by the European Securities and Markets Authority (ESMA).[58] With regard to the implementation of IFRS, ESMA has issued a statement with additional guidance on some accounting implications of the economic support and relief measures adopted by the EU Member States in response to the COVID-19 outbreak.[59]

In Portugal, the Portuguese Securities Market Commission (Comissão do Mercado de Valores Mobiliários – CMVM) has issued recommendations to issuers on the adoption of principles of quality of financial information provided, as well as recommendations on sustainability in dividend, remuneration and operational resilience policies.[60]

2.6 Measures by the European Systemic Risk Board

In view of the economic and financial impacts of the COVID-19 pandemic crisis, the European Systemic Risk Board (ESRB) has established and communicated[61] the priority areas within its mandate, i.e. preserving financial stability at each Member State and European level. The five priority areas established by the ESRB are: (i) implications for the financial system of public guarantee schemes for credit granting and other governmental measures to support the economy; (ii) market illiquidity and implications for asset managers and insurers; (iii) impact of general downgrades of bonds on markets and issuing entities; (iv) restraints on dividend payments, share buybacks and other payouts; and (v) liquidity risks arising from margin calls across centrally

[56] Law No 7/2020 of 10 April 2020, establishing exceptional and temporary regimes to respond to the SARS-CoV-2 epidemic and introducing the first amendment to Decree-Law No 10-I/2020, of 26 March 2020, and the fourth amendment to Law No 27/2007 of 30 July 2007; Article 7 – Redemption of retirement savings plans.

[57] For insurance undertakings, see Circular Letter No 2/2020 of the ASF, available at https://www.asf.com.pt/NR/rdonlyres/E4435E9E-5587-4F1E-A6AC-977452D4D638/0/CartaCircular2_2020de30demar%C3%A7o.pdf. For Pension Funds, see Circular Letter No 4/2020, available at https://www.asf.com.pt/NR/rdonlyres/58DAE1BA-D274-4C2D-87C5-ED043E9A0784/0/CartaCircularnr42020.pdf.

[58] The package of measures adopted by ESMA is available at https://www.esma.europa.eu/node/90557, including the temporary ESMA guidelines for short selling operations (https://www.esma.europa.eu/sites/default/files/library/esma70-155-9546_esma_decision_-_article_28_ssr_reporting_threshold.pdf), as well as the mitigation measures adopted by national authorities.

[59] Available at https://www.esma.europa.eu/press-news/esma-news/esma-issues-guidance-accounting-implications-covid-19.

[60] Available at https://www.cmvm.pt/en/Legislacao/National_legislation/Recommendations/Pages/2020414m.aspx.

[61] Communication available at https://www.esrb.europa.eu/news/pr/date/2020/html/esrb.pr200409~a26cc93c59.en.html.

cleared and over-the-counter (OTC) derivative markets. The ESRB subsequently released policy measures adopted in the meantime with the aim of fulfilling this mandate.[62]

With regard to implications for the financial system of public guarantee schemes for credit granting and other governmental measures to support the economy, the ESRB considers the dialogue between governments and macroprudential authorities at an early stage in the design and implementation of these measures to be essential, in order to adapt them to the ultimate objective of preserving financial stability. As such, the ESRB has sent a letter to the EU Finance Ministers, via ECOFIN, to drive and promote such dialogue.[63] On 8 June 2020 the ESRB issued a Recommendation on monitoring the financial stability implications of measures adopted on this subject by establishing a minimum sharing of information based on common reporting.[64]

In terms of implications of market illiquidity for asset managers and insurers, the ESRB has sent a recommendation to ESMA to assess the resilience of the financial intermediaries most exposed to this risk, in coordination with the national market supervisory authorities.[65] In this context, the ESRB has also issued a public statement in which it emphasises the importance of investment fund managers using the liquidity management tools at their disposal in a timely manner.[66] Among the ESRB recommendations to ESMA and the national competent authorities (accompanied and supported by ESMA and the CMVM), due to their relevance to capital markets, the following recommendations on liquidity risks in investment funds are noteworthy:[67] (i) coordination of supervisory measures by national competent authorities and ESMA, at European level, on the exposure and vulnerabilities of investment funds to private debt and the real estate market; (ii) support for the streamlining of liquidity management mechanisms by entities more exposed to less liquid assets, in particular asset and investment fund management entities; (iii) impact assessment at European level of downgrades in various segments of the financial system, coordinated by the ESRB in cooperation with the European supervisory authorities.[68]

The ESRB has also issued a Recommendation on restrictions of dividend payments, share buybacks and other payouts, which covers banks, some investment firms, insurance and reinsurance undertakings and central clearing counterparties (CCP), taking into account the role played by these institutions in supporting the economy through financial intermediation activities and their support.[69] This Recommendation aims at ensuring a uniform approach to these restrictions, both at EU level and in terms of the various financial sub-sectors.

[62] https://www.esrb.europa.eu/news/pr/date/2020/html/esrb.pr200514~bb1f96a327.en.html and https://www.esrb.europa.eu/home/coronavirus/html/index.en.html.

[63] https://www.esrb.europa.eu/pub/pdf/other/esrb.letter200514_ESRB_work_on_implications_to_protect_the_real_economy~e67a9f48ca.en.pdf.

[64] Recommendation available at https://www.esrb.europa.eu/pub/pdf/recommendations/esrb.recommendation200608_on_monitoring_financial_implications_of_fiscal_support_measures_in_response_to_the_COVID-19_pandemic_3~c745d54b59.en.pdf.

[65] https://www.esrb.europa.eu/pub/pdf/recommendations/esrb.recommendation200514_ESRB_on_liquidity_risks_in_investment_funds~4a3972a25d.en.pdf.

[66] https://www.esrb.europa.eu/home/coronavirus/shared/pdf/esrb.publicstatement200514_on_the_use_of_liquidity_management_tools_by_investment_funds_with_exposures_to_less_liquid_assets.en.pdf.

[67] ERSB Recommendation of 6 May 2020, available at https://www.esrb.europa.eu/pub/pdf/recommendations/esrb.recommendation200514_ESRB_on_liquidity_risks_in_investment_funds~4a3972a25d.en.pdf.

[68] Analysis document on issues raised by general downgrades available at https://www.esrb.europa.eu/pub/pdf/reports/esrb.report200514_issues_note~ff7df26b93.en.pdf.

[69] Available at https://www.esrb.europa.eu/pub/pdf/recommendations/esrb.recommendation200608_on_restriction_of_distributions_during_the_COVID-19_pandemic_2~f4cdad4ec1.en.pdf.

In terms of the liquidity risks arising from margin calls across centrally cleared or over-the-counter (OTC) derivative markets, the ESRB has issued a Recommendation[70] covering several aspects of this issue, namely: i) the need to limit cliff effects arising from a sudden rise in collateral, both in terms of CCP members and their clients; (ii) a sub-recommendation to ESMA that the stress tests to which CCPs are subject include scenarios to assess their future liquidity needs; (iii) guidelines to limit difficulties related to margin calls on an intraday basis by CCPs; and (iv) the development of international guidelines that mitigate procyclicality in the provision of clearing services to CCP clearing members' clients and in securities financing transactions (SFT).

3 Impacts and transmission mechanisms of government measures

As described in the previous points, a wide range of complementary measures, with differing impacts and transmission mechanisms both for firms and households and, indirectly, for the financial sector, have been adopted in a very short period of time.

The effectiveness of the set of adopted policy measures depends both on their size and on qualitative factors such as conditions for access, costs incurred by the use of aid and duration of measures, including a potential extension or renewal. In addition, operational requirements may place constraints on the speed at which these measures are implemented, which is crucial under the present circumstances.

Although it is still premature to assess the effectiveness of measures implemented in several European countries, it is possible to compare the size and nature of these measures. On the one hand, in view of the characteristics and transmission mechanisms of adopted policies, there may be aspects that might lead to an unlevel playing field among EU countries, resulting in a worsening of pre-existing inequalities among countries. On the other, it is also important to determine what limitations may have been introduced in the implementation of measures, taking into account potential consequences for public finances in each Member State. These aspects will be analysed in this Section.[71]

3.1 Characteristics of measures and distribution of costs among economic agents

A part of the measures adopted by European governments sets out a redistribution of costs among the State and the other economic agents (households, firms and the financial sector) with a direct impact on the general government fiscal balance and also across time.[72] In terms of fiscal policy, in addition to the impact of automatic stabilisers, governments introduced one-off measures to support household income[73] and firms, including, in a number of countries, direct grants to certain enterprise classes and, more broadly, the sharing of costs related to a temporary suspension of employment contracts (layoff) or the reduction in effective working hours (Figure 7).

[70] Available at https://www.esrb.europa.eu/pub/pdf/recommendations/esrb.recommendation200608_on_liquidity_risks_arising_from_margin_calls~41c70f16b2.en.pdf.

[71] The analysis is circumscribed to measures relevant to financial stability adopted in the EU.

[72] In the remainder of this text, 'State' will be used in a broader sense to mean 'General government', which is particularly relevant in cases where public intervention is carried out by public institutions or the regional or local government. However, the decision is taken and financed by the State at centralised level.

[73] Including direct support to all households in a number of countries. This is the case of the United States and South Korea.

Public transfers to firms and households ensure effective cost sharing between the State and the other economic agents. However, these are limited by the sovereign's fiscal capacity, particularly in cases where the public debt-to-GDP ratio was already high before the pandemic crisis. It is therefore necessary to assess the stabilising impact of these measures on economic activity at different time horizons, given the repercussions for public debt sustainability over the medium term.

In turn, although, under determined circumstances, the granting of a direct loan or the participation in firms' equity by the State does not have a direct impact on the deficit, it increases, *ceteris paribus*, the public debt-to-GDP ratio. In addition, direct capital injections pose operational challenges, in particular in terms of their legal implementation, the degree of State intervention in the firm's management and their political connotation. Granting direct loans also leads to an increase in corporate debt and should be supported by creditworthiness assessments, which are not usually carried out by the State.

Liquidity-providing measures have been developed as a temporary support mechanism. Over a broader time horizon, however, if economic activity does not recover quickly, liquidity constraints might develop into solvency problems, which might lead to losses for the State and/or the financial sector. Within this context, while it is important to establish access conditions that will minimise adverse selection when granting aid, it is also necessary to assess the ability of households to service debt and the economic and financial viability of firms. Given the levels of debt already accumulated by many firms, aid in the form of loans might not be the most appropriate financing instrument for firms.

Figure 7 • Impact and transmission mechanism of governmental measures adopted to support the private non-financial sector

Source: Banco de Portugal.

3.2 Economic impacts from public guarantees to bank loans

Initially, providing public guarantees to bank loans is a way of overcoming constraints inherent to the State's budgetary capacity, while also leaving borrower creditworthiness assessments to institutions specialised in this area. Indeed, providing guarantees as a means of supporting firms has several advantages. First, the State takes on part of the risk, thereby reducing the probability of credit institutions needing support later on. Likewise, the provision of guarantees allows credit to be granted to firms at a relatively low cost. In addition, these exposures will benefit from a substantially lower regulatory capital requirement, freeing capital for the banking sector to continue granting credit to the economy and/or absorb potential losses. Additional monetary policy measures have been introduced, encouraging credit to the economy at lower funding rates. Consequently, credit lines with State guarantees may boost the effects of monetary policy. Lastly, as mentioned before, by channelling credit through credit institutions, the involvement of institutions specialised in assessing borrower creditworthiness is ensured.

Indeed, credit institutions are subject to a harmonised set of international rules and recommendations in terms of credit risk assessment procedures, which were in fact strengthened in the wake of the previous economic and financial crisis, given their importance in preventing substantial increases in non-performing assets in the future. In particular, when granting new loans, institutions must carry out a stringent assessment of the borrowers' creditworthiness using robust and prudent assessment criteria which, without disregarding any guarantees or collateral that may be linked to said loans, essentially take into account the borrower's ability to repay their debt in the future. Furthermore, recently adopted measures to explore the existing flexibility of prudential regulations and accounting standards in response to the COVID-19 pandemic (described in Subsection 2.4 above) do not jeopardise in any way the rules and recommendations mentioned above, whose implementation will continue to be monitored by competent supervisory authorities.

