

# The Banco de España in-house credit assessment system

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The authors are grateful to the teams involved in the day-to-day operations of the ICAS BE, without whose hard work this article would not have been possible.



### Abstract

The implementation of monetary policy through traditional credit operations requires that counterparties provide adequate collateral. This collateral serves to protect the central bank providing the funding against losses that might adversely affect its financial independence and, ultimately, its credibility. It is therefore important for central banks to develop in-house capabilities to assess the risks associated with specific assets posted as collateral. The national central banks in the Eurosystem have the option of developing in-house credit assessment systems, known as ICASs. The Banco de España has used such systems to perform credit assessments of non-financial corporations since the late 1990s. It is extending the number and type of these systems with the ultimate aim of being in a position to accept loans extended to any Spanish non-financial corporation as collateral. With credit claims establishing themselves as important collateral assets in recent years, and in view of the synergies between the Banco de España in-house credit assessment system (ICAS BE) and other functions of the Banco de España, the next expansion phase of the ICAS BE is ready to begin. This entails the credit assessment of small and medium-sized enterprises (SMEs) in the country. The Eurosystem's recent response to the COVID-19 crisis will be particularly influential in this regard, prompting very swift action to extend the scope of the ICAS BE.

## 1 Introduction

Within the domain of Eurosystem monetary policy, certain national central banks (NCBs) have developed ICASs to determine the eligibility of credit claims as collateral in traditional credit operations.<sup>1</sup> These systems are currently in place at eight NCBs,<sup>2</sup> among them the Banco de España, and represent one of the sources of credit assessment in the Eurosystem Credit Assessment Framework (ECAAF). The other two sources of assessment are External Credit Assessment Institutions (ECAIs) and in-house models developed by counterparties<sup>3</sup> to calculate minimum capital requirements under the internal ratings-based (IRB) approach.

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1 The traditional credit operation tools for the implementation of monetary policy are marginal refinancing operations (MRO), longer-term refinancing operations (LTRO) and targeted longer-term refinancing operations (TLTRO), the marginal lending facility and intraday credit.

2 The NCBs of Germany, Spain, France, Italy, Austria, Portugal and Slovenia have an ICAS for domestic NFCs, and the Central Bank of Ireland has an ICAS for retail mortgage-backed debt instruments (RMBDs) [see European Central Bank (ECB) website: <https://www.ecb.europa.eu/paym/coll/risk/ECAF/html/index.en.html>].

3 The term “counterparty” refers to all banks authorised to participate in Eurosystem monetary policy operations.

The ICAS BE performs credit assessments of public and private Spanish non-financial corporations (hereinafter referred to as “NFCs”), with the aim of allowing the loans extended to them to be used as collateral by the counterparties themselves in monetary policy operations.

These credit assessments support the use of loans to NFCs in monetary policy implementation by two means. First, the ICAS BE assesses more NFCs than ECAIs. Work has been carried out in recent years to sequentially expand the type of NFCs assessed by the ICAS BE. Initially, listed NFCs and their major subsidiaries were mainly assessed, but in late 2018 the ICAS BE was authorised to assess the credit quality of any large Spanish NFC (understood as enterprises that do not satisfy the European Commission’s definition of SME).<sup>4</sup> Furthermore, as described below, the COVID-19 crisis has forced the ICAS-BE expansion plans regarding the assessment of the remaining Spanish NFCs, particularly SMEs, to be brought forward.

The ICAS BE also represents a common source of credit assessment for all Spanish counterparties, supporting the uniform treatment of credit claims as collateral assets and bypassing the constraints inherent to not having in-house credit assessment systems for smaller counterparties.

In addition to these practical justifications, there are also strategic grounds for developing the ICAS BE. During the global financial crisis that began in 2008 and the subsequent sovereign debt crisis, the Eurosystem expanded the list of asset types eligible as collateral for monetary policy operations. Credit claims were central to this change owing to their abundance on banks’ balance sheets, particularly in the countries hardest hit by the crisis. This explains the need to progressively develop an in-house credit assessment system that can more optimally analyse the characteristics of such assets.

That an ICAS can be used by multiple areas of a central bank is all the more reason for its development. In terms of implementing monetary policy, an ICAS can be highly advantageous to an NCB in its capacity as lender of last resort. In economic research, such a system can provide important research data for matters relating to the transmission of monetary policy and financial stability. Where banking supervision is established at the NCB itself, an ICAS’ credit assessments can provide an external benchmark for the assessments provided by the supervised banks’ internal systems. All of which justify the development of an ICAS as a strategic undertaking for NCBs.

This article details the work performed at the Banco de España in relation to the development of its ICAS. Section 2 of this article reviews the role played by credit

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4 See Article 2 of the Annex to Commission Recommendation 2003/361/EC: “The category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding €50 million, and/or an annual balance sheet total not exceeding €43 million”.

claims as collateral in the Eurosystem, examining the case of Spain in particular. Section 3 discusses the function of ICASs and their strategic role at an NCB. Section 4 describes the most significant aspects of the ICAS BE, including its credit assessment model. Section 5 details future development plans for the ICAS BE. And Section 6 summarises the main conclusions.

Lastly, it is worth noting the very significant impact that the circumstances related to the COVID-19 crisis will have on two important aspects addressed in this article. Specifically, the relative importance of credit claims as collateral, which is likely to grow as a result of the measures announced by the Eurosystem, as was the case in previous crises. These measures have also affected the expansion plans for the ICAS BE, demanding swift action to provide Spanish counterparties with credit assessments of SMEs pursuant to the Eurosystem's new temporary guidelines. Each section ends with a brief description of these circumstances.

