3 MACROPRUDENTIAL POLICY

This chapter presents the systemic vulnerability and risk analysis regularly performed by the Banco de España as a basis for its macroprudential policy decisions. It also describes the recent changes made to the regulatory and institutional framework linked to the creation in Spain of the new macroprudential authority (AMCESFI). Particular attention is paid to the design and tasks of the AMCESFI (see Box 3.1), which was created in March 2019 by virtue of Royal Decree 102/2019. This important institutional development followed on the heels of Royal Decree Law 22/2018 which provides the sectoral authorities with new macroprudential tools applicable in their respective regulatory and supervisory areas.[1]

3.1 Analysis of systemic vulnerabilities

The map of systemic vulnerability indicators aggregates data from a broad set of indicators according to their ability to predict systemic banking crises. The map summarises information from over one hundred indicators of potential risk to the financial system and effective conditions in the real economy and the banking sector in Spain.[2] These indicators have been selected and aggregated according to their past ability to predict systemic banking crises in Spain. Thus, for instance, in the macroeconomic imbalances category, the most heavily weighted indicator is the current account balance, ahead of other variables such as net external debt or government debt. The weighting differences reflect the fact that, historically, systemic banking crises in Spain have been preceded by periods with current account deficits. The economic rationale for this is that credit booms are generally characterised by a low domestic saving rate (since consumption is high) and a high rate of investment (in many cases in housing). This domestic financial imbalance can only be funded by the rest of the world through net capital inflows into the external financial account. A current account deficit is the balancing item for this financial account surplus.

The map of systemic vulnerabilities has remained stable since the last FSR was published (see Chart 3.1).[3] The heat map categories – credit, liquidity, concentration, financial markets and macroeconomic imbalances – have remained stable over the last six months. Specifically, the liquidity indicators reflect an absence of alerts, both as regards banks' balance sheets and market liquidity. This situation is expected to continue, especially following the ECB's recent announcement that it intends to launch new medium-term funding facilities. The concentration indicators continue to reflect a medium alert level, since the high weight of large loans is offset by the lower exposure to the construction and real estate development sectors. The financial market turmoil at end-2018 drove up some interest rate spread indicators and market volatility; as yet, however, these events have had limited impact on the Spanish financial system.

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1 Royal Decree Law 22/2018 endows the Banco de España with macroprudential tools in addition to those already at its disposal as a result of European legislation.

2 The definitions of the main categories correspond to those established by the European Systemic Risk Board in its Recommendation ESRB/2013/1 on intermediate objectives and instruments of macroprudential policy.

3 For a correct interpretation of the chart it must be considered that the intensity of the alerts in each category represents a weighted average of the indicators included. Intensity increases as the tone draws closer to red, while green depicts a normal situation. See J. Mencía and J. Saurina (2016), "Macroprudential policy: objectives, instruments and indicators", Banco de España Occasional Paper 1601, for details of the specific indicators included in each category and the weighting calculations.

The financial crisis revealed that the microprudential (case-by-case) regulatory and supervisory approach alone was not sufficient to identify and, in the last instance, prevent or mitigate the impact of the materialisation of systemic risk on financial stability. It became clear, therefore, at both the international and the European level, that each jurisdiction should have an institutional and normative framework for macroprudential policy to safeguard, in a coordinated and effective manner, not only the stability of the financial system as a whole but also that of each of its component sectors (among which, the banking sector).

Competence in individual countries in the fields of financial stability, regulation and prudential supervision is often distributed between several authorities, each of which is responsible for a part or sector of the financial system. In Spain, macroprudential responsibility for the credit institution sector lies with the Banco de España,[1] while the National Securities Market Commission (CNMV) is responsible for investment firms and the Directorate General of Insurance and Pension Funds (DGSyFP), which is part of the Ministry of the Economy and Enterprise, for bodies within its supervisory remit.

As a result of the significant growth in interconnections between financial institutions and markets, and their increasing complexity, institutional cooperation mechanisms that facilitate the exchange of information and analysis are essential, allowing macroprudential policy measures to be used to comprehensively address possible sources of systemic risk. Financial globalisation has also meant that the supranational dimension of financial stability is becoming increasingly important.

In consequence, at the end of 2010, the European System Risk Board (ESRB)[2] was created as part of the European System of Financial Supervision. The ESRB's mission is to "contribute to the prevention or mitigation of systemic risks to financial stability", to ensure "a sustainable contribution of the financial sector to economic growth". The central banks and financial supervision authorities of all the EU countries are members of the ESRB (in the case of Spain, the Banco de España, CNMV and DGSyFP).

In one of its first measures, in 2011 the ESRB issued a Recommendation[3] urging all EU Member States to designate an authority responsible for macroprudential policy, with functions to identify, oversee and assess risks to financial stability and with the power to foment measures to address these risks. In the same vein, the International Monetary Fund (IMF), through its Financial Sector Assessment Program (FSAP), has actively expressed its backing for the creation of macroprudential authorities for the whole of the financial system.[4]

Against this backdrop, in recent years many European countries have established a national macroprudential authority.[5] In some cases, a broad mandate and new instruments have been given to an existing authority (notably the national central bank, as in

the United Kingdom and Ireland). Various other countries have chosen to create a collegiate authority (a "systemic risk committee"), which under various forms of governance includes the central bank, banking, securities and insurance regulators and supervisors, and the ministry with competence for financial system legislation (as in Germany and France). The apparent need to strengthen macroprudential policies warrants the inclusion of government ministries in these authorities, as it has been found that a significant number of countries have taken into account political economy considerations when designing their financial stability governance structures.[6] Accordingly, the ultimate configuration of a macroprudential authority responds to individual countries' idiosyncratic specificities.[7]

In the case of Spain, the process of creation of a macroprudential authority was influenced by the existence, since 2006, of the Financial Stability Committee (CESFI).[8] The CESFI was created by means of a voluntary cooperation agreement between the Ministry of Economy, the Banco de España and the CNMV, to address matters of common interest in the field of financial stability and crisis prevention and management. But the CESFI lacked the legal status to grant it a formal mandate or properly defined functions or tasks.