However, despite their potential positive impact on economic activity, these loans with public guarantees are still a contingent liability for the State and the amount involved is uncertain. In addition, this type of aid leads to increased corporate debt and may result in an increase in the financial vulnerability of firms, particularly in a context of high uncertainty surrounding the duration of the pandemic and consequently the recovery in economic activity and the ability of firms to generate sufficient income to service debt. It is therefore necessary to assess *ex-ante* the economic and financial viability of firms and select the most appropriate tools to finance firms: capital or credit.

Looking ahead, excessive debt ratios tend to limit investment, hampering economic growth. Furthermore, the expiration of public guarantees poses transitional challenges (cliff effects), where a number of firms might not be able to roll over their loans if no public guarantee is attached to the loan. In addition, credit institutions may have incentives to call on guarantees before loans mature, with a sudden and pronounced impact on the sovereign's fiscal position.[74]

The context of heightened uncertainty increases the risk of the State having to bear significant losses in the future, which affects the sustainability of public finances and may hamper access by the sovereign to financing in public debt markets. We can also see that the provision of public guarantees leads to an increase in the nexus between the sovereign and the financial sector, which may result in amplified risks to financial stability both via the devaluation of the portfolio of government bonds and Treasury securities held by the financial sector and via a lower capacity of

[74] https://voxeu.org/article/unintended-effects-loan-guarantees.

the sovereign to support the financial sector if necessary. The materialisation of these risks is highly dependent on how effective State-guaranteed credit lines are in boosting economic recovery.

In turn, little intervention by governments in terms of this type of loan, guaranteed by the State, may make it necessary to conduct future interventions directly on the financial sector, in a very strict regulatory environment at European level. In this respect, there has been little flexibility by European institutions on direct public support measures to the financial sector.[75] In addition, firms located in countries with less State support, which may fall short of what is required to preserve their productive capacity, will tend to be less able to remain viable. In the medium term, this may propagate to the financial sector and increase risks to financial stability.

The final outcome will largely depend on the economy's recovery profile and the ability to limit moral hazard from excessive risk-taking by credit institutions, as well as adverse selection when granting a State-guaranteed loan. As described above, the Temporary Framework for State aid takes into account this aspect by providing support only to firms that were viable prior to the start of the pandemic.[76]

3.3 Brief international comparison of measures adopted by each country

The specific combination of measures adopted by each country will tend to depend on their policy options, but might also depend on the State's fiscal capacity. It is therefore important to assess how these constraints may have affected measures taken within the context of the pandemic crisis. For this purpose, a sample of several euro area countries was chosen, namely Germany, Belgium, Spain, Finland, France, Italy and Portugal (Table 2).

All countries considered in the sample have implemented support measures aimed at preserving employment and other subsidies, the deferral of tax payments and social contributions, and State-guaranteed loans. Moratoria on principal and interest applied to loans were not created in the same way in all countries under review. Belgium and France do not have public moratoria, but rather private initiatives. Not all countries have adopted direct loans by the State and recapitalisation measures for non-financial corporations. However, this situation may change with the inclusion of these measures in the Temporary Framework for State aid.

[75] See paragraphs 6 and 7 of the Communication from the European Commission of 20 March 2020, available at https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020XC0320(03)&from=EN.

[76] In Portugal, requirements regulating guaranteed credit lines exclude loans for financial restructuring, replacement of already existing loans, or investment. In addition, beneficiaries need to have a positive net position in the last approved balance sheet or interim balance sheet by the date of submission of their application, cannot have any outstanding credit events and must have all tax and social security obligations duly fulfilled as at 1 March 2020. The existence of counter-guarantees from mutual guarantee companies and the need for a prior risk assessment by the Sociedade Portuguesa de Garantia Mútua (Portuguese mutual guarantee company) may mitigate risks of adverse selection and excessive risk-taking by financial institutions. Lastly, see above for the requirements on credit risk assessments complied with by financial intermediaries, regardless of whether the loans benefit from a public guarantee.

Table 2 • Combination of measures adopted by each country

Country	Type of measures						
	Public transfers		Capital	Loans[(b)]	Deferral of taxes and social contributions	Public guarantees[(c)]	Legislative credit moratoria[(d)]
	Job support[(a)]	Other subsidies					
Belgium	√	√			√	√	√
Finland	√	√	√	√	√	√	
France	√	√	√	√	√	√	
Germany	√	√	√	√	√	√	√
Italy	√	√			√	√	√
Portugal	√	√		√	√	√	√
Spain	√	√		√	√	√	√

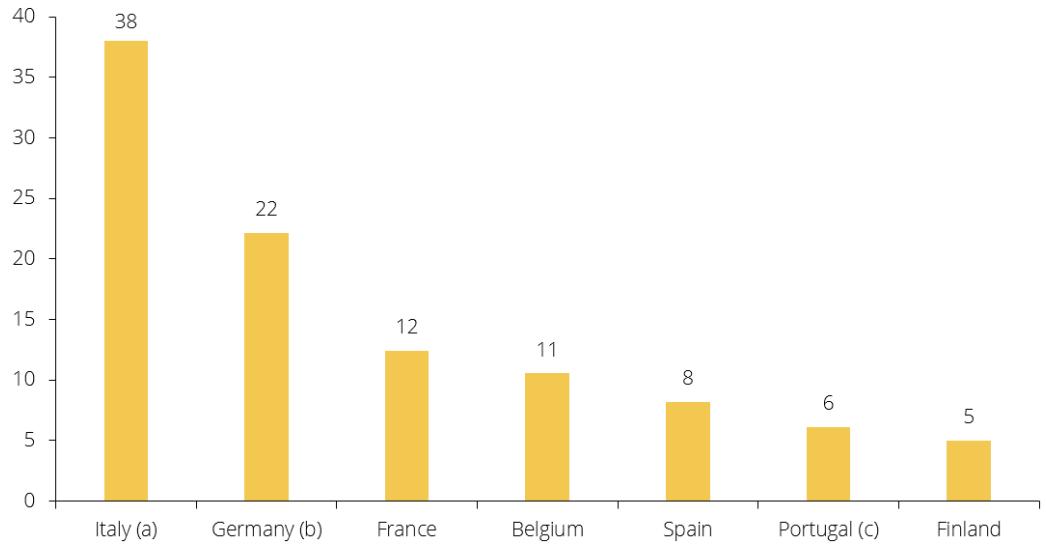
Source: International Monetary Fund (IMF). | Notes: (a) Including temporary suspension of employment (layoff). (b) Loans granted directly by entities in the General Government. (c) Public guarantees to loans granted by the banking sector. (d) Credit moratoria, which may include capital and interest.

In addition, there are considerable differences even in the definition of measures adopted at the same time in several EU Member States. According to data provided by the European Commission, as at 3 June 2020, total State support measures adopted under recent European Commission Communications amounted to EUR 2.19 trillion, a considerable share of which in Germany. However, it is particularly difficult to conduct a quantitative comparison of measures such as support aimed at preserving employment, deferrals of taxes and social contributions, moratoria on loans or State-guaranteed loans, given that complete data are not yet available on the implementation of these measures and only a few estimates are available.

As for State-guaranteed bank loans, it is possible to compare maximum approved amounts for each country, which range from 38 to six,[77] as a percentage of GDP, in Italy and Finland respectively, with Portugal having one of the lowest ratios, six per cent of GDP (Chart 1). In addition, significant disparities may be observed in (i) guarantee coverage; (ii) maximum amount granted per firm; (iii) maximum maturity; and (iv) cost of guarantees.

[77] This percentage corresponds to the amount of guaranteed loans approved by the European Commission under the Temporary Framework for State aid, facilitating comparison with the remaining countries considered in the sample. Thus far, the Portuguese government has used €6.2 billion under this framework, in the form of guaranteed credit lines, corresponding to 3% of the Portuguese GDP in 2019. Credit lines to the amount of EUR 400 million have also been approved as part of the *Capitalizar* 2018 – COVID-2019 Programme aimed at microenterprises and SMEs. (Table 1 of the Annex).

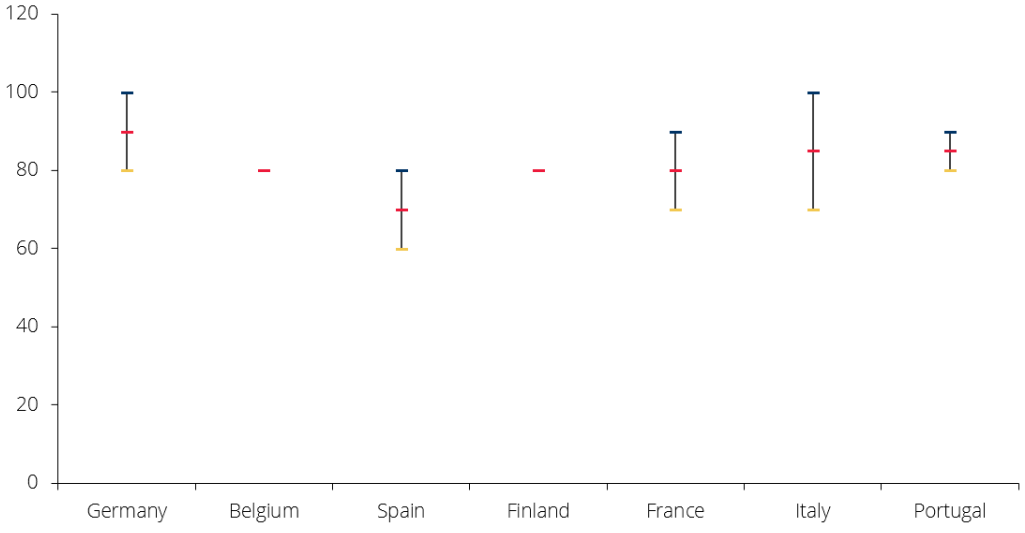
Chart 1 • State-guaranteed credit lines | Percentage of GDP (2019)



Sources: EC, ECB Statistical Data Warehouse and IMF (Banco de Portugal calculations). | Notes: (a) In the case of Italy, the public guarantee covering 33% of credit moratoria was excluded (b) Regarding Germany, there is no effective limit to public guarantees, however, to make the international comparison feasible the April 2020 IMF *Fiscal Monitor* data was considered; (c) The EC has authorized pubic guarantees to banking loans up to 13 billion euros, in accordance with the temporary framework on State aid.

The coverage rate of the public guarantee, as a percentage of credit granted to firms, will greatly influence risk sharing between credit institutions and the State, as well as the cost in terms of the regulatory capital these exposures entail for credit institutions. In the sample of countries selected, guarantee coverage ranges from 60% to 100% and vary widely even within the same country, with coverage being determined on the basis of firm size in most cases (Chart 2).

Chart 2 • State guarantee coverage | Percentage of the loan granted under this regime



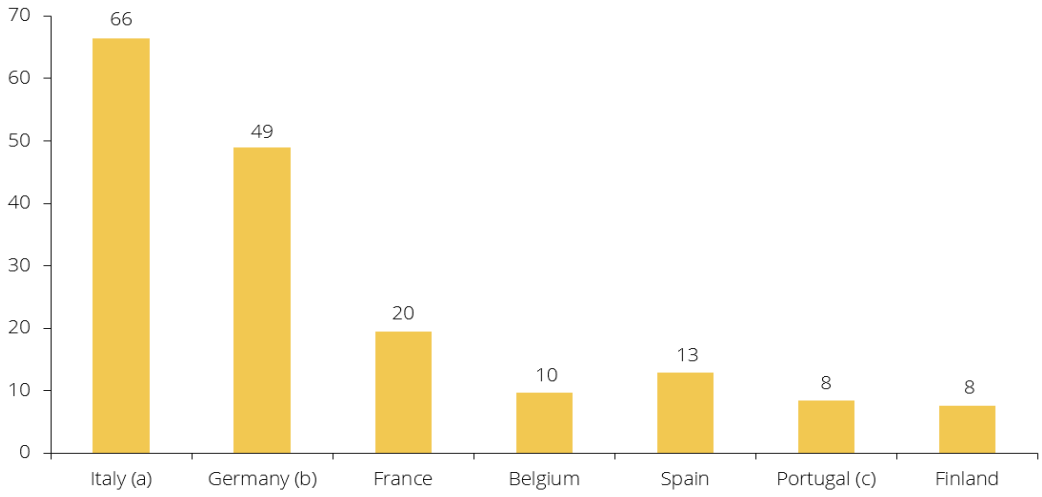
Sources: EC and IMF (Banco de Portugal calculations). | Notes: Within each country, the guarantee coverage varies according to the specific credit line and depending of the characteristics of beneficiaries, such as size and activity sector. Hence, the moustache box illustrates the range of the guarantee.