## 2 Credit claims as collateral

### 2.1 Background

The current framework for eligible assets in Eurosystem monetary policy operations covers a broad set of both marketable and non-marketable assets.<sup>5</sup> Generally speaking, these assets are mainly associated with issuers (or debtors) in the public and private sectors (the latter largely accounted for by bonds in the banking sector and credit claims in the corporate sector), have a high credit quality step (minimum BBB-/Baa3/BBBL on ECAI scales) and are euro-denominated, established in European countries (or G-10 countries) and subject to European law (see Table 1).

A comparison with other central banks reveals that the Eurosystem's collateral framework covers a broad and varied pool of assets.<sup>6</sup> This has traditionally been the case for both historical and structural reasons,<sup>7</sup> particularly the need to ensure the availability of collateral for a wide variety of counterparties with varying business models and operating in different jurisdictions and markets.<sup>8</sup>

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5 Non-marketable assets chiefly include loans and credit lines, along with other assets such as RMBDs (currently only used in Ireland) and fixed-term deposits, which carry far less weight.

6 See BIS (2013) for a summary of the main characteristics of the collateral frameworks of other central banks.

7 The first version of the general documentation [see ECB (1998)] already envisaged the need to address the differences in financial structure between the individual Member States. This prompted the creation of a two-tier system, with the first tier based on common eligibility criteria and the second tier comprised of assets for which eligibility criteria were set by each NCB, subject to the minimum eligibility criteria established by the ECB. For a more detailed assessment, see Bindseil et al. (2009), Chapter 9.

8 See Cœuré (2012).

Table 1

**EUROSYSTEM COLLATERAL ELIGIBILITY CRITERIA**

	Marketable assets	Non-marketable assets
Asset type	Debt instruments (e.g. asset-backed securities, covered bonds, corporate bonds, uncovered bank bonds, government bonds and agency bonds) with: a) a fixed and unconditional principal amount, and b) a coupon that cannot result in a negative cash-flow and has a simple structure	Credit claims with: (a) a fixed and unconditional principal amount, and (b) an interest rate that cannot result in a negative cash flow
Accepted credit assessment systems	Moody's, Fitch, S&P and DBRS (ECAIs)  Other credit assessment sources (ICASs and IRB)	
Credit standards	Credit quality category 3 on the Eurosystem's harmonised scale, equivalent to a 1-year default probability of up to 0.40%  Equivalence with ECAI ratings based on the Eurosystem's harmonised scale (second-best rating for securitisations; best rating for all other marketable assets)	
Place of issuance	European Economic Area (EEA)	Not applicable
Type of issuer, debtor or guarantor	NCBs, public sector, private sector, international and supranational institutions	Public sector, non-financial corporations, international and supranational institutions
Place of establishment of the issuer, debtor or guarantor	Issuer: EEA (except for asset-backed securities) or non-EEA G-10 countries (United States, China, Japan and Canada)  Guarantor: EEA	Euro area
Currency	Euro	Euro
Minimum size	Not applicable	Minimum size threshold at the time of submission: For domestic use: minimum threshold of €25,000 euros or higher established by the NCB (a). For cross-border use: common threshold of €500,000
Governing law	For securitisations, the purchase of underlying assets must be governed by the law of an EU Member State. The law applicable to credit claims must be that of a euro area country	Law applicable to credit claim agreements and mobilisations: law of a Member State of the euro area.  The total number of different laws applicable to the counterparty, the creditor, the debtor, the guarantor (if relevant), the credit claim agreement and the mobilisation agreement shall not exceed two.

**SOURCE:** ECB.

**NOTE:** This table provides a schematic view of the main characteristics of assets eligible as collateral for Eurosystem monetary policy operations. For more details, see Guideline (EU) 2015/510 of the ECB.

**a** The amount of €25,000 has been temporarily reduced to €0, in accordance with Decision (EU) 2020/506 of the European Central Bank of 7 April 2020, as part of the response to the COVID-19 crisis.

The general framework has been in force since the single list of eligible collateral was introduced for the 2005-2007 period, ushering in more standardised eligibility criteria than the individual euro area NCBs had applied since the ECB was founded in 1999. The single list was introduced in 2005, along with standardised criteria for marketable assets. In contrast with other central banks, traditionally more restrictive in relation to this asset type, in 2007 the Eurosystem included non-marketable assets in the single list. These would go on to play a central role in the set of collateral selected by counterparties.<sup>9</sup>

<sup>9</sup> Spain, together with a small group of European countries, used such assets before the single list was created. High quality credit claims and large credit portfolios available to be pledged led to the inclusion of this asset type in the single list [see ECB (2006)].

Non-marketable assets, and credit claims<sup>10</sup> in particular, have grown in prominence during recent years. The liquidity constraints faced by European banks during the global financial crisis, which began with the collapse of Lehman Brothers, saw the Eurosystem decide, in late 2011, to accept as collateral certain additional credit claims that, despite not being eligible under the single list, satisfied a series of specific conditions established by each NCB. These assets were sitting idle on banks' balance sheets and therefore constituted one of the main drivers of growth in eligible assets.