In view of the international backdrop, at the end of 2018 the CESFI served as a discussion platform for the project to create the national macroprudential authority, as per the ESRB Recommendation, and for a draft legislative proposal to endow the sectoral supervisory authorities with macroprudential instruments in addition to those provided for in European legislation.

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1   In addition, the European Central Bank also has competences in matters of macroprudential policy over all the euro area countries' credit institutions, by virtue of the tasks conferred on it when the Single Supervisory Mechanism was established in 2014.

2   Regulation (EU) No 1092/2010 of 24 November 2010 on European Union macro-prudential oversight of the financial system and establishing a European Systemic Risk Board.

3   ESRB Recommendation of 22 December 2011 on the macro-prudential mandate of national authorities (ESRB/2011/3).

4   See, for the case of Spain, the IMF document "Spain: Financial Sector Assessment Program-Technical Note-Systemic Risk Oversight Framework and Macroprudential Policy" of 13 November 2017.

5   See the ESRB document "List of national macroprudential authorities and national designated authorities in EU Member States". Italy is currently the only EU Member State that has not yet created a national macroprudential authority.

6   "New Financial Stability Governance Structures and Central Banks" by R.M. Edge and J.N. Liang, Hutchins Center Working Paper #50 (February 2019).

7   For a summary of the institutional reforms worldwide, see "Financial supervisory architecture: what has changed after the crisis?" by D. Calvo, J.C. Crisanto, S. Hohl and O. Pascual Gutiérrez, Financial Stability Institute, FSI Insights on policy implementation No 8 (April 2018).

8   See D. Vegara's article "Funciones y objetivos del Comité de Estabilidad Financiera (CESFI)", Financial Stability Review No 11, Banco de España, November 2006.

Diagram A
INSTITUTIONAL MEMBERSHIP OF THE SPANISH MACROPRUDENTIAL AUTHORITY (AMCESFI)
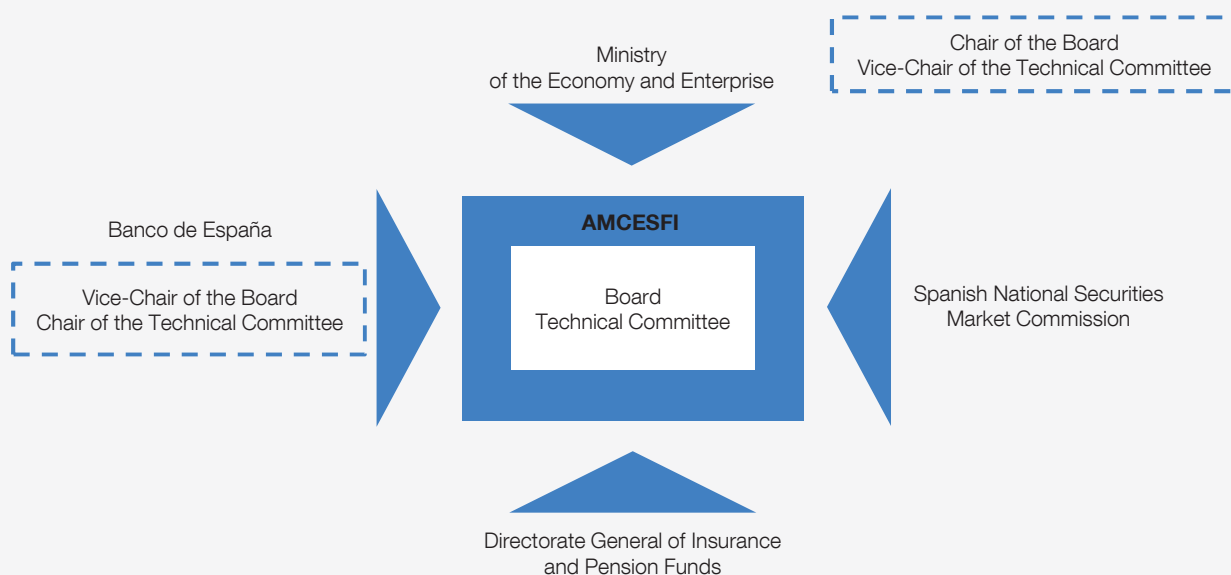
SOURCE: Banco de España.

Following a public hearing at the end of 2018, in early March 2019 the Spanish Council of Ministers approved Royal Decree 102/2019 creating the new macroprudential authority (AMCESFI).[9] It is organised as a collegiate body attached to the Ministry of the Economy and Enterprise and is made up of representatives from the Ministry, the Banco de España, the CNMV and the DGSyFP (see Diagram A).

The purpose of the AMCESFI is to "contribute to the stability of the financial system overall, by identifying, preventing and mitigating circumstances or actions that may produce systemic risk". To that end, it will regularly monitor and analyse systemic risk factors. Its powers will include issuing warnings and recommendations on any matter that may affect financial stability, and also opinions on proposed macroprudential measures notified in advance to the AMCESFI by the sectoral supervisory authorities (the Banco de España, CNMV and DGSyFP).

The AMCESFI Board has seven members, four of whom represent the independent supervisory bodies. The Board Chair is the Minister for the Economy and Enterprise and the Vice-Chair the Governor of the Banco de España. Below the Board there is a Financial Stability Technical Committee with nine members, six of whom are from the independent supervisory bodies. The Committee Chair is the Deputy Governor of the Banco de España and the Vice-Chair the General Secretary for the Treasury and International Financing. The Committee is tasked with preparing the matters to be submitted to the Board, with the Banco de España acting as secretary.

For purposes of transparency and accountability, the AMCESFI should publish the opinions, warnings and recommendations it issues (unless their dissemination is inadvisable as it poses a potential threat to financial stability) and should present an annual report to the Economy and Enterprise Parliamentary Committee of the Congress of Deputies.