In terms of the maximum duration of the public guarantee, the Temporary Framework for State aid[78] establishes a maximum limit of six years (apart from exceptional situations set out in the amendment to the Framework in a Communication from the European Commission of 4 April).[79] Indeed, although most programmes comply with this maximum limit, there are programmes with a maximum duration of 10 years in Germany, whilst the guarantee programme in Belgium has a maximum duration of only 12 months. In Portugal, credit lines used under the European Commission's Temporary Framework for State aid (EUR 6.2 billion) have a maximum duration of six years, with a maximum grace period of 18 months.

In accordance with the framework applicable in the EU, the minimum guarantee premium varies depending on the credit risk margin, which is established according to the loan beneficiary[80] and increases in line with the loan's maturity. In Portugal, the credit line with a higher amount (Line COVID-19 – Support to Economic Activity, with a EUR 4.5 billion limit) has a guarantee cost with a variable spread depending on the loan's maturity (from 1% to 1.5% against the 1, 3, 6 or 12-month Euribor), a fixed management fee of 0.25% and a guarantee fee depending on the type of beneficiary and loan maturity.[81]

A comparison of countries on the basis of total loans granted to firms continues to show significant discrepancies. Indeed, discrepancies have increased, with the loan amount potentially covered by a public guarantee approved in Italy corresponding to around two-thirds of the total stock of loans in December 2019, compared with a potential limit of 49% in Germany and 8% in Portugal and Finland (Chart 3).

Chart 3 • State-guaranteed credit lines | Percentage of total credit granted to firms (2019)



Sources: EC, ECB Statistical Data Warehouse and IMF (Banco de Portugal calculations). | Notes: (a) In the case of Italy, the public guarantee covering 33% of credit moratoria was excluded; (b) Regarding Germany, there is no effective limit to public guarantees, however, to make the international comparison feasible the April 2020 IMF Fiscal Monitor data was considered; (c) The EC has authorized pubic guarantees to banking loans up to 13 billion euros, in accordance with the temporary framework on State aid.

[78] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020XC0320(03)&from=EN.

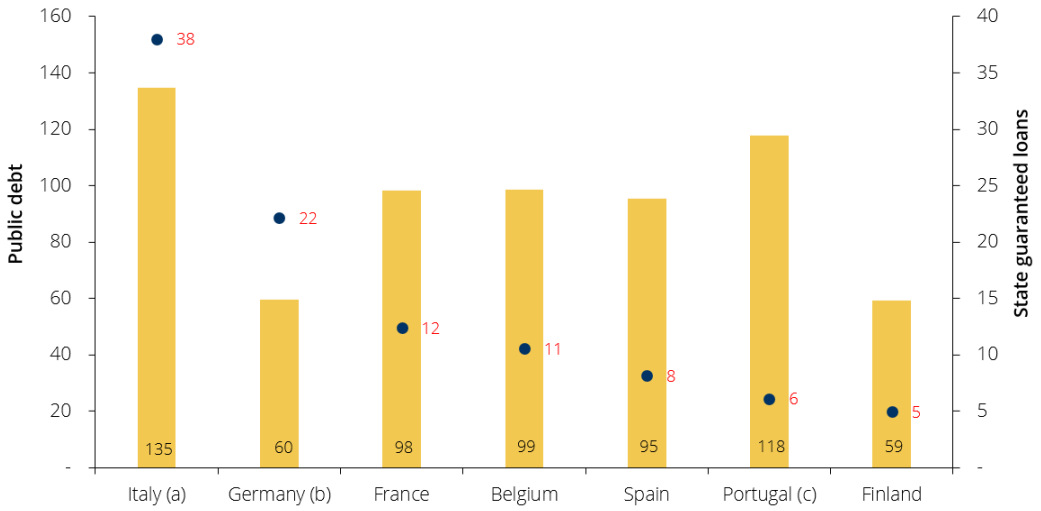
[79] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020XC0404(01)&from=EN.

[80] For all maturities, a large firm has double the minimum credit risk margin of an SME.

[81] https://financiamento.iapmei.pt/inicio/home/produto?id=e2919f1c-71a9-4a98-8b83-b3874b597bcc (in Portuguese only).

A simplified way of assessing whether fiscal capacity is effectively limiting the number of credit lines covered by public guarantees is to compare these with the public debt ratio in relation to GDP (Chart 4). Based on this analysis, the existence of a direct relation between the two variables cannot be ascertained. On the one hand, public guarantees are high in Germany, which might reflect the fiscal capacity shown by a low public debt-to-GDP ratio. On the other, although sovereign debt is very high in Italy, public guarantees are even higher.

Chart 4 • Public debt (bars, left scale) and guaranteed credit lines (dots, right scale)
| Percentage of GDP (2019)



Sources: EC, ECB Statistical Data Warehouse and IMF (Banco de Portugal calculations). | Notes: (a) In the case of Italy, the public guarantee covering 33% of credit moratoria was excluded; (b) Regarding Germany, there is no effective limit to public guarantees, however, to make the international comparison feasible the April 2020 IMF Fiscal Monitor data was considered; (c) The EC has authorized pubic guarantees to banking loans up to 13 billion euros, in accordance with the temporary framework on State aid.

The severe shock from the COVID-19 pandemic and the lockdown measures that have been adopted will probably have a permanent impact on several economic sectors, with differing paces of adjustment and recovery. The recovery profile is affected by different starting points, the depth of the initial shock and subsequent adjustment capacity, as well as the effectiveness of adopted policy measures.

Given the high uncertainty, it will be necessary to continue to assess whether measures adopted in Portugal are appropriate and sufficient to mitigate the economic impact of the pandemic crisis, by promoting business continuity, ensuring the sustainability of public finances and minimising future losses for credit institutions.

4 Possible future developments

The cause of this crisis is not specific to an economy, but rather cross-cutting. Likewise, it does not originate from macroeconomic or financial imbalances previously accumulated in a certain country or set of countries and is exogenous to the financial sector.

Initially, mitigating measures adopted were mostly governmental in nature. In the context of this crisis, these measures, which focus on the most affected sectors, are mitigating the amplification of the contagion effect from firms and households to the financial system. In addition, a significant share of measures is based on risk sharing between the State and the other economic agents, and there is considerable heterogeneity across European jurisdictions in the amount of aid, its legal form and the sectors that are subject to positive discrimination by governmental policies.

When developing and coordinating policies of a fiscal (or more broadly, governmental), monetary, regulatory and supervisory nature, the following four dimensions should be taken into account: (i) ensuring business continuity in the wake of the health crisis (preventing cash-flow difficulties in viable firms from leading to insolvency); (ii) limiting the decline in household disposable income and private consumption; (iii) safeguarding lending to the economy by the banking system and the financial system in general; (iv) ensuring the sustainability of public finances.

Financial sector policies mostly aim to boost the sector's financial intermediation capacity. In turn, monetary policy has ensured large-scale liquidity provision to the financial system, while providing favourable financing conditions to the economy at euro area level. In a coordinated manner, micro and macroprudential policies promote the use of capital buffers[82] previously set up by banks, thereby reducing the risk of a credit crunch at an initial stage, i.e. the risk of banks becoming exceedingly risk-averse, thereby not providing liquidity to economic agents. Initiatives towards exploring the prudential and accounting flexibility of European regulation on the banking sector have likely also contributed to this. These policies are all complementary, ensuring credit institutions have appropriate incentives to continue carrying out their role as intermediaries in the economy, have the capacity to absorb losses and ensure access to credit at a price that is appropriate to risk. However, we cannot claim that these policies will be sufficient, given the uncertainty surrounding the magnitude and duration of this shock. And this might clearly have considerable implications for the sustainability of public finances, particularly in countries where public debt was already high before the pandemic. Within this context, highlighting once again the characteristics of this crisis, it is particularly important to consider financing solutions at European level that allow Member States to respond to the current crisis without jeopardising the sustainability of public finances.

Supervisory authorities have released guidelines clarifying that they allow credit institutions to operate on a temporary basis below Pillar 2 Guidance and the combined capital buffer requirement, as well as a recommendation requiring institutions not to distribute dividends or carry out other operations resulting in a capital reduction, thereby weakening the link between the use of the combined capital buffer requirement and resulting penalties.

Nevertheless, it is not a given that banks will use all their capital buffers to grant credit to the economy. For strategic reasons, due to a need to ensure capital levels capable of covering losses in the future or for reasons of market discipline, banks may opt not to use their capital or liquidity buffers.

The financial system has a critical role to play by preventing temporary cash flow difficulties for firms and households from resulting in insolvencies and by absorbing potential losses. A great deal of uncertainty persists as to when and to what extent the current liquidity crisis might become a solvency crisis for firms or households. The gravity of the situation will certainly affect the financial system, with potentially negative consequences for financial stability. As the crisis progresses, the probability of solvency problems in firms and households will increase, and it is anticipated that the financial sector may become exceedingly risk-averse, jeopardising the financing of viable projects and hindering economic growth. However, following the revision of the regulatory framework and as a result of adopted supervisory measures, credit institutions are at a more favourable starting point than in the previous financial crisis, with considerably higher capital and liquidity levels.

As mentioned, the combination of measures adopted by each country and their size is heterogeneous at European level. Consequently, the sharing of costs and risks between the State

[82] Comprising capital buffers above minimum capital requirements, including macroprudential buffers, specific capital guidance (Pillar 2 Guidance) and voluntary buffers.

and the private sector is limited a priori and might not be optimal from an economic point of view. It is particularly crucial that liquidity support measures for households and firms are withdrawn only after these economic agents have regained their sources of income, thereby avoiding a generalised increase in default. Indeed, the end of the moratoria on principal and interest at an early stage of the economic recovery would result in a number of these borrowers not being able to service their debt, leading to debt restructuring and default, where the banking sector would bear the full brunt, as these loans do not benefit from public guarantees. Similarly, the absence of State-guaranteed loans may result in certain firms losing access to bank credit.

If government measures supporting the non-financial private sector are not appropriate and sufficient in size to cope with the duration and magnitude of the pandemic crisis or are withdrawn too early, the increase in default rates (materialisation of credit risk) may trigger the need for direct intervention on the financial sector. As mentioned above, the European regulatory framework for this type of intervention is very restrictive, both in terms of State aid rules and of the Bank Recovery and Resolution Directive (BRRD). The probability of direct intervention on the financial sector not only depends on the magnitude and duration of the crisis, but also on the size and effectiveness of the measures supporting firms and households that are currently being adopted. If these are insufficient and financial stability is jeopardised, it will be necessary to assess potential adjustments to the current European regulatory framework enabling direct intervention on financial institutions without this intervention posing additional challenges to financial stability. Within this context, it is also important to reassess the applicable framework with a view to creating asset management companies that would receive assets from banks' balance sheets which become non-performing due to the impact of the pandemic crisis. At that stage, it would yet again be very important to distinguish as clearly as possible between insolvent firms and viable firms facing financial difficulties as a result of the pandemic crisis. However, we cannot as yet rule out the possibility that this type of solution might be necessary, and risks are particularly high in a situation where the Monetary Union and Banking Union are incomplete, in need of risk-sharing mechanisms at European level.

Most measures adopted so far to support the most affected firms, in particular moratoria on principal and interest for bank loans, and State-guaranteed credit lines do not imply greater loss-absorbing capacity for firms. It is therefore also important to consider initiatives that recapitalise firms (that are considered viable).