Specifically, the criteria were loosened in relation to the debtor type and the credit quality of credit claims, allowing some counterparties to use loans to individuals with a one-year probability of default (PD) of up to 1.5%<sup>11</sup> (or higher under certain conditions) and even non-euro denominated loans. Each NCB was required to specify the criteria that would be applied under this new framework, subject to prior authorisation by the ECB Governing Council. Some NCBs, including the Banco de España, therefore availed themselves of this national discretion.<sup>12</sup>

In the wake of this measure, and others introduced on a temporary basis,<sup>13</sup> there has been a recent shift in the composition of the assets used as collateral in Eurosystem monetary policy operations, with non-marketable assets gaining weight (see Chart 1.1). The use of such assets in the Eurosystem grew notably during the crisis, rising from 3.8% of total collateral assets in 2006 to 26.5% in 2012 H2. There was a slight dip in subsequent years, but a gradual decline in the use of other assets, in particular uncovered bank bonds,<sup>14</sup> has seen the weight of non-marketable assets return to near-2012 levels (24.1% in 2019 Q3).

In addition to this direct use, credit claims are also used as collateral by counterparties indirectly through the mobilisation of covered bonds<sup>15</sup> and asset-backed bonds (particularly own-use covered bonds and retained asset-backed securities, which are backed by the institution's own credit claims). If we include these assets in the

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10 The term "credit claim" broadly refers to all rights to repayment of monetary amounts constituted by a debtor's obligation to a counterparty, mainly loans and credit lines.

11 This PD level is one or two steps below the investment-grade credit quality required by the single list.

12 In the Banco de España's case, credit claims with a maximum PD of 1% and denominated in the main foreign currencies were accepted (<https://www.bde.es/f/webbde/SPA/sispago/ficheros/es/AT-2-2012.pdf>). For the other NCBs, see Tamura and Tabakis (2013), Table 5.

13 For example, in late 2011 the Eurosystem also relaxed requirements for less complex asset-backed securities. For a description of the measures adopted during the crisis relating to collateral eligibility criteria, see ECB (2015), Box 3.

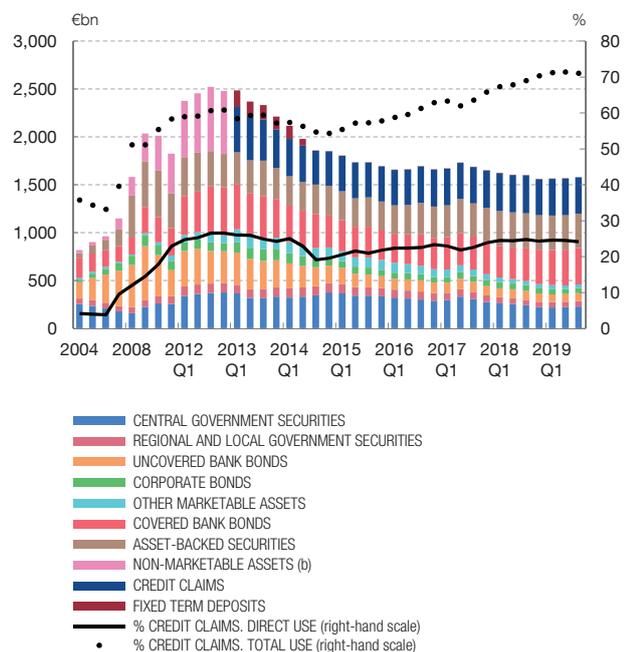
14 Uncovered bank bonds have been subject to several measures that have put constraints on their use as collateral, most notably the limitation, introduced in 2009, of such assets to a share of 10% in the value of the collateral pool of each counterparty (see <https://www.ecb.europa.eu/mopo/assets/html/index.en.html>).

15 The term "covered bond" refers to a debt instrument with a dual recourse mechanism: a) direct or indirect recourse against a credit institution, and b) recourse against a dynamic set of underlying assets, with no division into tranches of varying risk [Article 2(12) of the Orientation 2015/510 of the ECB]. In Spain, covered bonds include *cédulas hipotecarias* (Spanish mortgage covered bonds) and *cédulas territoriales* (Spanish public-sector covered bonds).

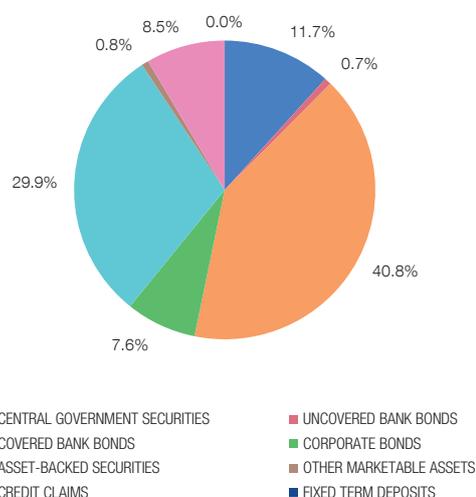
Chart 1

**USE OF COLLATERAL IN MONETARY POLICY**

1 USE OF COLLATERAL IN THE EUROSYSTEM (a)



2 USE OF COLLATERAL IN SPAIN (c)  
December 2019



SOURCES: ECB and Banco de España.

- a Valuation after haircuts; average month-end data over each time period shown.
- b Since 2013 Q1, the category "Non-marketable assets" is split into two categories: credit claims and fixed term deposits.
- c Valuation after haircuts; data as at 27 December 2019, as a percentage.

above calculation, the figure would reach an all-time high of 71% of total collateral assets in 2019 Q3 (see Chart 1.1).

The use of non-marketable assets in Spain shows a similar trend to the Eurosystem, albeit with some notable differences (see Chart 1.2). The total use of credit claims (including indirect use) is more pronounced, accounting for 79.3% at end-2019 (above the average of 71% for the Eurosystem). Further, most of these assets are backed by the issuer’s own assets.<sup>16</sup> However, direct use of credit claims is considerably lower, standing at 8.5% (compared with 24.1% for the Eurosystem). As explained below, the expansion plans for the ICAS BE aim to make directly available to Spanish counterparties a greater number of eligible credit claims, thus driving convergence with the rest of the Eurosystem.