In parallel, the Spanish government approved Royal Decree Law 22/2018 on macroprudential tools,[10] which extended the range of instruments available to the sectoral authorities to be applied to institutions within their regulatory remit. In particular, the Banco de España was authorised to establish for reasons of systemic risk: (i) a countercyclical capital buffer applicable to sector-specific exposures; (ii) limits on credit institutions' concentration on a certain economic sector; and (iii) conditions on lending and other operations by credit institutions. These last macroprudential tools based on borrowers' ability to pay (borrower-based instruments) have been introduced in other European countries' national legislation and are being actively employed to prevent cyclical easing of credit standards by banks, aiming to actively manage the credit risk incurred in their business.

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9   Royal Decree 102/2019 of 1 March 2019 creating the AMCESFI, establishing its legal regime and implementing certain aspects on macroprudential tools.
10 Royal Decree Law 22/2018 of 14 December 2018 establishing macroprudential tools, which was validated by the Congress of Deputies on 22 January 2019.

In the case of the banking sector, these instruments are in addition to those already available since 2016 through the European Capital Requirements Regulation and Directive (CRR/CRD IV), implementing in the European Union the macroprudential instruments included in the Basel III global regulatory framework: (i) the countercyclical capital buffer (CCyB); and (ii) capital buffers set for global and other systemically important institutions, as well as (iii) the systemic risk buffer (although this instrument is not included in the Basel III framework). In addition, the Banco de España has been designated the competent authority to apply Article 458 of Regulation (EU) No 575/2013 of 26 June 2013,definitively enshrining competence that to date was only temporary.

Similarly, both the CNMV and the DGSyFP may set limits and conditions on the activities of institutions within their supervisory remit, which will facilitate coordinated action. Moreover, the CNMV has been strengthened, being granted the power to temporarily increase the percentage investment in liquid assets required of investment fund and venture capital management companies. In turn, the DGSyFP will be able to set conditions on operations involving transfer of risks and insurance portfolios. These instruments, which in some cases represent an international innovation, will foreseeably be added to in coming years, in keeping with global advances in macroprudential policies beyond banking.
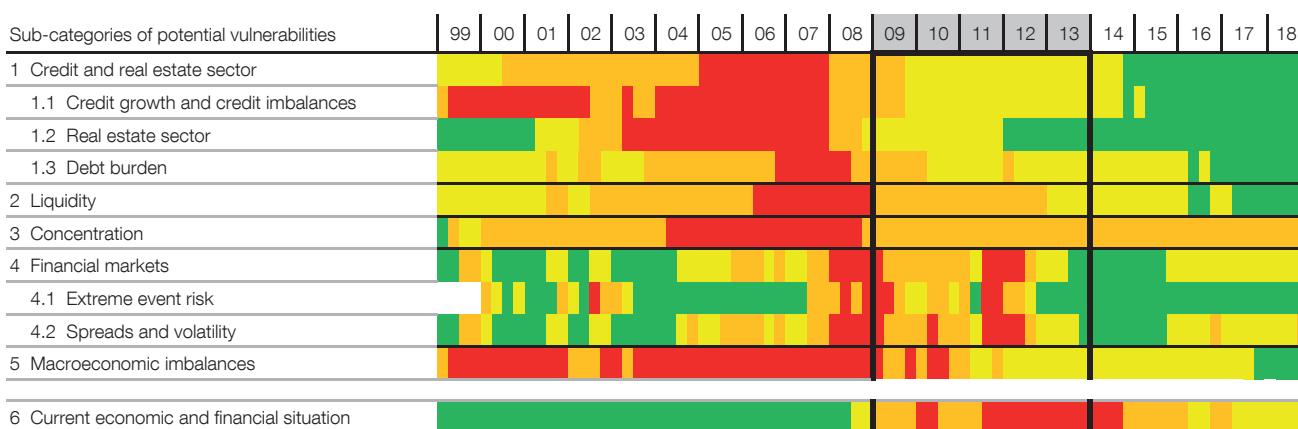
With the creation of the AMCESFI and implementation of a raft of macroprudential instruments in addition to those already available under European legislation, Spain has secured an institutional and regulatory framework comparable to that of other EU Member States and is now, therefore, better placed to address potential future systemic financial crises in a more effective and more coordinated manner.

Although the risks to the stability of the Spanish financial system have risen in the past six months, there are no signs of systemic risk. As explained in detail in the preceding chapters, the macroeconomic risks to financial stability identified in previous FSRs appear to have intensified. The risk of pricing corrections in some financial assets and of a surge in risk premia has increased as a result of the slowdown in global economic activity, associated in part with the prevailing geopolitical and economic policy uncertainty. In addition, the situation in the emerging market economies has also deteriorated in view of China's economic performance. Likewise, over the relevant horizon for the FSR, for the deposit-taking institutions, whose income statements will come under greater

HEAT MAP BY SUB-CATEGORY (a)   CHART 3.1

The macroeconomic vulnerabilities of the Spanish economy have slowly decreased, and the map of systemic vulnerabilities, whose objective is to provide early warning of systemic banking crises, remains stable, denoting a normal situation. Only the interest-rate spreads and volatility segment has increased as a result of the recent turmoil in financial markets.

Sub-categories of potential vulnerabilities	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18
1 Credit and real estate sector																				
1.1 Credit growth and credit imbalances																				
1.2 Real estate sector																				
1.3 Debt burden																				
2 Liquidity																				
3 Concentration																				
4 Financial markets																				
4.1 Extreme event risk																				
4.2 Spreads and volatility																				
5 Macroeconomic imbalances																				
6 Current economic and financial situation																				

SOURCE: Banco de España.

a The colour scheme identifies four levels of risk: i) green denotes a normal, risk-free situation, ii) yellow indicates low risk, iii) orange is medium risk and, iv) red is high risk. The shaded band denotes tha last crisis. Some indicators as at December 2018 are based on provisional information.

pressure on account of macroeconomic developments and growing legal risk. However, the systemic risk indicators related to the Spanish financial cycle remain low, albeit rising. Moreover, although the potential materialisation of macroeconomic risks would have a significant effect on deposit-taking institutions' capital, the Spanish banking sector's average solvency level is adequate, as shown in section 2.1.3 above.