The recent amendment to the Temporary Framework for State aid on the direct recapitalisation of firms and subordinated loans sets out common requirements at European level. However, these requirements may not be sufficient to ensure an equal playing field among European countries considering cross-country heterogeneity. If the additional measures adopted to relaunch economic activity remain almost exclusively in the national sphere, aid received by each firm will depend on its geographical location, resulting in a highly differentiated speed of economic recovery, with equally differentiated impacts in terms of financial stability. It would consequently be important to develop a capitalisation mechanism for firms at European level that would neutralise this aspect and create a level playing field for access and remuneration requirements, depending on the idiosyncratic risk of the firm and not the country.[83] In this respect, see the European Commission proposal, part of the Next Generation EU presentation, towards creating an instrument (Solvency Support Instrument) to promote the capitalisation of firms. According to the European Commission proposal, this instrument would mobilise EUR 300 billion to invest in the capital of viable firms under the existing European Fund for Strategic Investments.

[83] In this respect, see also Arnoud Boot, Elena Carletti, Hans-Helmut Kotz, Jan Pieter Krahnen, Loriana Pelizzon, Marti Subrahmanyam, "Implementing a European Pandemic Equity Fund", 25 April 2020; "Try equity: Coronavirus and financial stability", 3 April 2020; "Coronavirus and financial stability 2.0: Act jointly now, but also think about tomorrow", 25 March 2020, available at https://voxeu.org/.

In addition, if the plan to relaunch economic activity under development at EU level is adequate in size and represents a cost and risk-sharing solution among countries that is appropriate to a global crisis, a balanced recovery is to be expected, with synergies between developments within countries, considering the existing high degree of economic integration.

In sum, the development, calibration and coordination of different measures adopted to mitigate the economic impact of the pandemic should facilitate the fastest possible recovery from the crisis. Furthermore, in order to prevent the withdrawal of measures from representing an additional risk to this recovery, it is also important that measures to limit moral hazard are adopted during their implementation, *inter alia*, that measures supporting liquidity only apply to firms and households that were not already in difficulty before the crisis. It may be necessary to recapitalise firms and it is also crucial that aid does not depend on the country of origin at EU level. It is important to establish when and how gradually measures are withdrawn to minimise the disruptive effects this may have on access to finance. The size and effectiveness of measures adopted so far, together with the nature, magnitude and duration of the pandemic crisis, may make it even more relevant to revisit the regulatory framework applicable to direct interventions on the financial sector and to strengthen risk-sharing mechanisms at European level ensuring the sustainability of public finances in the various Member States and ultimately the process of European integration itself.

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ANNEX

More detailed information on measures adopted by the Portuguese government

Table 1 • Loans and guarantees by the Portuguese State

Description	Beneficiaries	Limit (EUR 10^6)	Date
Economic and Social Stabilisation Programme (*Programa de Estabilização Económica e Social* – PEES) – Loans guaranteed by the State through the Mutual Counter-Guarantee Fund (*Fundo de Contragarantia Mútuo* – FCGM)[84] EUR 6,800 million increase in the amount of State-guaranteed loans Firms from all sectors of activity are eligible	Micro and small enterprises SMEs and MidCaps[85]	1,000 loans up to EUR 50,000 5,800	04/06/2020 – Announcement Data have not yet been released on the implementation of these additional amounts of State-guaranteed loans.
Loans guaranteed by the State through the FCGM[86] Maximum guarantee of 90% for micro and small enterprises and 80% for medium-sized enterprises Maximum maturity: 6 years Maximum grace period: 18 months Variable or fixed interest rate plus a spread varying according to the loan maturity[87] Exclusively to finance working capital needs Firms must prove they had a positive net situation at the end of 2019 and all tax and social security obligations duly fulfilled as at 1 March 2020 Commitment to preserving employment until 31 December 2020 Approval by 31 December 2020 Maximum amount per firm dependent on firm size[88]	Support to economic activity – Firms from all sectors of activity are eligible Developments and accommodation Support to firms in accommodation and food services	4,500 900 600	30/03/2020 – Announcement 13/04/2020 – Maximum amount went from EUR 1.3 billion to EUR 4.5 billion Scope of eligible beneficiaries broadened Extension of maximum maturity and grace period 30/03/2020 – Announcement 13/04/2020 – Extension of maximum maturity and grace period

[84] Details available at https://pees.gov.pt/empresas/.

[85] A midcap is a firm that cannot be considered an SME because it belongs to a group with more than 250 employees, but that individually has 500 to 3,000 employees.

[86] Sources: Site of IAPMEI — Agência para a Competitividade e Inovação, I. P. – IAPMEI (Portuguese Agency for Competitiveness and Innovation) and Sociedade Portuguesa de Garantia Mútua – SPGM (Portuguese Mutual Guarantee Company).

[87] The spread stands at 1%, 1.25% and 1.5% for loans up to one year, three years and six years respectively.

[88] Microenterprises – EUR 50 million; Small enterprises – EUR 500 million; Medium-sized enterprises – EUR 1.5 billion; Small Mid Cap and Mid Cap – EUR 2 billion (certified by IAPMEI). In addition, not exceeding double the firm's annual wage bill (including social charges as well as the cost of personnel

Description	Beneficiaries	Limit (EUR 10^6)	Date
	Support to travel agencies, tourist entertainment, event organisers and similar activities	200	
Capitalizar 2018 – COVID-2019 Programme Extension of line until May 2020 and increase in available amount – exhausted on 6 April 2020 Credit line guaranteed by the State through the Mutual Guarantee Fund Maximum guarantee of 80% Maximum maturity: 3 years Amortisation from 2021 Variable spread with a maximum limit ranging from 1.928% to 3.278% To finance working capital needs	Micro enterprises and SMEs	400	12/03/2020 – Announcement
Turismo de Portugal[89] Line with cash-flow support for microenterprises in the tourism sector PEES - Extension of financial support and partial conversion into non-refundable financing Maximum limit of EUR 20,000 per firm, on the basis of the number of employees (EUR 750 each) Free of interest Maturity: 3 years Grace period: 12 months	Microenterprises in the tourism sector Fewer than 10 employees and less than EUR 2,000 in assets	100	19/03/2020 04/06/2020 (PEES announcement)

working on the firm's site but formally on the payroll of subcontractors) in 2019 or in the last year available. For firms created on or after 1 January 2019, the maximum loan amount must not exceed the annual wage bill for the first two years in operation; or 25% of total turnover in 2019; or the liquidity needs of the next 18 months.

[89] Legislative Order No 4/2020, available at https://dre.pt/web/guest/home/-/dre/130600838/details/maximized?serie=II&parte_filter=31&day=2020-03-25&date=2020-03-01&dreId=130600835 (in Portuguese only).

Description	Beneficiaries	Limit (EUR 10^6)	Date
Support line for fishing and aquaculture[90] Maturity: 5 years Credit line guaranteed by the State, enabling loans to be underwritten and potential debts to be renegotiated with interest paid by the State	Fishing and aquaculture	20	20/03/2020
Credit insurance for transactions with non-OECD Member States[91] Increase in the amount available in already existing lines, with public guarantees	Metallurgic, metal and mechanical and mould sectors	100	08/05/2020
	Surety bond line for construction abroad and other supplies	100	
	Short-term export credit insurance	50	

Table 2 • Measures on taxes, social contributions and structural funds

Scope	Description	Beneficiaries
Flexible tax payments[92] Tax withholding for corporate and personal income tax VAT payment Special payment on account	For instalments falling due in the second quarter of 2020, firms and self-employed persons covered by this measure may: i) pay amounts owed to the tax authority in three monthly instalments free of interest; or ii) pay six monthly instalments, bearing interest in the final three instalments Under the PEES, firms with income losses of more than 40% may defer total special payment on account in 2020 as a transfer in corporate income tax revenue between 2020 and 2021	For corporate income tax, all firms are eligible For other taxes, the following are automatically eligible: Small enterprises (sales of up to EUR 10 million in 2018) Recently active firms and self-employed persons (from 1 January 2019) Firms in sectors closed by decision of the health authorities[93] or in aviation and tourism Firms and self-employed persons experiencing a drop in activity of more than 20%[94]

[90] According to the press release of the Ministry of Maritime Affairs, available at https://www.portugal.gov.pt/pt/gc22/comunicacao/comunicado?i=covid-19-apoio-ao-setor-da-pesca-e-aquicultura (in Portuguese only).

[91] In accordance with Law No 13/2020, available at https://dre.pt/application/conteudo/133250481 (in Portuguese only).

[92] Decree-Law No 10-F/2020 of 26 March 2020.

[93] Under Decree No 2-A/2020 of 20 March 2020, in its current wording.

[94] Average of the three months prior to the month when this obligation falls due, compared to the same period a year earlier.

Scope	Description	Beneficiaries
Deferral of social contributions	Reduction to a third of contributions falling due in the second quarter of 2020 Payment of the remaining two-thirds in July, August and September or from July to December Free of interest	Self-employed persons Small enterprises (up to 50 employees) Firms with up to 249 employees experiencing a drop in activity of more than 20%[95] Firms with more than 250 employees, experiencing a drop in activity of more than 20% and belonging to sectors closed down by decision of the health authorities or in aviation and tourism Firms and self-employed persons experiencing a drop in activity of more than 20%
Portugal 2020 Programme[96]	Acceleration in payment of incentives to firms Deferral by 12 months of instalments for refundable incentives maturing by 30 September, free of interest or other penalties	All firms
	Eligibility for repayment of expenses incurred in initiatives or events cancelled or postponed due to COVID-19 Any reprogramming of projects due to the negative impacts of COVID-19 is not attributed to the beneficiaries and may lead to adjustments in the duration of the programme and its financial programming	Projects affected by the COVID-19 pandemic

[95] Average of the three months prior to the month when this obligation falls due, compared to the same period a year earlier.

[96] Details available at https://www.iapmei.pt/Paginas/COVID-19-Medidas-de-Apoio-as-Empresas-PT2020.aspx (in Portuguese only).

Table 3 • Measures supporting household income

Scope	Description	Beneficiaries	Limits
Exceptional support to households Calculated on the basis of the number of school days during which schools or nurseries are closed.	Subsidy corresponding to two-thirds of monthly income (one-third supported by the employer and one-third by Social Security)	Employees - one of the caregivers for children up to 12 years old	Minimum: EUR 635 (1x minimum wage) Maximum: EUR 1,905 (3x minimum wage)
	Subsidy corresponding to one-third of average monthly income in the previous three months, supported by Social Security	Self-employed persons - one of the caregivers for children up to 12 years old	Minimum: EUR 439 (1x social support index) Maximum: EUR 1,097 (3x social support index)
Extraordinary support for self-employed persons following a reduction in economic activity	Financial support with a duration of one month, extendable on a monthly basis by a maximum of six months, in the event of a complete halt in activity or an abrupt and sharp drop of at least 40% in turnover for a period of thirty days prior to request	Self-employed persons and managing partners of firms without employees	Recorded remuneration Maximum: EUR 439 (1x social support index) for a remuneration below 1.5 x social support index or EUR 635 (minimum wage) for a remuneration above 1.5 x social support index
PEES	Automatic extension of unemployment benefits until December 2020		
	Subsidy to the amount of the income loss from one month on layoff	Workers covered by simplified layoff from April to June, with wages ranging from one to two minimum wages (EUR 635 to EUR 1,270 per month)	From EUR 100 to EUR 351 – income loss from one month on layoff This supplement is financed by SURE
	Extraordinary mechanism to protect self-employed and informal workers	Self-employed and informal workers with lack of social protection (inclusion in the social security system for a mandatory period of 36 months)	One social support index (EUR 438.81) from July to December 2020

Scope	Description	Beneficiaries	Limits
	Social support line for culture professionals who are not employees	Artists, authors, technicians and other arts professionals who are not employees	Benefits are paid in July and September The total amount corresponds to equivalent support paid to self-employed persons (3x social support index)
	Additional family allowance	Lower income brackets	Benefits are paid in September

Interaction between regulatory minimum requirements and capital buffers

1 Introduction

At the end of 2016, the European Commission published amendments to the regulatory framework for the banking sector[1], which had, in turn, implemented the amendments proposed by Basel III in the European regulatory framework in response to the financial crisis that erupted in 2007-2008. The new regulatory framework introduces new requirements and reviews some already implemented, with the aim of: (i) strengthening the resilience of credit institutions and investment firms (hereinafter "institutions") and the European Union (EU) banking system to any future shocks, and (ii) mitigating the interlinkage between institutions and sovereigns. The pieces of legislation that make up this new legislative package are CRD V[2], CRR II[3], BRRD II[4] and SRMR II[5].