As part of the emergency response to the COVID-19 crisis, the ECB Governing Council recently announced a series of temporary measures aimed at underpinning

<sup>16</sup> At end-2019, own-use covered bonds accounted for 98% of the total and retained asset-backed securities 93% of the total.

the availability of sufficient collateral assets for Eurosystem refinancing operations and simultaneously supporting bank lending.<sup>17</sup> As was the case in previous crises, the measures relating to additional credit claims are particularly significant. Specifically, credit claims guaranteed by public sector schemes in response to the crisis have been deemed eligible and the scope of acceptable credit assessment systems used in the ACC frameworks has been enlarged. The impact of these measures will be seen over the coming months. However, combined with the additional reduction of valuation haircuts applied to these assets, the likely upshot is an increase in the relative weight of credit claims in the total pool of collateral used by Spanish counterparties, repeating the pattern observed during previous crises.

## 2.2 Characteristics of credit claims as collateral

One key explanation for the growing use of credit claims as collateral lies in the incentives for counterparties to harness these less liquid assets (especially direct credit claims, retained asset-backed securities and own-use covered bank bonds) in monetary policy credit operations, allowing their more liquid assets (such as sovereign debt securities) to be used to guarantee market financing operations and comply with regulatory liquidity requirements.<sup>18</sup> This is made possible by the central banks' capacity to weather liquidity crises and transform the liquidity of the assets that they receive as collateral,<sup>19</sup> thereby helping to shore up financial stability.<sup>20</sup>

The use of credit claims also benefits central banks themselves in a number of ways. Firstly, it helps to more directly transmit monetary policy measures to the real economy, particularly towards those agents, such as enterprises, that do not issue debt instruments on organised markets. In this respect, the ECB conducts a regular study of the financing of euro area enterprises, which continues to indicate that bank credit is the primary source of funding for European SMEs.<sup>21</sup>

Secondly, the use of credit claims has provided the Eurosystem with a more diversified collateral base and allowed it to successfully cope with the high volume of temporary credit operations. This is all the more significant since the assets that

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17 [https://www.bde.es/f/webbde/GAP/Secciones/SalaPrensa/ComunicadosBCE/NotasInformativasBCE/20/presbce2020\\_64.pdf](https://www.bde.es/f/webbde/GAP/Secciones/SalaPrensa/ComunicadosBCE/NotasInformativasBCE/20/presbce2020_64.pdf).

18 Grandia et al. (2019) analyse the availability of high quality liquid assets (HQLA) in the euro area and the main driving factors. In their paper they refer to demand factors such as the holding of liquid assets to satisfy the regulatory liquidity coverage ratio (LCR) requirement and the use of these assets as collateral in market operations (both repo and OTC derivatives transactions).

19 Grandia et al. (2019) likewise examine the factors that affect the supply of liquid assets, noting the transformation effect of central banks' financing operations, enabling less liquid assets (pledged as collateral) to be replaced with liquid assets (provided that the funding is held at the central bank as excess reserves).

20 See Liikanen (2017), p. 3, and Bindseil et al. (2017), pp. 11-13, on the financial stability benefits of central banks being able to accept less liquid assets as collateral.

21 According to the ECB (2019), banking instruments (loans, credit lines and bank overdrafts) had recently been used (or were going to be used over the next six months) by half of the respondents. Meanwhile, market instruments were significant for far fewer enterprises (11% for shares and 4% for debt).

have traditionally been eligible as collateral have been progressively acquired by Eurosystem NCBs since 2014, under their securities purchase programmes; accordingly, they are less likely to be used by counterparties for traditional monetary policy operations. Further, this temporary broadening of the collateral framework probably contributed, albeit more indirectly, towards the success of these temporary operations by sending the market a signal that collateral availability would remain ample for some time to come.<sup>22</sup> Lastly, the broadened range of eligible collateral also benefited NCBs' role as lenders of last resort (this is examined in greater detail in Section 3.2).

Thirdly, and finally, the use of credit claims spurs the development of additional sources of credit assessment in the Eurosystem, since the scant coverage provided by ECAs (which focus on assessing NFCs with debt issuances on the markets) means a large number of NFCs with credit claims potentially eligible for counterparties are overlooked. The ECAF can thus avail itself of numerous alternative sources, specifically eight ICASs that enable it to develop its in-house credit assessment capabilities, a move consistent with the goal of reducing reliance on ECAs approved by the Financial Stability Board (FSB) in 2010.<sup>23</sup>

However, the use of credit claims is not without difficulties. Unlike marketable assets, credit claims require a series of more restrictive legal and operating requirements, geared towards allowing a faster and more effective enforcement of the Eurosystem's rights in the event of counterparty default. In practice, this means counterparties must regularly confirm the existence (and eligibility) of their credit claims, guarantee the validity of mobilisation agreements with the NCB (including against third parties) and ensure that contracts with debtors include no restrictions on the mobilisation and realisation of collateral, nor any other restrictions arising from banking secrecy. Section 4.4 describes how the Banco de España's current collateral eligibility framework aims to facilitate compliance with these requirements.

A further notable consequence of ECAs not assessing the credit quality of these assets, aside from reducing reliance on such institutions, as discussed above, is the use of credit claims becoming contingent on the availability of alternative credit assessment sources of due quality. This has a bearing on counterparties that either have no ICAS that can rate domestic NFCs in their jurisdiction or that lack an ECAF-approved internal ratings-based (IRB) system.