3.2 Macroprudential policy instruments and measures

The Banco de España has held the countercyclical capital buffer (CCyB) rate applicable in the first two quarters of 2019 at 0%. These quarterly decisions[4] are based on technical analysis of quantitative indicators, combined with any relevant qualitative information provided by expert judgment ("guided discretion"). The main quantitative indicator that guides CCyB decisions at the international level is the credit-to-GDP gap. This indicator was proposed by the Basel Committee on Banking Supervision (BCBS) and current European and Spanish legislation envisage its use as a guideline to set the CCyB.[5] This gap remains at very negative levels; specifically, on data at September 2018, it stood at -48.3 pp, holding steady at levels close to the record lows recorded after the last crisis.

The credit-to-GDP or Basel gap presents various technical limitations in the case of Spain. The Basel gap presents various limitations as a credit cycle indicator in economies such as the Spanish one where credit-to-GDP ratio patterns have changed over time and credit cycles have lasted for fewer than twenty years. Specifically, a significant negative bias has been detected in the size of the credit-to-GDP gap in the years immediately following crises and this hinders its ability to issue early warnings of incipient changes in the credit cycle.

Alternative models to the Basel gap considered by the Banco de España also show negative imbalances, although on a significantly smaller scale. Given the technical limitations of the Basel gap, it is important to analyse the credit-to-GDP gap under alternative specifications. Accordingly, the Banco de España has developed quantitative models that estimate the level of equilibrium of the credit-to-GDP ratio, drawing on the relationship that economic theory establishes with other fundamental macrofinancial variables.[6] In addition, the credit-to-GDP gap has been recalculated using a different technical specification from that approved by the BCBS, to adjust it to the observed average duration of credit cycles in Spain (see Box 3.2). Both approximations give gaps that are also negative, but considerably closer to equilibrium than according to the Basel gap. These results back the decision to hold the CCyB at 0% for the time being, but they also point to the need to closely monitor developments and future projections of these models.

Other quantitative indicators also point to a lack of cyclical systemic risk alerts, although recent changes in some of these indicators suggest that they could generate alerts before the credit-to-GDP gap does. The framework for activating the CCyB also considers a number of complementary quantitative indicators to be used as a guideline to set the countercyclical capital buffer. In particular, indicators on house price imbalances, the current account balance, credit intensity and debt servicing are considered

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4 See https://www.bde.es/bde/en/areas/estabilidad/politica-macropr/Fijacion_del_po_abd79f06544b261.html for the list of the Banco de España's quarterly CCyB decisions.

5 Directive 2013/36/EU (CRD IV), Law 10/2014, Royal Decree 84/2015, Banco de España Circular 2/2016 and Recommendation ESRB/2014/1.

6 See Box 3.1 of the November 2018 Financial Stability Report.

The credit-to-GDP gap calculated according to the Basel Committee on Banking Supervision (BCBS) guidelines – the "Basel gap"[1] – is the reference indicator for the quarterly calculation of the countercyclical capital buffer (CCyB). The methodology proposed uses the Hodrick-Prescott statistical filter[2], seeking to estimate a long-term trend component of the credit-to-GDP ratio, in order to calculate the deviations from the observed ratio. These deviations represent the size of the gap. To apply this method, the value of a parameter that is directly related to the average duration of the financial cycle, and which therefore determines the memory of the trend component, must first be calibrated. Specifically, the Basel gap methodology proposes that a very high value (400,000) be used for this parameter, which implies assuming an average credit cycle duration of approximately 30 years. This is a very long duration compared with that observed both in Spain and in other countries. In the case of Spain, after analysing historical series since 1880, an average duration of 17 years has been estimated;[3] drawing only on more recent data, since 1960, the average duration would be 19 years.

Accordingly, assuming a 30-year duration results in an estimated long-term trend with excessive inertia. This means that the most recent changes in the ratio have very little impact on the estimation of the trend and, therefore, that the gaps generated are very different from the observed levels, especially when the ratio presents significant or relatively rapid and sustained changes. The main consequence is that the estimated

gap is too wide, resulting in the present high negative values estimated for Spain. This observed bias could hinder the gap's ability to act as a leading indicator of signs of credit cycle imbalance in coming years.

It is, therefore, important to study mechanisms that allow the BCBS methodology to be adapted to include average financial cycle duration assumptions that are more in keeping with the empirical evidence available for Spain. Specifically, alternative adaptations of the Hodrick-Prescott filter have been explored, reducing the value of this parameter and limiting the number of past observations used to estimate the trend.[4] The study shows that, in effect, assuming an average credit cycle duration of 15 years corrects the major deviations estimated by the Basel gap before and after each crisis and considerably enhances the indicator's capacity to predict systemic events.

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1 Guidance for national authorities operating the countercyclical capital buffer, BCBS, December 2010.
2 First proposed in R.J. Hodrick and E.C. Prescott (1997), Postwar U.S. Business Cycles: An Empirical Investigation, Journal of Money, Credit and Banking, Vol. 29, pp 1-16.
3 M. Bedayo, A. Estrada and J. Saurina (2019), Bank capital, lending booms, and busts. Evidence from Spain in the last 150 years, Banco de España Working Paper 1847.
4 J.E. Galán (2019), Measuring credit-to-GDP gaps. The Hodrick-Prescott filter revisited. Banco de España Occasional Paper 1906.