This legislative package sets, among others, three types of regulatory requirements, established with different objectives, to be met simultaneously, as soon as they enter into force, by the institutions covered: (i) risk-based own funds requirements (RW); (ii) leverage ratio requirements (LR); and (iii) minimum requirements for own funds and eligible liabilities (MREL)[6], in the context of banking resolution.

The simultaneity of the three types of regulatory requirements adds some complexity to their interaction. The fact that the same amount of own funds can be used to the fulfilment of more than one regulatory requirement, may affect, in certain cases, the effectiveness of some instruments, namely those of a macroprudential nature (in the case of buffers) and microprudential (in the case of guidance on additional own funds), where the interaction between these regulatory requirements reduces the flexibility of the instruments by conditioning their usability in adverse scenarios. However, there are regulatory requirements with specific rules to avoid this double counting of own funds to meet more than one requirement, as will be discussed in the sections below (such as the case of MREL, where the amount of own funds earmarked for capital buffers cannot be used to meet risk-based MREL).

[1] A summary of the amendments made can be found in the Special issue "Amendment of the CRD IV-CRR: what is new?", *Financial Stability Report*, Banco de Portugal, December 2018, and in the Special issue "Review of the resolution framework: what is new?", *Financial Stability Report*, Banco de Portugal, June 2019.

[2] Directive (EU) 2019/878 of the European Parliament and of the Council of 20 May 2019 amending Directive 2013/36/EU as regards exempted entities, financial holding companies, mixed financial holding companies, remuneration, supervisory measures and powers and capital conservation measures (the Capital Requirements Directive).

[3] Regulation (EU) 2019/876 of the European Parliament and of the Council of 20 May 2019 amending Regulation (EU) 575/2013 as regards the leverage ratio, the net stable funding ratio, requirements for own funds and eligible liabilities, counterparty credit risk, market risk, exposures to central counterparties, exposures to collective investment undertakings, large exposures, reporting and disclosure requirements, and Regulation (EU) No. 648/2012 (the Capital Requirements Regulation).

[4] Directive (EU) 2019/879 of the European Parliament and of the Council of 20 May 2019 amending Regulation (EU) 2014/59/EU as regards the loss-absorbing and recapitalisation capacity of credit institutions and investment firms (the Bank Recovery and Resolution Directive).

[5] Regulation (EU) 2019/877 of the European Parliament and of the Council 20 May 2019 amending Regulation (EU) No 806/2014 as regards the loss-absorbing and recapitalisation capacity of credit institutions and investment firms (the Single Resolution Mechanism Regulation).

[6] An instrument used in the context of resolution planning with the aim to ensure the resolution of credit institutions and investment firms, by ensuring that, in resolution, institutions have sufficient liabilities to absorb their losses and recapitalise themselves.

This Special issue will focus on the interaction between different regulatory requirements, as well as on the usability of buffers, i.e., the amount of capital buffers that can be used by institutions to absorb losses, without there being a breach of other minimum regulatory requirements, which act in parallel[7]. In particular, the intention is to describe the interaction between the three regulatory requirements (RW, LR and MREL), by using stylised examples, which expose how simultaneous compliance with regulatory minimum requirements may affect the usability of capital buffers, as well as of some microprudential requirements, according to the new legislative package.

Buffer usability has been of particular relevance in the current context of public health emergency caused by the COVID-19 pandemic, where several supervisory authorities, Banco de Portugal included, have made the use of capital requirements, both of a microprudential and macroprudential nature, more flexible. It is not expected, in the short term, that temporary flexibility measures in capital requirements for institutions be impacted by the compliance with other minimum regulatory requirements which, when implemented, will act in parallel, taking into account, *inter alia*, that (i) the minimum leverage ratio requirement will only come into force in June 2021, with draft legislative amendment from the European Commission to change the mechanism that allows institutions to exclude reserves in central banks from the total exposure measure on a temporary basis, making compliance with the LR[8] easier and (ii) the Single Resolution Board announced that it is available to provide institutions with the necessary flexibility to implement MREL expectations on a case-by-case basis, in addition to the MREL phase-in period being extended to 1 January 2024.

Table 1 pinpoints the dates on which the regulatory requirements enter into force, and, thus, from which point in time they become relevant for the interactions addressed in this Special Issue.

Table 1 • Synopsis of the dates the regulatory requirements enter into force

Regulatory requirement	Entry into force
Minimum leverage ratio requirement	June 2021
Leverage ratio buffer	January 2022 (legislative proposal to be deferred to January 2023)
MREL	January 2022 (intermediate objectives)
MREL	January 2024 (end of phase-in period)

Note: The list of regulatory requirements to be entered into force is not comprehensive.

This Special issue is arranged as follows: a brief description of the regulatory requirements will be given in Section 2 (minimum requirements, capital buffers, guidance on additional own funds, leverage ratios and MREL). Section 3 outlines the interaction between the regulatory requirements under review, by means of stylised examples, and Section 4 sets out the conclusions.

[7] The usability of buffers differs, thus, from the total or partial release of a capital buffer, which depends on the decision of the macroprudential authority.

[8] Moreover, in accordance with the decision of the BCBS GHOS (Group of Central Bank Governors and Heads of Supervision of the Basel Committee on Banking Supervision) the implementation date of the LR buffer for G-SII was postponed to 1 January 2023. This postponement was confirmed in the European Commission's draft legislative amendment, to the same effect.

2 Description of the regulatory requirements

The regulatory requirements for prudential purposes (CRD V / CRR II) applicable to institutions are primarily aimed at ensuring the resilience of each institution and of the EU banking system as a whole, while the requirements for resolution (BRRD II / SRMR II) have as their primary objective to ensure that institutions established in the EU have sufficient loss absorption and recapitalisation capacity to, in the case of resolution: (i) ensure the continuity of critical functions, (ii) avoid significant adverse effects on financial stability, (iii) protect public funds by minimising reliance on extraordinary public financial support and (iv) protect depositors[9].

The prudential framework in force is structured in three pillars: Pillar 1 – Minimum Capital Requirements; Pillar 2 - Supervisory Review Process, covering risks that are not included in Pillar 1 requirements or that are only partially included, namely the concentration risk and the interest rate risk in the banking book; and Pillar 3 - Market Discipline, introducing requirements for public disclosure of information by institutions.

The risk-based capital requirements consist of the determination of a minimum amount of own funds that an institution must hold on an ongoing basis, as a percentage of total risk-weighted exposure amount[10]. The aim is to prevent institutions from taking on more risk to increase their profitability without holding an adequate capital level to cover that risk. On the other hand, leverage ratio requirements are expressed as a percentage of the total exposure measure[11], which includes on-balance sheet assets and off-balance-sheet items that are not risk-weighted[12]. The requirements relating to the leverage ratio were introduced by the BCBS as, in the years before the financial crisis, there was a general increase in institutions' leverage, which was not always captured adequately by the regulatory requirements in force, a situation that weakened those institutions and also the financial system. The introduction of a regulatory minimum for the leverage ratio acts, thus, as a complementary measure to the risk-based capital requirements, by restricting the building up of excessive leverage in the expansionary phase of the cycle. In addition, the leverage ratio requirement mitigates risks stemming from underestimated capital requirements established through the use of internal methodologies (e.g., the Internal Ratings-based Approach (IRB)).

[9] Resolution objectives in accordance with Article 31 (2) BRRD.

[10] Total Risk Exposure Amount, commonly referred to as Risk Weighted Assets, and calculated in accordance with Article 92 (3) (4) CRR.

[11] Total Exposure Measure used as denominator of the leverage ratio and calculated in accordance with Article 429(4) CRR.

[12] In January 2014, the Basel Committee published the current definition of leverage ratio, according to which the leverage ratio is calculated as the ratio between Tier 1 capital to the total exposure measure. The total exposure measure comprises (i) on-balance sheet assets (excluding financial derivatives and securities financing transactions (SFTs); (ii) off-balance sheet assets, the exposure of which is calculated in accordance with their probability of being converted into on-balance sheet assets; (iii) financial derivatives, including replacement cost and potential future exposure; and (iv) SFTs, which comprise on-balance sheet positions and counterparty credit risk. Offsetting between assets and liabilities is not permitted, and risk mitigation techniques (e.g. collateral) are not considered.

With regard to requirements for resolution purposes, the MREL, an instrument used in the context of resolution planning with the purpose of ensuring the resolvability of the institutions, aims at allowing institutions and entities to be able to absorb expected losses in case of resolution or when they are no longer viable, as applicable, and be recapitalised after implementation of the measures set in the resolution plan or after the resolution of the target group[13,14]. The MREL should be met[15] through own funds and eligible liabilities and be expressed in two ratios that should be met simultaneously: (i) as a percentage of total risk-weighted exposure amount (MREL-RW) and (ii) as a percentage of the total exposure measure (MREL-LR)[16].

Table 2 • Summary of regulatory requirements

Regulatory requirement	Purpose	Requirement ratio denominator
Risk-based capital requirements (RW)	Prevent institutions from taking on more risk to increase their profitability, without having an adequate level of own funds to cover this risk	Total risk-weighted exposure amount
Leverage ratio requirements (LR)	Restrain the accumulation of excessive leverage in the expansionary phase of the cycle and mitigate the risks emerging from underestimated capital requirements determined through internal approaches	Total exposure measure
Requirements for own funds and eligible liabilities (MREL)	Allow institutions and entities to absorb expected losses in case of resolution or at the point of non-viability, as appropriate, and to be recapitalised after the implementation of the actions provided for in the resolution plan	Total risk-weighted exposure amount (MREL-RW) and total exposure measure (MREL-LR)

Each of the above mentioned three regulatory requirements is composed of Pillar 1 requirements applied to all institutions, or a subset of institutions, in the case of MREL, and Pillar 2 requirements (P2R) specific to the institution. Pillar 1 and P2R are minimum requirements which must be met on an ongoing basis[17], including in adverse scenarios.

[13] For more details, see Box "Minimum Requirement for Own Funds and Eligible Liabilities under the new resolution framework", *Financial Stability Report*, Banco de Portugal, November 2015.

[14] For further details on the review of the resolution framework, see "Review of the resolution framework: what is new?", *Financial Stability Report*, Banco de Portugal, June 2019.

[15] The consequences of any failure to comply with MREL should be handled as provided for in Article 45k BRRD II.

[16] In accordance with Article 45(2) BRRD II.

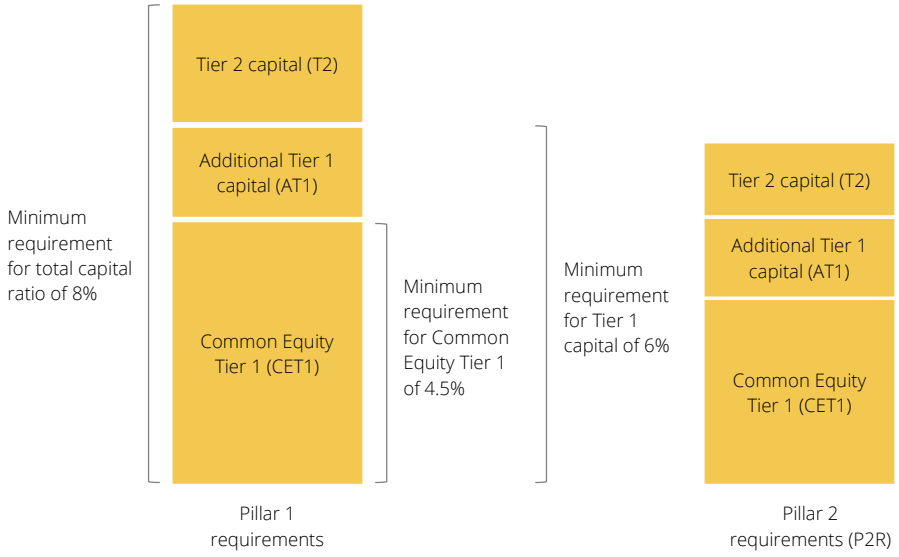
[17] If not complied with, microprudential authorities may consider their intervention, including by means of early intervention measures (Article 27 BRRD) and supervisory measures (Article 104 CRD V). Additionally, failure to meet minimum capital requirements may lead to the assessment of the institution as "to be failing or likely to fail" (according to Article 18(1) BRRD and Article 32(1) and (4)(a) BRRD) and, in the extreme case, to the withdrawal of the authorisation of the activity (according to Article 18(d) CRD V).