Lastly, the assessment of credit claims for the purposes of constituting Eurosystem collateral also poses a significant challenge. The valuation haircuts applied to these assets, like those applied to any other asset, must comply with the risk equivalence

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22 See Bindseil et al. (2017), p. 25.

23 See FSB document "Principles for Reducing Reliance on CRA Ratings" (available at [https://www.fsb.org/wp-content/uploads/r\\_101027.pdf](https://www.fsb.org/wp-content/uploads/r_101027.pdf)).

Table 2

**VALUATION HAIRCUTS APPLIED TO COLLATERAL ASSETS**

Asset type	Credit quality (a)	Minimum haircut (%)	Maximum haircut (%)
Marketable assets (b)	CQS 1-2 (AAA-A)	0,5	25,5
	CQS 3 (BBB)	6,0	38,0
Credit claims (c) (fixed interest payments)	CQS 1-2 (AAA-A)	12,0	45,0
	CQS 3 (BBB)	19,0	63,0
Additional credit claims (d) (applied by Banco de España)	CQS 1-2 (AAA-A)	12,0	45,0
	CQS 3 (BBB)	19,0	63,0
	CQS 4 (BB+)	42,0	78,0

**SOURCES:** ECB and Banco de España.

**a** Credit quality is defined based on the Eurosystem harmonised scale, which establishes equivalence between the different Credit Quality Steps (CQS) and ECAI risk categories (shown in brackets).

**b** Guideline (EU) 2019/1032 of the ECB, Annex, Table 2, amending Guideline (EU) 2015/510.

**c** Guideline (EU) 2019/1032 of the ECB, Annex, Table 3, amending Guideline (EU) 2015/510.

**d** To illustrate the haircuts applied to credit claims under the temporary framework, the haircuts applied to the additional credit claims eligible for the Banco de España are shown (Technical Application 4/2019 of the Banco de España, p. 7).

principle, which essentially means riskier assets are subject to larger haircuts.<sup>24</sup> The risk that marks out credit claims – which are valued based on their outstanding amount – from other assets is unquestionably their liquidity risk. The Eurosystem methodology therefore takes into account longer settlement periods for credit claims, which is why such assets are subject to larger haircuts than those applied to marketable assets (see Table 2).

### 3 The role of ICASs

#### 3.1 ICASs as a source of credit assessment

The eligibility of credit claims as collateral is subject to a series of requirements, as described in the previous section. Foremost among these is the credit quality step, which must exceed a minimum threshold. There are three possible credit assessment sources for this type of asset under the ECAF: ECAIs, ICASs and IRB. The counterparties must select one of these as their main credit assessment source, as well as additional sources should the primary credit assessment source lack sufficient coverage.

All of the sources are subject to ECAF rules, the main purpose of which is to ensure high credit quality standards across all of the assessment systems and to map each

<sup>24</sup> Valuation haircuts reflect the loss of value of collateral in an adverse scenario, defined for all assets as for the average loss in the worst 1% of cases.

Table 3

**EUROSYSTEM HARMONISED RATING SCALE FOR ECAIS**

ECAI rating		CQS		
		1 (PD ≤ 0.10%) (a)	2 (PD ≤ 0.10%)	3 (0.10% < PD ≤ 0.40%)
Long-term	DBRS	AAA/AH/AA/AAL	AH/A/AL	BBBH/BBB/BBBL
	Fitch Ratings	AAA/AA+/AA/AA-	A+/A/A-	BBB+/BBB/BBB-
	Moody's	Aaa/Aa1/Aa2/Aa3	A1/A2/A3	Baa1/Baa2/Ba3
	Standard & Poor's	AAA/AA+/AA/AA-	A+/A/A-	BBB+/BBB/BBB-
Short-term	DBRS		R-1H, R-1M	R-1L, R-2L, R-2M, R-2L
	Fitch Ratings		F1+, F1	F2
	Moody's		P-1	P-2
	Standard & Poor's		A-1+, A-1	A-2

**SOURCE:** ECB.

**a** The CQS are established based on the one-year probability of default of the assets rated by the assessment system.

system's ratings to the Eurosystem's harmonised rating scale (see Table 3, which illustrates, by way of an example, the rating mapping for the four approved ECAIs). To satisfy this two-fold objective, each assessment system seeking endorsement under the ECAF must go through an acceptance procedure. Additionally, all sources accepted in the ECAF are subject to annual performance monitoring to identify and remedy in time any weaknesses that may arise.<sup>25</sup>

Although both ECAIs and IRB systems provide high quality assessments, there are certain drawbacks to using these two sources for credit claims in monetary policy operations. Regarding the former, few Spanish NFCs are rated by ECAIs. This naturally hinders the extensive use of credit claims. Further, ECAI assessments were designed to measure the ability to repay marketable debt (and not necessarily bank debt). As for the latter, assessments provided by IRB systems are only available for credit institutions that have been authorised to use such systems. This may have a bearing on the competitiveness of those counterparties that lack IRB systems.

None of these drawbacks affects ICASs. Their assessments are applied uniformly to all counterparties of the same NCB, coverage of Spanish NFCs is generally broad, and they have been designed exclusively for the purpose for which they are used (i.e. to assess the eligibility of credit claims). Furthermore, developing an ICAS strengthens the NCB's in-house credit assessment capabilities while simultaneously reducing its mechanical reliance on external ratings.

<sup>25</sup> The annual performance monitoring may result in a re-mapping of the assessment source's rating grades to the Eurosystem's credit quality steps, as well as its suspension or even permanent exclusion (see ECB/2015/510, Article 126).