Chart A
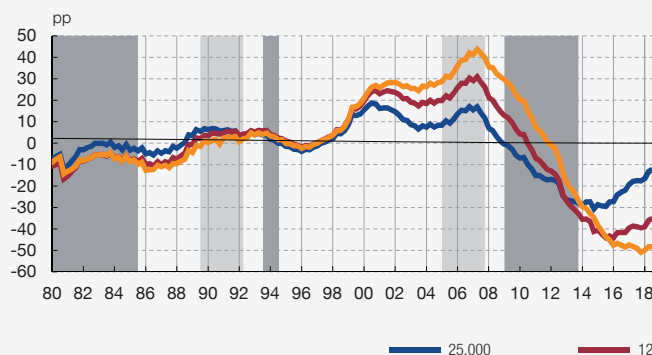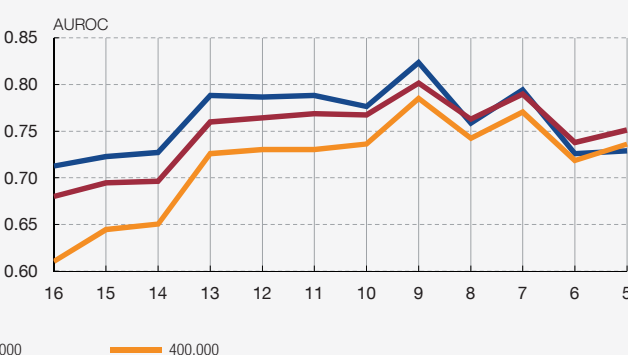CREDIT-TO-GDP GAPS ADAPTED TO CREDIT CYCLES
LASTING BEWEEN 15 AND 20 YEARS (a)

Chart B
PREDICTIVE CAPACITY OF CREDIT-TO-GDP GAPS ADAPTED TO CREDIT CYCLES
LASTING BETWEEN 15 AND 20 YEARS (b)

25,000   125,000   400,000

SOURCE: Banco de España.

a The lines represent estimates of the gaps assuming a credit cycle of 15, 20 and 30 years, approximately corresponding to smoothing parameter values of 25,000, 125,000 and 400,000. The latter was adopted by the Basel methodology. The dark grey shaded area represents the three systemic periods identified in Spain from 1970, namely two periods of systemic banking crises (1978 Q1 to 1985 Q3 and 2009 Q1 to 2013 Q4) and one idiosyncratic event (1993 Q3 to 1994 Q3). The light grey shaded area represents the periods between five and sixteen quarters prior to the occurrence of the systemic events, during which it is advisable to identify signs of cyclical risk in order to adopt measures sufficiently in advance.
b Predictive capacity is compared by means of the AUROC (Area Under the Receiver Operating Characteristics Curve). This criterion represents the relationship between the rate of false positives and the rate of true positives for all the possible binary classification thresholds of a model. An AUROC value equal to 1 would indicate a perfect prediction model. By contrast, a value of 0,5 would indicate that the model is unable to predict better outcomes than those arising from a random assignment. The "y" axis represents the AUROC value. The "x" axis represents the periods between five and sixteen quarters prior to the occurrence of the systemic events, during which it is advisable to identify signals of cyclical risk in order to adopt measures sufficiently in advance. The lines represent the AUROC for gaps assuming a credit cycle of 15, 20 and 30 years, approximately corresponding to smoothing parameter values of 25,000, 125,000 and 400,000. The latter was adopted by the Basel methodology.

Chart A depicts the estimated credit-to-GDP gap using smoothing parameters that assume shorter credit cycle durations. Specifically, parameters equal to 25,000 and 125,000 are used, which assume credit cycle durations of approximately 15 and 20 years, respectively. In general it is observed that the lower the parameter, the narrower the gap and the speedier its response to changes in the trend of the ratio. It is also observed that, compared with the estimates made using the Basel gap methodology, the two others using lower parameters correctly identify the systemic event that occurred in Spain in the 1990s. Turning to the present, the estimates made using a smoothing parameter equal to 25,000, consistent with a credit cycle duration of approximately 15 years, point to a clear change in trend in the gap over the last two years. Although these estimates still have negative values, they are less negative in absolute terms and this would seem to be more consistent with the current stage of both the credit and the economic cycle.

In addition, calculating the credit-to-GDP gap using lower parameters enhances the indicator's predictive power. This effect can be seen in Chart B, which compares the capacity of the different indicators to serve as a leading indicator of credit cycle imbalance. The chart shows that the gap calculated using the parameter equal to 25,000 has the best predictive capacity. It also shows that the difference compared with the Basel gap, which uses a parameter equal to 400,000, is especially significant between two and four years before a crisis. This means that the build-up of cyclical systemic risk can be flagged better and earlier. Accordingly, despite the constraints imposed by the statistical methods, by improving the way in which they are calculated it is possible to transform them into useful measures for detecting cyclical systemic risk. In particular, considering calibrations consistent with an average credit cycle duration of 15 years enhances the indicator's predictive power and produces estimates more in keeping with the present upswing in the financial cycle in Spain.

(see Chart 3.2).[7] On the data to September 2018, these indicators show no clear signs of cyclical systemic risk. However, recent changes in some of these indicators suggest that they could generate alerts before the credit-to-GDP gap does. The indicators on house price imbalances, in particular, continue to display a clearly correcting pattern since the end of the crisis (see Chart 3.2.A).[8] In this respect, new house price data will be needed to confirm that the recent slowdown is continuing and that house prices are not overvalued. Similarly, the current account balance is declining, although there is still a current account surplus (see Chart 3.2.B). The other two indicators show that the imbalances built up before the last crisis are still correcting themselves. In particular, the credit intensity indicator, which captures the annual change in credit relative to GDP, shows net reductions (albeit very moderate and close to zero) in the balance of credit to the non-financial private sector (see Chart 3.2.C). Lastly, the debt service indicator for the non-financial private sector has declined continuously since the start of the last crisis (see Chart 3.2.D). This fall has been partially driven by the fact that interest rates are at record lows, in a setting in which a very high proportion of credit to the private sector is variable rate. Nevertheless, the latest figures available show that the likelihood of interest rate rises in the near term is very low.[9]

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7 For a technical analysis of the indicator selection, see C. Castro, A. Estrada and J. Martínez (2016), *The Countercyclical Capital Buffer in Spain: An Analysis of Key Guiding Indicators*, Banco de España Working Paper 1601.