Minimum risk-based requirements

With regard to Pillar 1 requirements, which aim to address credit risk[18] and counterparty, market[19] and operational risk[20], institutions shall meet, on an ongoing basis, the following capital ratios as a percentage of total risk-weighted exposure amount: (i) common equity tier 1[21] (CET1) of 4.5%. These equity items correspond to the capital component with the highest loss absorption capacity; (ii) a Tier 1 capital (T1) ratio of 6%[22], where Tier 1 is the sum of CET1 and Additional Tier 1 capital (AT1); and (iii) a total capital ratio of 8%[23,24]. Total own funds correspond to the sum of CET1, AT1 and Tier 2 capital (T2). For the determination of P2R, microprudential authorities shall assess the institution's specific risks and the corresponding control mechanisms implemented and, based on this assessment, may decide to impose specific measures on the institution, including additional capital requirements. With the implementation of CRD V, P2R should be met with at least 75% of T1, where it should be constituted with at least 75% of CET1, consistent with Pillar 1 requirements.

A schematic overview of the minimum capital requirements (Pillar 1 and P2R) with regard to risk-based capital requirements is shown in Figure 1.

Figure 1 • Minimum risk-based capital requirements (Pillar 1 and P2R)



Note: Not to scale.

[18] Risks relating to the future ability of debtors to meet loan engagements entered into with the institution.

[19] Risks relating to the occurrence of losses resulting from fluctuation in market values of positions held by institutions. It encompasses foreign exchange rate, interest rate, stock price and commodity risks.

[20] Risks related to losses resulting from inadequate or unsuccessful internal procedures, human or system errors or unfavourable external events.

[21] In accordance with Article 26 (1) CRR, Common Equity Tier 1 items are made of: (i) capital instruments, provided that the conditions set out in Article 28 or, if applicable, Article 29 are fulfilled, (ii) share premium accounts related to the instruments referred to in (i), (iii) retained earnings, (iv) accumulated other comprehensive income, (v) other reserves and (vi) funds for general banking risk.

[22] According to with Article 51 CRR, Additional Tier 1 items consist of the following: (i) capital instruments, should the conditions laid down in Article 52(1) be met, and (ii) share premium accounts related to the instruments referred to in point (i).

[23] According to Article 62 of the CRR, Tier 2 capital items consist of, inter alia, (i) capital instruments and subordinated loans, should the conditions laid down in Article 63 be met, and (ii) share premium accounts related to the instruments referred to in point (i).

[24] Article 92 (1) CRR.

Capital buffers

Capital buffers are intended to increase the financial system's capacity to absorb losses, with the aim of preserving financial stability. For the fulfilment of this purpose, the buffers may be used to absorb losses in adverse periods[25]. There are five capital buffers foreseen, which all together form the Combined Buffer Requirement (CBR):

- The capital conservation buffer (CCoB) corresponds to an amount of own funds above the minimum requirements in the stacking order of own funds[26] of 2.5% of total risk-weighted exposure amount. This buffer is constant over time and aims to accommodate losses underlying a potentially adverse scenario, allowing institutions to maintain a steady flow of lending to the economy.
- Global Systematically Important Institutions (G-SII) and Other Systematically Important Institutions (O-SII) capital buffers are intended to mitigate the structural systemic risk stemming from the operation of these types of institutions, reducing externalities stemming from excessive risk taken by systematically important institutions and the associated moral hazard (usually referred to as "too big to fail"). For O-SIIs, macroprudential authorities may apply a capital buffer of up to 3% of total risk-weighted exposure amount[27], with no upper limit for G-SIIs. At present, there are no institutions identified as G-SII in Portugal and, for those identified as O-SII, the buffer applied is currently between 0.188% and 0.75% of total risk-weighted exposure amount, depending on the systemic importance of the institution, and will increase to a buffer between 0.25% and 1% of total risk-weighted exposure amount as from 1 January 2022.
- The Countercyclical Capital Buffer (CCyB) aims to strengthen the resilience of the banking sector in periods when cyclical systemic risk increases due to excessive credit growth, and is defined based on the analysis of a set of macroeconomic and financial indicators, which provide information on cyclical systemic risk developments. Whenever risks materialise or decrease, this capital buffer ensures that the banking sector is better equipped to absorb losses and remain solvent, without disrupting lending to the economy. This percentage is in a range between 0% and 2.5% of total risk-weighted exposure amount and may, when duly justified, exceed 2.5%, in which case no mandatory recognition by other EU macroprudential authorities is required[28]. Currently, this buffer is 0% of total risk-weighted exposure amount, applicable to exposures to domestic counterparties.
- The Systemic Risk Buffer (SyRB) may be applied to prevent and reduce macroprudential or systemic risks not covered by other macroprudential instruments of the CRR and the CRD. The systemic risk buffer rate may apply to all exposures or a subset of exposures, thus allowing SyRB to be applied, on a sectoral basis, to all institutions or one or more subsets of those institutions. The macroprudential authority may set the buffer in steps of adjustment of 0.5 percentage points or multiples thereof. To date, this buffer has not been applied in Portugal.

[25] In adverse periods, such as when institutions increase their own funds or eligible liabilities, they may choose to meet minimum regulatory requirements by reducing their lending to the economy, increasing the procyclicality of the adverse scenario.

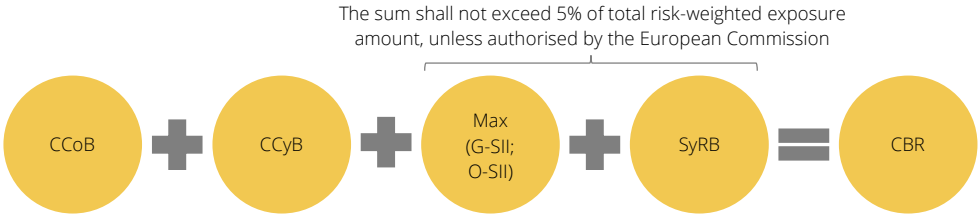
[26] The stacking order reflects the hierarchy of capital requirements and P2G and should not be mistaken for the order in which the capital components absorb losses.

[27] An O-SII buffer in excess of 3% of total exposures may be required upon European Commission's authorisation.

[28] For further details on the countercyclical capital buffer see box "Countercyclical Capital Buffer", *Financial Stability Report*, Banco de Portugal, November 2016.

The five buffers forming the combined buffer requirement shall be met with CET1, on a cumulative basis, as it is clearly stated in CRD V that the buffers should be used to absorb losses resulting from disjoint risks (except for O-SII and G-SII capital buffers, in which case the higher buffer shall apply)[29]. However, a cap is established on the aggregate value of G-SII/O-SII and SyRB buffers of 5% of total risk-weighted exposure amount, which can only be exceeded upon authorisation of the European Commission.

Figure 2 • Illustration of the combined buffer requirement



Institutions that fail to meet the combined buffer requirement (CBR) are subject to automatic restrictions on distributions[30,31], until compliance is restored in accordance with a capital conservation plan[32] duly authorised by the microprudential supervisory authority. Automatic restrictions on distributions are calculated on the basis of the maximum distributable amount (MDA)[33], as a percentage of the profits, according to the CBR quartile to which corresponds the CET1 maintained by the institution, available for compliance with this requirement, as represented in Table 3[34].

Table 3 • MDA calculation

CET1	1st quartile	2nd quartile	3rd quartile	4th quartile
MDA (%)	0	20	40	60

An important feature of the various capital buffers available is the difference between those that can be (fully or partially) released and those that cannot be released, although, in both cases, the buffers can be used by institutions to absorb losses, as mentioned above. A capital buffer that can be released means that macroprudential authorities can formally reduce or remove this requirement, thus allowing institutions to free up their own funds. This possibility is given in the case of countercyclical capital buffer and systemic risk buffer, should the risks that led to the implementation of the latter no longer exist[35]. On the contrary, a capital buffer that cannot be

[29] As regards EU subsidiaries, the O-SII requirement shall not exceed the lower of (i) the sum of the higher of the G-SII or O-SII buffer rate applicable to that group on a consolidated basis, plus 1% of the total risk-weighted exposure amount, and (ii) 3% of the subsidiary's total risk-weighted exposure amount, or the rate the European Commission has authorised to be applied to the group on a consolidated basis.

[30] According to Articles 141, 141a and 141b CRDV.

[31] CBR definition according to Article 128 (6) CRD IV.

[32] Preparation and submission of a capital conservation plan, in accordance with Article 142(1) CDR V.

[33] According to Articles 141, 141a and 141b CRDV.

[34] For example, in case an institution has a CET1 ratio that meets Pillar 1 and P2R requirements and an additional margin of only 3% of total risk-weighted exposure amount, for compliance with a CBR of 4.5%, this institution is between the 2nd and the 3rd quartile (3/4.5=0.67). Therefore, the MDA is 40%.

[35] CRD V excludes the possibility of a systemic risk buffer to address risks already covered by the countercyclical capital buffer.

released means that the macroprudential authority has no power to reduce or remove the buffer requirement. Therefore, although these buffers can be used by institutions to absorb losses, by accepting the automatic distribution restrictions resulting from the calculation of the MDA, it is not envisaged that the macroprudential authorities will be able to formally reduce or remove buffer requirements when the risks materialise. The capital conservation buffer is the only one that cannot be released, in whole or in part, by the macroprudential authorities. It should also be noted that the release of a given capital buffer requirement is only effective if that amount of own funds released is not required for the fulfilment of another regulatory minimum requirement (namely for LR and MREL-LR purposes).

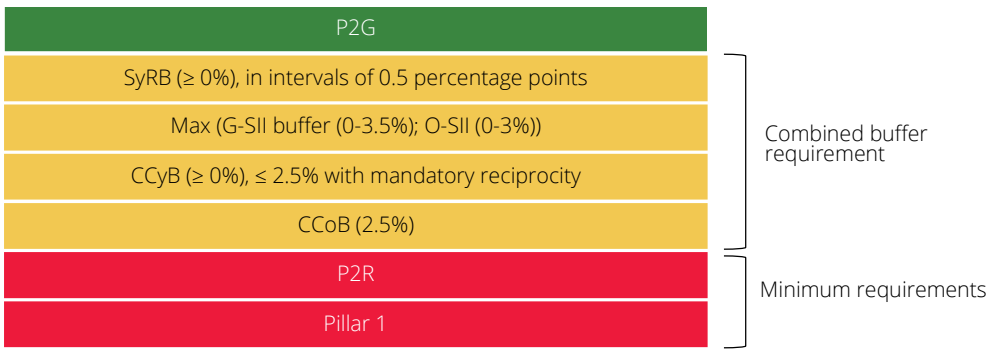
Guidance on additional own funds

At a level above the risk-based prudential requirements, Pillar 2 guidance on additional own funds (P2G) can also be established, corresponding to a supervisory expectation for additional own funds that the institutions should hold (Figure 3). P2G is additive to Pillar 1, P2R and CBR requirements.

The P2G[36] provides a 'safety margin' for prudential requirements, that is calculated considering the expected reduction in own funds in the event of an adverse scenario, characterised by a low probability of occurrence, but by a high magnitude shock. An institution that fails to meet the P2G shall be the object of increased attention by the microprudential authority[37,38], but shall not have the same type of consequences inherent in non-compliance with minimum requirements and capital buffers. However, where an institution repeatedly fails to comply with P2G, the microprudential authority may take additional measures, including the conversion of the P2G into an additional own funds requirement under P2R.

A schematic overview of minimum requirements, capital buffers and guidance on additional own funds (P2G) is shown in Figure 3.