In Spain, the source selected by counterparties to assess loans to Spanish NFCs is the ICAS BE. At end-2019, the total collateral accounted for by this group amounted to €5,938 million, representing 2.7% of the collateral pool. Such loans to NFCs represented 31.5% of non-marketable assets, a group that also includes loans extended to debtors in the general government sector (assessed using ECAI ratings).

The COVID-19 crisis will drive up the volume of ICAS BE-assessed credit claims pledged as collateral by Spanish counterparties. This increase will occur in two ways. Initially, counterparties are expected to mobilise loans extended to the country's largest NFCs that have already been assessed by the ICAS BE during the past year, using the model described in Section 4. Counterparties will subsequently be able to mobilise loans to SMEs thanks to the measures recently approved by the Eurosystem. Under these, the ICAS BE will be able to assess SMEs, which will help to support bank lending.

### 3.2 Other uses of ICASs

Aside from their role in monetary policy implementation, Eurosystem NCBs are also responsible for the provision of emergency liquidity assistance (ELA) to financial institutions which are solvent but face temporary liquidity problems. This also means that NCBs are responsible for the function's attendant effects; particularly, they must bear the costs and risks arising from the provision of ELA.

As in monetary policy operations, the provision of ELA must be sufficiently collateralised to cover the risks arising from a potential counterparty default and to safeguard the NCB's financial independence.<sup>26</sup> However, the applicable collateral framework may not necessarily match that used in monetary policy since it is set by the NCB concerned. It will also not be rigidly defined ex-ante, since some leeway must be allowed based on each situation. Nonetheless, the eligible collateral in these cases must satisfy the risk equivalence principle discussed previously, and thus contribute towards the objective of collateral sufficiency.

As lenders of last resort, NCBs must be in a position to assess a pool of sufficiently ample and varied assets in order for them to be used as collateral in ELA operations by applicant counterparties. Having an ICAS can help in this regard in several ways. First, they can play a preventive role, with the function of lender of last resort performed within the monetary policy framework since sufficiently ample assets (in this case in the form of credit claims) are made available to counterparties. Second, the development of in-house credit assessment capabilities means assets beyond those strictly eligible for

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<sup>26</sup> See ECB (2015), Section 2.6.

monetary policy operations (i.e. those eligible for ELA operations) may be assessed, thus contributing towards the more effective provision of temporary liquidity.

The expansion plans for the ICAS BE detailed in Section 5, which have been brought forward in response to the COVID-19 crisis, aim to assist in this regard by making a greater number of assessed NFCs and, therefore, a greater number of potentially eligible credit claims available to Spanish counterparties. However, the success of these plans will depend on how prepared the counterparties are to post such assets as collateral. In order to satisfy the operating and legal requirements described above, and be in a position to process detailed information regarding credit claims, counterparties will need to implement the processes required to mobilise such assets.

In addition to performing tasks associated with providing counterparties with funding, ICASs can also contribute towards the design and implementation of other NCB functions, as described below:

- Their assessments may be used to prepare economic research articles, analysing aspects such as monetary policy transmission to the real economy and funding trends among non-financial corporations.<sup>27</sup>
- In terms of financial stability, the assessment systems for NFCs developed by ICASs can be used by NCBs to analyse the microeconomic risks of these agents, how they interact with other agents and their potential systemic impact.
- The information compiled by ICASs on NFCs and the counterparties that apply for assessments can help some NCBs to expand their financial information database. In turn, this information can be used in economic analysis of the corporate sector.<sup>28</sup>
- In the supervision of credit institutions, ICAS assessments serve as a reference when analysing the probability of default (PD) used in stress tests or to calculate regulatory capital requirements based on IRB systems. Likewise, the assessments are used as a reference when estimating provision coverage for projected credit losses on banks' loans and receivables.

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27 Cahn et al. (2018) analyse the effect of external assessments provided by the ICAS on banks' lending decisions. Their main conclusion is that the effect is greater on those banks and NFCs where there is no relationship, which helps to reduce the problems of information asymmetry and nurtures competition between credit institutions.

28 Deutsche Bundesbank (2019) sets out the annual analysis of German enterprises' profitability and financing in 2018.

## 4 The Banco de España ICAS

Use of the ICAS BE began at the end of the 1990s in order to assess all listed Spanish NFCs, regardless of whether or not they had an external rating from an ECAI. By using the ICAS BE, credit claims vis-à-vis those NFCs were eligible as collateral within the two-tier framework for eligible collateral in force at that time.<sup>29</sup>

In 2014 the ICAS BE was transferred to the Banco de España's Financial Risk Department.<sup>30</sup> Since then, various actions have been conducted, all geared towards the common aim of expanding the Banco de España's in-house credit assessment capacities. As part of this strategy, particular emphasis has been placed on increasing the number and type of NFCs assessed, ensuring in tandem compliance with the high standards of credit quality required by the Eurosystem. To do so, the ICAS was equipped with a robust organisational structure, comprising three independent units engaging in the development of assessment methodologies, case-by-case analysis of each NFC and the independent validation of the processes and methodologies applied.<sup>31</sup>

### 4.1 NFCs assessed

Eurosystem ICASs should assess the ensemble of the country's NFCs, regardless of whether they are public or private, their sector of activity, their size or their legal form. However, the specific scope of each national ICAS depends on the assessment systems formally authorised by the Eurosystem. As detailed below, 2019 was an important milestone in relation to the ICAS BE's assessment scope.

Between its creation and 2014, the aim of the ICAS BE focused on assessing the main Spanish NFCs that were listed on securities markets. From 2014 the ICAS BE began to assess new unlisted public and private economic groups.<sup>32</sup>

In 2019 the scope of action of the ICAS BE extended significantly due to the authorisation granted by the Eurosystem to assess any large enterprise. It should be noted that, unlike the prior period, all the assessment systems used by the Banco de España ICAS since 2019 have been constructed in their entirety

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29 See ECB (1998), p. 39.