8 The five indicators comprising the house prices category are: i) the price gap in real terms constructed as the difference between the prices observed and their long-term trend; ii) the house price to household disposable income gap, calculated as the difference between this ratio and its long-term trend; iii) an econometric model that compares real house prices with estimates obtained from long-term trends of household disposable income and mortgage rates; iv) the house price to rental price gap, constructed as the difference between the values of the ratio and their long-term trend; and v) an econometric model that compares real house prices with estimated long-term equilibrium relationships, considering variables relating to household disposable income, mortgage rates and tax effects. In all cases the long-term trends are obtained using a one-sided Hodrick-Prescott filter with a smoothing parameter equal to 400,000.

9 See Box 4 of the Quarterly Report on the Spanish Economy, 1/2019.

The complementary indicators for calibration of the CCyB do not show signs of cyclical systemic risk, although some of them have approached alert levels. The complementary indicators have been selected on the basis of their ability to predict systemic banking crises. The degree of house price imbalances depends on determining factors such as household income, interest rates and rents. The current account balance reflects the extent to which domestic saving is sufficient to finance the desired investment. The change in credit relative to GDP attempts to capture the importance of the flow of credit for financing the activity. Lastly, the debt service approximates the interest burden and loan principal payments by households and non-financial firms relative to GDP.
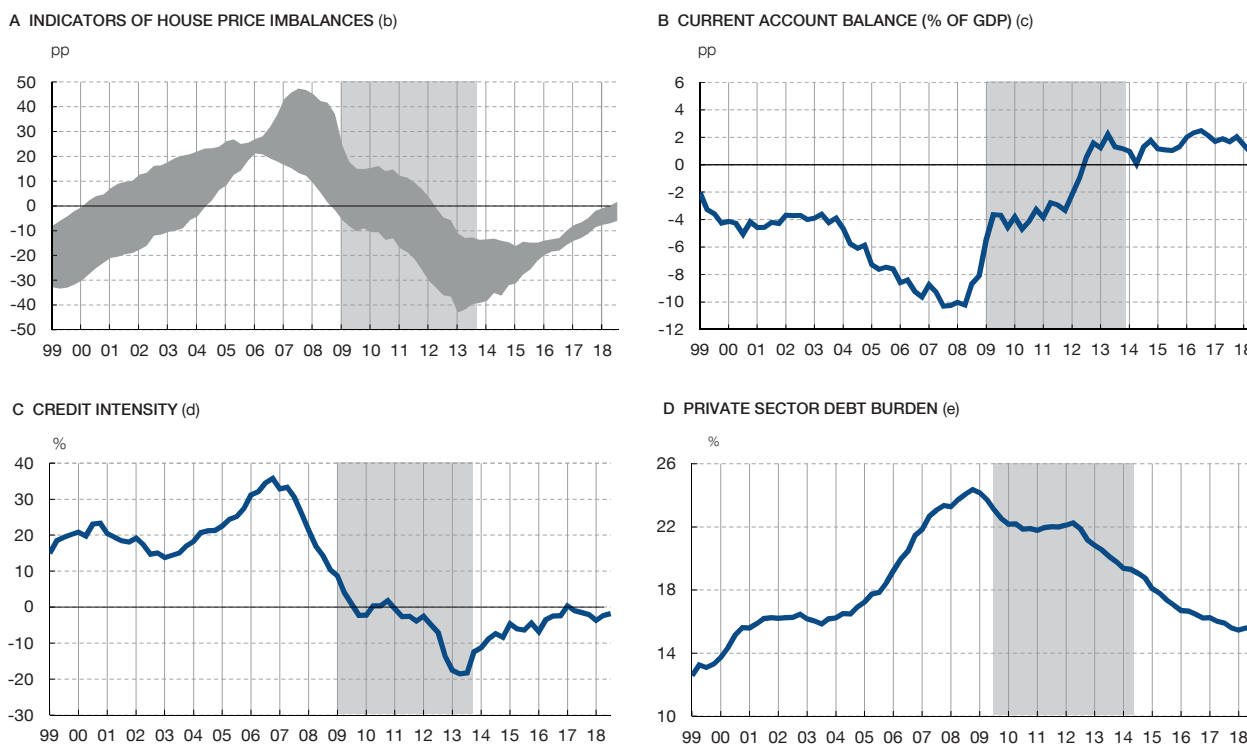
A INDICATORS OF HOUSE PRICE IMBALANCES (b)

B CURRENT ACCOUNT BALANCE (% OF GDP) (c)

C CREDIT INTENSITY (d)

D PRIVATE SECTOR DEBT BURDEN (e)

SOURCE: Banco de España.

a The shaded area shows the last period of systemic banking crisis (2009 Q1-2013 Q4).
b The shaded area represents the range between the minimum and maximum values of the set of five indicators of imbalances in the real estate sector.
c The current account balance series is expressed as a percentage of GDP and seasonally adjusted.
d The credit intensity indicator is calculated as the annual change in credit to the non-financial private sector divided by cumulative GDP of the last four quarters.
e Ratio of debt service in the non-financial private sector calculated as specified in Drehmann M. and M. Juselius (2012) "Do debt service costs affect macroeconomic and financial stability?", BIS Quarterly Review, September.

Other jurisdictions are activating the CCyB based on different considerations. In particular, some countries' macroprudential authorities consider that, irrespective of the financial cycle, one of the aims of the CCyB is to build up buffers in economic upturns that can be used in downturns to cushion the impact. From this standpoint, the CCyB should be activated when the economy is expanding (with a positive output gap), irrespective of whether or not there is excessive credit growth. In Spain, as Chart 3.3 shows, the output gap or business cycle turned positive in 2018. The chart also compares how the business cycle and the financial cycle (proxied by the adjusted credit-to-GDP gap calculated using the best performing adjusted specification in Box 3.2) have evolved. This comparison suggests that before the global financial crisis the financial cycle was ahead of the business cycle, and that it is now behind it, thus transforming the output gap into a leading indicator of the financial cycle. In addition, in other jurisdictions, certain idiosyncratic factors, such as excessive economic volatility, has also been used to warrant activating the countercyclical capital buffer. In any event, the Banco de España will closely monitor the development and projections of all the above-mentioned quantitative indicators.