Figure 3 • Risk-based minimum requirements, capital buffers and P2G



Note: Not to scale. The stacking order of capital buffers in the figure is not to scale, since the fulfilment or the use of the buffers is en bloc, constituting, as a whole, the so-called CBR. The highest subcategory currently occupied by G-SII is 2.5% and, according to the regulatory framework, the lowest subcategory is assigned a G-SII buffer of 1% of total risk-weighted exposure amount. Key: CBR – Combined Buffer Requirement; CCoB - Capital Conservation Buffer Requirement; G-SII - Global Systemically Important Institutions ; O-SII - Other Systemically Important Institutions; CCyB - Countercyclical Capital Buffer; SyRB - Systemic Risk Buffer; P2R - Pillar 2 Requirements; P2G - Pillar 2 Guidance.

[36] In accordance with Article 104b CRD V.

[37] Where an institution no longer meets or is likely not to meet the P2G, it shall be subject to an intense dialogue with the microprudential authority, and the institution is expected to prepare and report to the authority a set of actions to restore compliance with P2G.

[38] i.e., they do not reduce the maximum distributable amount (MDA) that the institutions may distribute to shareholders and debt holders.

Leverage ratio

The minimum leverage requirement aims to introduce a barrier to avoid situations where optimisation and consequent reduction in risk weights can lead to potential undercapitalisation of institutions[39]. As in the case of risk-based capital requirements, the minimum leverage requirement includes the Pillar 1 and P2R components.

Pillar 1 corresponds to a minimum level requirement for the leverage ratio of 3%, as a percentage of the total exposure measure (including on-balance sheet assets and off-balance sheet items) and should be met with Tier 1 capital[40]. Moreover, institutions shall comply with the P2R leverage ratio requirement (P2R-LR) specific to the institution, as determined by the microprudential supervisory authority[41]. With respect to the leverage ratio regulatory requirement, it is required that, besides the minimum leverage ratio requirements (Pillar 1 and P2R-LR), the G-SIIs maintain a buffer for the leverage ratio expressed in terms of total exposure measure, resulting from 50% of G-SII buffer expressed as a percentage of total risk-weighted exposure amount. G-SIIs shall meet the buffer requirement for the leverage ratio with Tier 1 capital. As with risk-based capital requirements, the supervisor may also introduce a guidance on the leverage ratio (P2G-LR).

MREL

The MREL requirement is intended, in case an institution enters either resolution or insolvency, to ensure a minimum loss absorption capacity and, in the event of resolution, also to ensure its recapitalisation, following the implementation of the measures provided for in the resolution plan, and must be complied with at all times from the date on which it becomes required. Hence, MREL makes it possible to protect the critical functions of an institution, by restraining the use of extraordinary public financial support, and promoting financial stability.

In BRRD II, a distinction is made between various types of institutions, and they are subject to different requirements and timelines for MREL implementation, in line with the principle of proportionality: (i) G-SII, (ii) top-tier banks[42], (iii) smaller banks, but considered by resolution authorities as likely to constitute a systemic risk in insolvency (fished banks) [43], and (iv) all other institutions.

As intermediate objectives to be met in a binding manner, those institutions that are G-SIIs or subsidiaries of G-SIIs shall meet, until the end of 2021, the minimum requirements for Pillar 1 MREL which correspond to 16% of total risk-weighted exposure amount and 6% of the total exposure measure. As of 1 January 2022, the minimum requirements for Pillar 1 MREL are increased to 18% of total risk-weighted exposure amount and 6.75% of the total exposure

[39] Given the decision of the Group of Central Bank Governors and Heads of Supervision of the Basel Committee on Banking Supervision (BCBS GHOS) on 27 March 2020, the implementation date of the Basel III standards finalised in December 2017 was postponed by 1 year to 1 January 2023. It includes the introduction of changes to the way the minimum leverage ratio requirement is calculated and the introduction of the leverage ratio buffer for G-SIIs.

[40] In accordance with Article 92 (d), Article 429 (1) and (3) CRR II.

[41] The composition of own funds to meet the P2R leverage ratio is set forth in Article 104a (4) CRD V.

[42] According to Article 45c (5) BRRD II, top tier banks represent resolution entities, other than G-SIIs, that are part of resolution groups with total assets exceeding €100 billion.

[43] According to Article 45c (6) BRRD II and Article 12d (5) SRMR II, the so-called fished banks are entities subject to resolution that are part of smaller resolution groups (whose total assets are less than €100 billion) considered to constitute a systemic risk in a situation of insolvency, and may be subject to the same requirements as top tier banks by decision of the resolution authority, after consulting the competent authority.

measure[44]. In the case of resolution entities[45] that are top-tier banks or fished banks, the minimum requirements for Pillar 1 MREL are expected, from 2022 onwards, to be at least 13.5% of total risk-weighted exposure amount and 5% of the total exposure measure. In addition, the above institutions shall comply with Pillar 2 MREL requirements[46]. However, as mentioned above, the Single Resolution Board is available to give to institutions the flexibility required to implement MREL expectations on a case-by-case basis.

For institutions other than G-SII, top-tier banks and fished banks, the requirements of Pillar 1 MREL are not applicable, but the Pillar 2 MREL-RW requirement is, which is, in turn, the sum of: (i) the loss absorption amount (LAA) in resolution, which corresponds to a total capital ratio of 8% (Pillar 1 requirement), plus P2R, and (ii) a recapitalisation amount (RCA)[47] enabling the institution resulting from the resolution process to restore compliance with risk-based Pillar 1 and P2R requirements after the implementation of the resolution strategy[48], and thus maintain the authorisation to exercise its activity, after the resolution. The RCA also includes the market confidence charge (MCC) defined by reference to the CBR, deducted from the countercyclical capital buffer. In addition, Pillar 2 MREL-LR requirements applied to these institutions constitute the sum of: (i) the amount of losses to be absorbed in resolution (Pillar 1 requirement for the 3% leverage ratio), and (ii) a recapitalisation amount allowing the institution resulting from the resolution to restore compliance with the Pillar 1 requirement for the leverage ratio after implementation of the resolution strategy[49].

If the resolution plan provides for the liquidation of the entity under a normal insolvency proceeding (NIP) or other equivalent domestic proceeding, the resolution authority shall consider whether it is justified to limit the MREL of that entity so that it shall not exceed an amount sufficient to absorb the losses (LAA)[50]. If this is the case, the MREL will be covered only by the own funds used by the institution to meet capital requirements and there shall be no need to issue any other additional instrument.

A schematic overview of each of the three types of regulatory requirements mentioned above is presented in Figure 4.

[44] According to Article 92a CRR II.

[45] Resolution entities are those institutions in respect of which the resolution authority provides that they may resolved (and not necessarily liquidated).

[46] Pillar 2 MREL for G-SIIs, top-tier banks and fished banks corresponds to an additional requirement for Pillar 1 MREL that allows reaching a MREL amount equal to the sum of the amount for loss absorption and for recapitalisation.

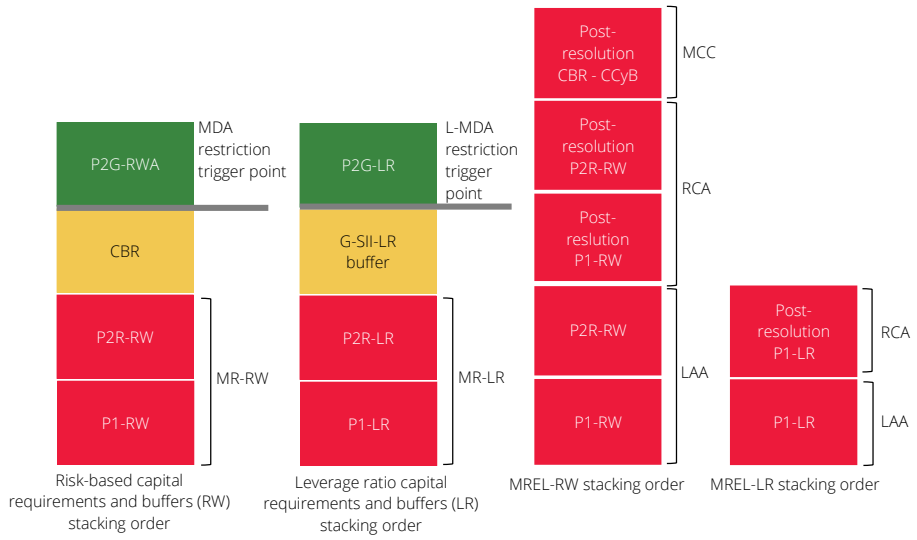
[47] Both the loss-absorption amount and the recapitalisation amount are defined by reference to Pillar 1 prudential requirements, as set out under Article 92(1)(c) CRR, and to Pillar 2 prudential requirements, as laid down in Article 104a CRD.

[48] In accordance with Article 45c (3) (a) and (7) (a) BRRD II.

[49] In accordance with Article 45c (3) (b) and (7) (b) BRRD II.

[50] For institutions in respect of which the resolution plan provides for liquidation, the standard formula is Pillar 1 and P2R requirements for MREL-RWA in accordance with Article 45c (3)(a) and (7)(a), in conjunction with Article 45 (2) BRRD II.

Figure 4 • Risk-based capital requirements, leverage ratio requirements and MREL



Note: Not to scale. The stylised example corresponds to the prudential requirements of a G-SII. Own funds used to meet the MREL-RW cannot be used simultaneously to meet the CBR. This stacking order between MREL-RW and CBR binds institutions to meet the MREL requirement before they can meet the CBR. Key: G-SII - Global Systemically Important Institutions; RW - Risk-Weighted; LR - Leverage Ratio; P2G - Pillar 2 Guidance; P2R - Pillar 2 Requirements; MDA - Maximum Distributable Amount; CBR - Combined Buffer Requirement.

3 Interaction between regulatory minimum requirements and capital buffers

This section shows, through stylised examples, how the minimum regulatory requirements analysed above may affect the effectiveness of measures taken by supervisory authorities (for example, where a designated authority decides to release all or part of a capital buffer and the institution cannot reflect that in its total requirements) or the usability of capital buffers by institutions.

Interaction between CBR and LR

The CRD V and the CRR II allow the same capital unit to be used to meet both risk-based capital requirements and leverage ratio requirements[51]. In this case, the institution's usability of capital buffers is constrained by the difference between the amounts of own funds required to meet the minimum leverage ratio (MR-LR) and the minimum risk-based capital requirement (MR-RW).

Figure 5 compares capital stacking orders in respect of loss absorption in case of risk-based capital requirements, represented by the RW bar, and leverage ratio requirements, represented by the LR bar. Between the risk-based requirements (RW) and the leverage ratio requirements (LR), the one that will require the largest amount of own funds will depend on the structure of the institution's balance sheet, in particular the risk weights assigned to each asset. It appears that there is one specific average risk weight for which both requirements impose the same amount of own funds, designated as the critical average risk weight (CARW). If a given institution has an

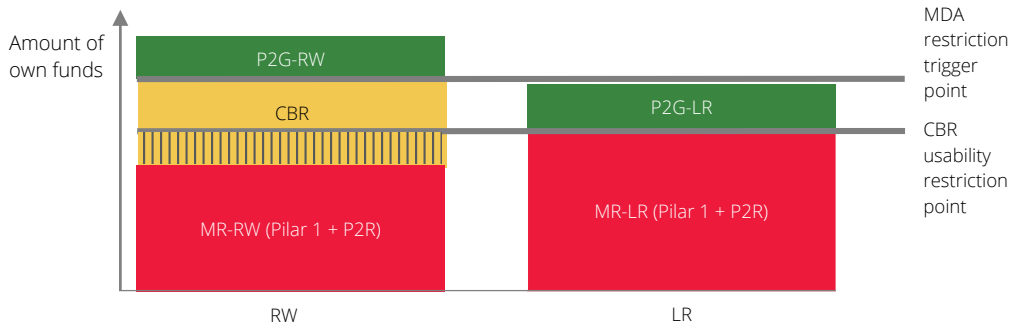
[51] The leverage ratio requirement can be met with the same capital units as the risk-based capital requirements (except for Tier 2 capital which cannot be used to meet the leverage ratio).

average risk weight below CARW, the LR will be the regulatory requirement that will require the largest amount of own funds (particularly relevant for institutions using internal approaches rather than the standard approach for determining risk weights).