30 The Financial Risk Department belongs to the Directorate General Operations, Markets and Payment Systems of the Banco de España.

31 This structure, similar to that at commercial banks, enables a clear segregation of functions and complies with the rules applicable to all Eurosystem ICASs.

32 From 2011 the Banco de España was authorised to assess economic groups presenting their financial statements in accordance with International Financial Reporting Standards (IFRS). These included, aside from listed companies, other groups of companies that had opted voluntarily to present their financial statements using this format.

in-house at the Banco de España. This has contributed to achieving the main aim of further developing the in-house credit assessment capacities described in Section 2.2.<sup>33</sup>

In order to use its resources more efficiently, the ICAS BE selects the NFCs that it assesses, focusing on those with higher credit quality and higher volumes of credit claims. To estimate the credit quality of the group of potentially assessable NFCs, an individual automated assessment is performed based on the most recent financial statements available for each NFC. As regards the volume of credit claims, the information available in the Banco de España's Central Credit Register (CCR) enables a (partial) verification for each NFC of those credit claims that would satisfy the eligibility criteria.<sup>34</sup> The analysis of potentially eligible credit claims for the large enterprise group shows a high level of concentration among individual groups, with 80% of those loans having been extended to less than 15% of the enterprises (equal to a total of 500, as per Chart 2.1). The ICAS BE thus focuses its efforts on a lower number of NFCs, upon which it conducts an extensive analysis as described in Section 4.3.

In addition to the NFCs assessed on its own initiative, the ICAS BE also assesses, upon a specific request, those NFCs whose credit claims are being used, or are likely in the short term to be used, by a counterparty.<sup>35</sup>

The outcome of the NFC selection process has enabled significant growth each year in the volume of credit claims available to counterparties (see Chart 2.2).<sup>36</sup> While the growth during the initial years was due to a more efficient selection of NFCs and a better understanding of the economic groups, the increase in 2019 was due to the inclusion in the ICAS BE's assessment scope of all large enterprises.

The response to the COVID-19 crisis has entailed the inclusion of Spanish SMEs in the scope of the ICAS BE sooner than envisaged. Section 5 describes the plans that already existed in the ICAS BE when this article was written to gradually include those enterprises over the coming years and their consistency with the Eurosystem's new measures.

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33 Between 2011 and 2018, assessments by the ICAS BE of the groups presenting financial information under IFRS were based on CoCAS, the statistical credit assessment model developed by the German and Austrian NCBs [see Deutsche Bundesbank (2015), p. 39], supplemented by the qualitative review by Banco de España analysts.

34 See note a in Chart 2.

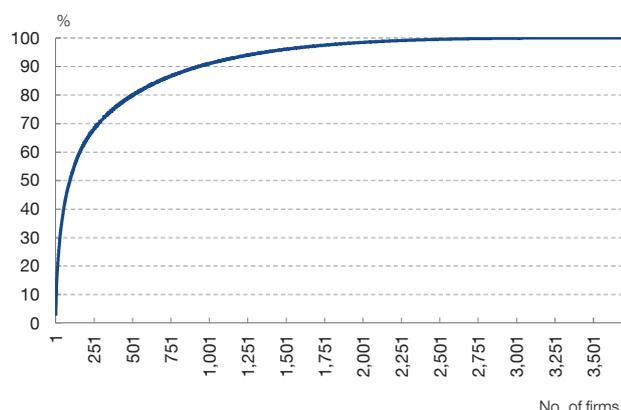
35 ICASs may perform a credit assessment on a counterparty's specific request (see Guidelines ECB/2014/60, Article 121).

36 The time variation shown in Chart 2.2 includes the effect of the changes in the financing obtained by NFCs from banks. However, their impact is adverse and of a lower order of magnitude than that of the changes in the set of NFCs assessed by the ICAS BE.

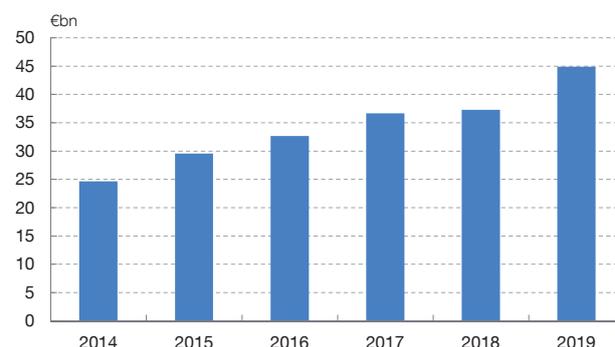
Chart 2

**POTENTIALLY ELIGIBLE CREDIT CLAIMS VIS-À-VIS LARGE ENTERPRISES (a) (b)**

1 INDIVIDUAL CONCENTRATION (c)



2 TOTAL BALANCE ASSESSED ANNUALLY BY THE ICAS BE (d)



SOURCE: Banco de España.

- a The information available in the Banco de España’s CCR enables a full or partial verification of a significant portion of the eligibility criteria for credit claims (see Guideline ECB/2014/60, Articles 89 to 105). The criteria relating to governing law (Article 97), handling procedures (Article 98) and the additional legal requirements for credit claims (Articles 100 to 105) are not subject to verification.
- b Large enterprises are deemed to be those which do not meet the following definition of SMEs established by the European Commission (see Commission Recommendation 2003/361/EC, Annex, Article 2): “The category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million”.
- c Cumulative balance by enterprise of potentially eligible credit claims. The enterprises are ranked (from largest to smallest) by individual credit balance. Data at November 2019.
- d Total balance of potentially eligible credit claims for the set of enterprises with an ICAS BE credit assessment equal to or better than CQS 4.