The effective CCyB required of Spanish banks is also determined by the buffer rates set by authorities in other countries. When calculating a bank's specific CCyB requirement,

CHART 3.3

Following the crisis both the output gap and the adjusted credit-to-GDP gap reflected a positive trend. For output, the gap turned positive at end- 2018, whilst the credit-to-GDP ratio gap continues to narrow.
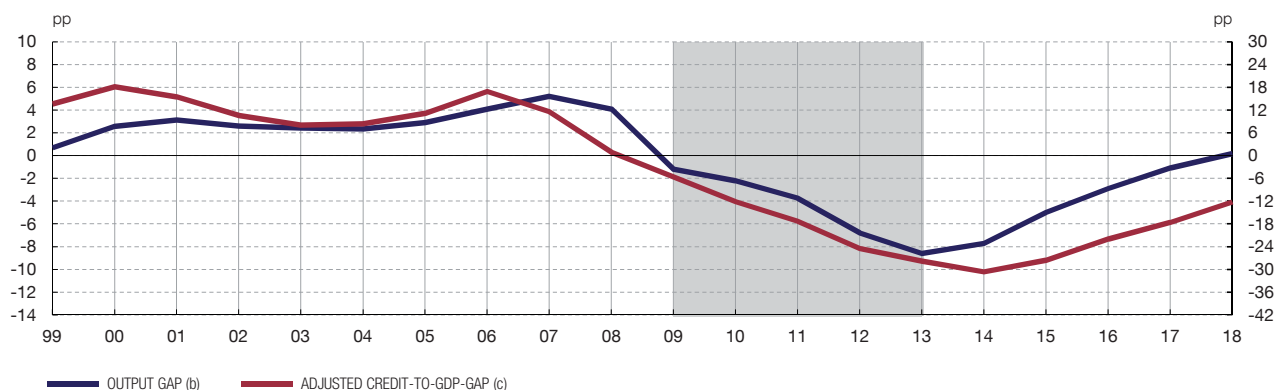
SOURCE: Banco de España.

a The shaded area shows the last period of systemic banking crisis (2009 Q1-2013 Q4).
b The output gap is the percentage difference between the observed GDP and potential GDP. Values calculated at constant 2010 prices. See Cuadrado, P. and Moral-Benito, E (2016). Potential growth of the Spanish economy. Banco de España Occasional Paper 1603.
c The credit-to-GDP gap is calculated as the difference, in percentage points, between the observed ratio and the long-term trend calculated using a onesided Hodrick-Prescott filter with a smoothing parameter equal to 25,000. This value is more in line with the financial cycles historically observed in Spain (see Box 3.1).

account must be taken of its credit exposures in other countries where a positive CCyB rate has been set. Specifically, Spanish banks with international activity in jurisdictions where these instruments have been activated must comply with a positive buffer rate, by application of a weighted average of the CCyB rates in the countries in which they have a presence. To date, twelve European countries[10] are applying – or have announced that they will shortly apply – a positive CCyB rate. The United Kingdom's buffer rate is that which most affects several Spanish banks, although it amounts to less than 0.2% of their RWAs at the consolidated level.

The latest review of the list of systemically important institutions showed no changes.[11] Every year since 2015 the Banco de España has identified "Global Systemically Important Institutions" (G-SIIs) and domestic or national systemically important institutions, known as "Other Systemically Important Institutions" (O-SIIs), setting their regulatory capital buffers. Unlike the CCyBs, these buffers aim to address the cross-sectional dimension of systemic risk. Thus, in November 2018, the designations remained unchanged, with one G-SII for 2020 and five O-SIIs for 2019, indicating the associated buffer rates for each for 2019.

In December 2018 the phase-in period of capital buffers for systemic institutions ended. Capital buffers for G-SIIs and O-SIIs were introduced in 2016 under a 3-year phase-in period which ended on 1 January 2019. Accordingly, since that date, Spanish systemically important institutions must comply with the fully phased-in buffer rate set by the Banco de España[12] (see Table 3.1).

In the European Union over a hundred institutions have been designated as O-SIIs[13] for 2019. European regulations provide for a certain degree of flexibility in the capital

10 Bulgaria, Denmark, Slovakia, France, Ireland, Iceland, Lithuania, Luxembourg, Norway, United Kingdom, Czech Republic and Sweden.
11 See the press release, "Banco de España updates the list of systemically important institutions and sets their capital buffers", dated 21 November 2018.
12 For more details, see Box 3.1 of the May 2017 Financial Stability Report.
13 Eleven of which are also G-SIIs. O-SIIs need not necessarily be credit institutions, as they may also include investment firms (as for example in Cyprus and the United Kingdom).

CAPITAL BUFFERS FOR SYSTEMICALLY IMPORTANT INSTITUTIONS (a)

TABLE 3.1

The period available to systemically important institutions for building capital buffers has ended without any changes to the fully phased-in requirements.

Bank	Designation	Capital buffer required in 2018	Capital buffer required in 2019
Santander	G-SIIs and O-SIIs	0.75%	1.0%
BBVA	O-SIIs	0.5625%	0.75%
CaixaBank	O-SIIs	0.1875%	0.25%
Sabadell	O-SIIs	0.1875%	0.25%
Bankia	O-SIIs	0.1875%	0.25%

SOURCE: Banco de España.

a Capital buffers are expressed as a percentage of total RWAs at consolidated level.

buffers required of these O-SIIs by the national authorities, which may be set between 0% and 2% of RWAs. However, for banking union countries, buffers for O-SIIs must comply with the minimum levels set by the ECB in the framework of the Single Supervisory Mechanism (SSM), in an endeavour to ensure uniform treatment by jurisdictions and hence a level playing field.