The situation where the amount of own funds to meet the MR-RW is lower than for the MR-LR is represented in the figure below. In that scenario, assuming that the institution has a reduced amount of additional Tier 1 capital (AT1), should the macroprudential authority decide to reduce one of the capital buffers included in the CBR, a partial restriction on the usability of those buffers is observed in the amount represented in the yellow dashed figure. This is because the institution that uses part of the own funds of the CBR to simultaneously meet the MR-LR will have a partial overlap between total capital buffers and the MR-LR. It should be noted that institutions with lower buffer usability will be those with the lowest average risk weight, characterised by a lower amount (in relative terms) of own funds to meet risk-based capital requirements (except for Tier 2 capital, which cannot be used to meet the leverage ratio).

Thus, the amount of own funds of CBR represented in the figure in dashed yellow is restricted in its purpose to absorb losses and its use may cause failure to meet the MR-LR. In this case, the amount of own funds available to absorb losses with no failure to meet the minimum regulatory requirements corresponds to the amount of own funds represented in the figure in green (P2G), and in undashed yellow (part of the CBR).

Figure 5 • Interaction between risk-based and leverage ratio requirements - CBR usability restriction trigged by MR-LR



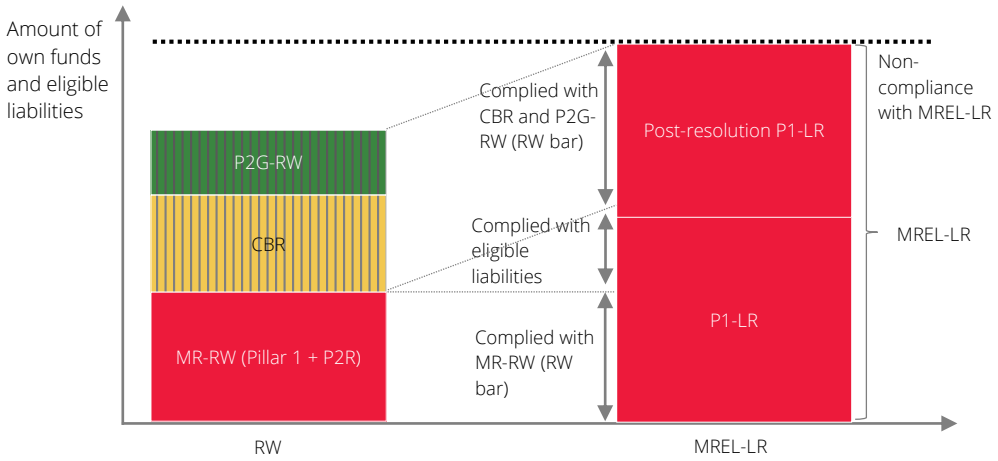
Note: The scale is not real, corresponding to a stylized example of an institution that is not a G-SII. Key: CBR – Combined Buffer Requirement; G-SII - Global Systemically Important Institutions; RW - Risk Weighted; LR - Leverage Ratio; P2G - Pillar 2 Guidance; P2R - Pillar 2 Requirements; MDA - Maximum Distributable Amount; MR - Minimum Requirements. The establishment of minimum risk-based capital requirements (Pillar 1 and P2R) are shown in Figure 1.

In the reverse scenario, where the amount of own funds to meet the MR-RW is higher than that of MR-LR, there would be no restriction on CBR usability.

Interaction between CBR and MREL-LR

Figure 6 shows the situation of an institution in respect of which the resolution plan provides for resolution measures, where the MREL-LR is the highest minimum requirement and the institution does not operate with eligible own funds or liabilities above those needed to meet the MREL-LR.

Figure 6 • Schematic view of the interaction between MREL-LR and risk-based requirements



Note: The scale is not real, corresponding to a stylized example. Key: CBR – Combined Buffer Requirement; G-SII - Global Systemically Important Institutions; RW – Risk-weighted; LR - Leverage Ratio; P2G - Pillar 2 Guidance; P2R - Pillar 2 Requirements; MR - Minimum Requirements. The establishment of risk-based capital requirements (Pillar 1 and P2R) are shown in Figure 1.

All own funds required to meet risk-based requirements (RW-bar), represented by colours green, yellow and red, can be used to meet MREL-LR (MREL-LR bar), with the remainder of the MREL-LR is met with eligible liabilities. In the absence of own funds or eligible liabilities in excess, beyond the minimum amount required to comply with MREL-LR, any such reduction for loss absorption in the context of risk-based capital requirements (RW-bar) would immediately lead to failure to meet the MREL-LR. Similarly, in this situation, if the macro or microprudential authority decides to release a capital buffer or P2G, and if the institution has no eligible liabilities or voluntary capital to absorb losses without breaching the MREL-LR, the CBR and P2G usability would be limited (dashed portion in the figure). However, if an institution were to increase its eligible liabilities, it could reach a point where the usability of own funds would increase because it would no longer need them to fully meet the MREL-LR.

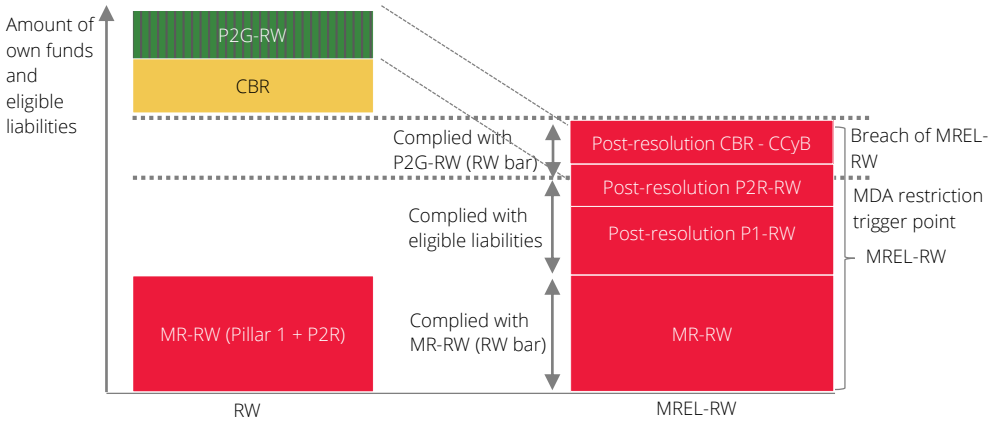
Interaction between CBR and MREL-RW

The review of the BRRD and the SRMR clarifies the relationship between MREL and the CBR, making it clear that own funds used to comply with MREL-RW cannot be simultaneously used to meet the CBR. This rule is necessary to ensure that capital buffers can be used by institutions in the manner and with the intent with which they were originally designed, i.e., so that institutions can use capital buffers to absorb losses resulting from risk materialisation periods without this resulting in failure to meet the MREL.

As shown in Figure 7, the aforementioned condition requires the institutions to meet the minimum MREL-RW without recourse to the own funds used to comply with the CBR (in yellow in the Figure), which means that an institution may fail to comply with the MREL requirement without any change in its own funds position, e.g., because a set of eligible liabilities no longer meets the residual maturity criterion of one year or more and, as a result, it is necessary to reallocate the Common Equity Tier 1 capital that was being used in the combined requirement to continue meeting the MREL-RW[52].

[52] Where CBR is used to meet the MREL-RW, i.e., in a situation where an institution fails to meet the CBR in the context of MREL-RW, but still complies with the CBR in the context of risk-based requirements, restrictions on the distribution of results are not automatic. The resolution authority, after consulting the microprudential authority, shall assess whether it should exercise this power, considering the reason, duration, and extent of the non-compliance, as well as its impact on resolvability. If non-compliance lasts for 9 months or more, the resolution authority, after consulting the microprudential authority, shall set restrictions on distributions, in accordance with the calculation resulting from the M-MDA, except where it is concluded that there is a stress scenario in the financial system (Article16a BRRD II).

Figure 7 • Schematic view of the interaction between MREL-RW requirements and risk-based requirements



Note: Not to scale. Key: CBR – Combined Buffer Requirement; RW – Risk-weighted; P2G - Pillar 2 Guidance; P2R - Pillar 2 Requirements; MR – minimum requirements. The establishment of minimum risk-based capital requirements (Pillar 1 and P2R) are shown in Figure 1.

The interaction between MREL-RW and risk-based capital requirements, in the case of an institution with a resolution plan providing for resolution measures, is shown in the Figure above, by means of stacking orders of own funds and eligible liabilities, corresponding to a situation where the MREL-RW requirement is higher than the MR-RW, This is the case for all institutions whose resolution plan provides for resolution measures as the MREL-RW is equal to the LAA (Pillar 1 and P2R), RCA (post-resolution Pillar 1 and post-resolution P2R) and MCC (defined by reference to the CBR deducted from the CCyB) (Figure 4). The remaining part of MREL-RW is met with eligible liabilities and, should these be insufficient, also with own funds that are not covering Pillar 1 and P2R, as a last resort with own funds that are covering the CBR (pictured in yellow).

In this example, given that MREL-RW is met with MR-RW, eligible liabilities and P2G-RW, the CBR remains fully available by the institutions and does not constrain the action of the macroprudential authority. However, P2G (pictured in green), in the context of risk-based capital requirements, can be used to comply with MREL-RW, which may affect the P2G effectiveness as a tool of a microprudential nature. In case the microprudential authority decides to release P2G and the institution has no sufficient amount of eligible liabilities to cover the amount released, institutions may prefer to retain P2G own funds rather than use the CBR for compliance with MREL-RW, given the consequences for restrictions on distributions (according to the calculation resulting from the M-MDA).

As in the case of the interaction between CBR and MREL-LR, if an institution increases its eligible liabilities, it will reduce the amount of own funds allocated to meet the MREL-RW and, consequently, reduce the restriction of the P2G effectiveness as a tool of a microprudential nature.

2 Conclusions

The reform of the regulatory framework governing the banking sector is primarily aimed at increasing the resilience of institutions and the financial system to possible future shocks. In this context, at EU level, the institutions will have to simultaneously meet three types of requirements: RW, LR and MREL.

The fact that the same amount of own funds contributes to the fulfilment of more than one regulatory requirement it may affect, where such own funds are required for compliance with the minimum of another regulatory requirement, the effectiveness of some instruments, particularly those of a macroprudential nature (in the case of capital buffers) and of a microprudential nature (in the case of guidance on additional own funds), where the interaction between those regulatory

requirements reduces the flexibility of the instruments, conditioning their usability in adverse scenarios, such as the interaction between (i) the CBR and the LR and (ii) the CBR and the MREL-LR. However, there are regulatory requirements with specific rules to avoid this double counting of own funds to meet more than one requirement (in the case of instruments of a macroprudential nature), as described in the interaction between CBR and MREL-RW. Any interaction between minimum regulatory requirements and capital buffers depends on (i) the legal provisions relating to multiple gearing of own funds, (ii) the relative calibration of the different requirements and (iii) the structure of the institutions' balance sheets, including off-balance-sheet items. It should be noted that institutions with lower buffer usability shall be, everything else constant, the ones with the lowest average risk weights and therefore needing a lower amount of own funds to meet the risk-based capital requirements, as the non-risk-based capital requirements (LR and MREL-LR) become more binding in this case. Given that, in Portugal, the institutions that use the standardised approach for determining risk weights predominate, this interaction may be minimised.

Buffer usability has been particularly relevant in the current context of public health emergency caused by the COVID-19 pandemic, in which several supervisory authorities, including Banco de Portugal, made the use of capital requirements, both of a micro and a macroprudential nature, more flexible. This year, as the LR and MREL have not yet entered into force, the potential consequences resulting from the interactions reviewed in this Special issue have not yet emerged. However, since the minimum leverage requirement and the leverage ratio buffer (although no institution is currently identified as G-SII in Portugal) will come into force in June 2021 and January 2022 (with a legislative proposal from the European Commission to postpone the latter to January 2023), respectively, from that moment onwards the interaction between the CBR and the LR under review will be of relevance. Additionally, given that the MREL will have intermediate targets to be met in January 2022 and the phase-in period will end in January 2024, the analysis of the interaction between MREL and CBR will thenceforth be relevant.