O-SII buffers have been introduced and calibrated very differently within the European Union. The calibration of buffers for O-SIIs reflects the different structures of the national banking sectors and the relative size of their main banks. Also, several countries have established phase-in schedules for O-SII buffers, postponing the final requirement beyond 2018 (in some cases until 2021). As indicated above, in 2019 the Spanish systemically important institutions must comply with fully phased-in buffer rates that range from 0.25% to 1% of RWAs. These levels are, for a variety of reasons, lower than those required of many of their European peers (see Chart 3.4). It is important to note that comparisons between countries are hampered by the fact that some O-SIIs are subject to the systemic risk buffer,[14] either as well as or in lieu of the O-SII buffer, and by the fact that RWA densities differ. In particular, the calibration of the systemic (structural) risk buffer is more discretional than that of the O-SII buffer, allowing calibrations above the maximum regulatory level (2%) permitted for the O-SII buffer. With a view to further convergence in the use of the O-SII buffer in the framework of the SSM, this year the ECB is expected to review its methodological framework for minimum calibrations for this instrument[15].

Macroprudential policy measures adopted by the Banco de España are consulted on with the ECB. In the context of the SSM, national euro area authorities must give advance notice to the ECB of proposed measures relating to certain macroprudential instruments regulated in European legislation. Under the SSM Regulation, the ECB may object and, where appropriate, if it is considered warranted, may tighten certain macroprudential policy measures set by the national authorities. Following assessment of the proposed measures, the ECB did not exercise its right to tighten the measures proposed and adopted by the Banco de España.

The Banco de España monitors macroprudential measures adopted by other EU Member States and, in particular, assesses those that may be liable to voluntary reciprocity in Spain. Under European legislation, the scope of certain macroprudential

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14 As a general rule, the regulations stipulate that systemically important institutions must meet only the higher of the three macroprudential buffers applicable: (i) the G SII buffer; (ii) the O SII buffer; or (iii) the systemic risk buffer.

15 See the ECB Governing Council statement on macroprudential policies of 15 December 2016.

Capital buffers for O-SIIs in 2019 differ notably among countries.
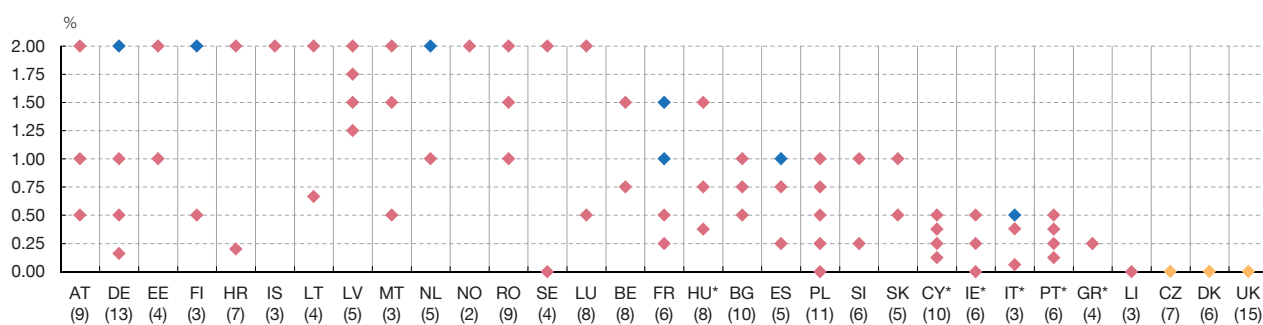
SOURCES: ESRB, EBA, national authorities and own calculations.

a Each mark represents a calibration used for at least one O-SII in each country. The blue marks show the level of the O-SII buffer at institutions that are also G-SIIs. The yellow marks indicate the countries which have not implemented the O-SII buffer, having opted instead for the systemic risk buffer. For each country, the number of O-SIIs identified for 2019 is indicated. The asterisks indicate the countries in which the regulatory period for the implementation of buffers at O-SIIs had not concluded as at 1 January 2019.

measures implemented by national authorities may be extended to address systemic risks identified at the level of a Member State, based on Article 458 of Regulation (EU) No 575/2013. For this purpose, the ESRB must issue a recommendation urging national authorities to assess the material impact of such measures on their own banks. At end-2018 the ESRB issued a recommendation[16] on a measure introduced in France consisting of tightening (up to 5% of eligible capital) the limit on large exposures of systemically important institutions with non-financial corporations based in France and considered highly indebted on the basis of the predefined criteria. The Banco de España assessed that measure and, in accordance with the ESRB's guidance on materiality, decided not to proceed with reciprocity and, therefore, not to change the limit on large exposures of Spanish systemically important institutions with non-financial corporations based in France and considered highly indebted.[17]

3.3 Warnings and recommendations

In view of the analysis presented in this and previous chapters, no macroprudential warnings or recommendations seem necessary. However, strict monitoring of both consumer credit and the real estate market is necessary, with particular attention being paid to credit standards in these sectors. Moreover, it is important that institutions correctly estimate the legal risk that a potential increase in legal action brought by customers may entail. In addition, banks must continue to strengthen their capital and improve their profitability, diversifying their income and rationalising (cutting) their costs.

The potential impact of the risks to the financial system is heavily influenced by the Spanish economy's structural vulnerabilities. These include, in particular, the high level of government debt and the persistent high net external debt position. Regarding private debt, the gradual deleveraging process that began after the last crisis will hopefully continue. In addition, in-depth analysis of the heterogeneity observed in these variables, especially the potential impact of the greater vulnerability identified among lower income households, must be continued.

16 Recommendation ESRB/2018/8 of 5 December 2018, amending Recommendation ESRB/2015/2 on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures.

17 For more details, see the macroprudential policy measures section of the Banco de España's website: https://www.bde.es/bde/en/areas/estabilidad/politica-macropr/