## 4.2 Information sources

The Banco de España ICAS uses a wide range of information sources to conduct its activity. First, it analyses NFCs’ economic and financial information to assess matters such as their level of indebtedness or their ability to generate cash flows to discharge their debt obligations. Second, it uses NFCs’ payment history to determine which NFCs have defaulted on their loan obligations or show signs of potentially defaulting in the short term.

The Banco de España has long-established databases for each of these two sets of information. With respect to the economic and financial information, the ICAS BE uses the annual accounts deposited at the Banco de España’s Central Balance Sheet Data Office (CBSO). The CBSO has the financial statements of more than 700,000 NFCs, gathered annually, and even quarterly in the case of larger enterprises, from various sources.<sup>37</sup> The CCR provides information on substantially all financial institutions’ credit claims, guarantees and exposures in general vis-à-vis their customers. This information is sourced monthly, enabling the

37 For more information, see <https://www.bde.es/bde/en/areas/cenbal/>.

creation and regular monitoring of a series of leading indicators of default for the assessed NFCs.<sup>38</sup>

In addition to these two sources, the ICAS BE uses another type of information of a more supplementary, albeit relevant, nature. For example, information is gathered from various market sources to evaluate the main sectors in which NFCs assessed by the ICAS BE operate and to make economic projections for the NFCs based on information available to the public. Information is also received from the other two information sources accepted by the Eurosystem (ECAIs and IRB), which provide the analyst with a valid external reference on an NFC's position. Lastly, information on assessed NFCs from the press and other media is processed daily in order to monitor them and identify possible impairment.

### 4.3 Credit assessment system

The ICAS BE is structured in two stages: the statistical model and the expert model. The first stage provides an automated assessment based on the NFC's most recent financial statements. In the second stage, the analyst incorporates in the final assessment of the NFC all those relevant matters that the statistical model was unable to capture.

#### 4.3.1 Statistical model

The statistical model's design contains two distinct phases. The first phase consists of ordering the NFCs based on their credit quality using a score calculated as the statistical combination of a series of their financial ratios. In the second phase, the risk associated with each score is quantified so that it reflects the NFCs' probability of defaulting on their loan obligations in the next 12 months (i.e. one-year PD). The expert criterion is present in both phases so that the final statistical model evenly combines the quantitative criteria inherent to statistical estimation techniques and the qualitative criteria provided by the analysts.

As regards the first phase, a logistic regression model estimated with a broad time window selects the set of financial ratios and their respective weightings. Unlike counterparties' IRB systems, in which the information on default tends to be confined to the scope of their individual relationships with NFCs, the variable that the ICAS BE model must explain reflects the percentage of loans defaulted by NFCs in the Spanish banking system as a whole.<sup>39</sup>

<sup>38</sup> For more information, see [https://www.bde.es/bde/es/secciones/servicios/Particulares\\_y\\_e/Central\\_de\\_Infor/Central\\_de\\_Info\\_04db72d6c1fd821.html](https://www.bde.es/bde/es/secciones/servicios/Particulares_y_e/Central_de_Infor/Central_de_Info_04db72d6c1fd821.html).

<sup>39</sup> The event of default is consistent with the definition of Article 178 of Regulation (EU) No. 575/2013 on prudential requirements for credit institutions and investment firms.

Table 4

**ECONOMIC GROUP ASSESSMENT SYSTEM. OTHER SECTORS**

Category	Name	Description
Size	Operating assets	Total assets – Non-current assets held for sale
Financial structure	Self-financing capacity	Reserves / Total assets
	Net financial indebtedness	Net financial debt / Operating assets
	Cash flow coverage	(Cash flows from operations – Changes in working capital) / Borrowing costs
Expense structure	Cost of borrowing	Borrowing costs / Financial debt
Asset structure	Capital intensity	(Current assets – Cash) / Operating assets
Liquidity	Short-term solvency	(Cash + current financial assets) / Current payables
Profitability	Economic profitability	EBITDA / Operating assets

**SOURCE:** Banco de España.

The ICAS BE has different models depending on the types of NFCs and their economic sectors. As regards types, different statistical models have been developed for NFCs and economic groups, based on their separate and consolidated financial statements, respectively. Furthermore, a sector-specific statistical model was estimated for each of these two types, distinguishing between the construction sector and the other sectors (see Table 4, which presents, by way of illustration, the financial ratios used for the general group model).

In the second phase, the calibration of the one-year PD associated with the statistical assessment uses as the main element the historical frequency of defaults observed over that time span. The scores are grouped in a finite set of ranges (representing the model's credit assessments), differentiated by the level of defaults observed in each interval. These levels are used to tie an estimated PD to each assessment and assign it to the corresponding credit quality step (CQS) in the ICAS BE's master scale (see Table 5).

#### 4.3.2 Expert model

The proposed automated assessment from the statistical models is supplemented with more recent and forward-looking information gathered by the analysts from the information sources described in the previous section. The most recent economic or business events, which are not contained in the financial statements due to a time lag between when they take place and when they are disclosed to the public, can thus be taken into account.

Table 5

**MAPPING OF THE ICAS BE TO THE EUROSISTEM'S HARMONISED RATING SCALE**

	Credit Quality Step						
	1&2 (PD ≤ 0.10%) (a)	3 (0.10% < PD ≤ 0.40%)	4 (0.40% < PD ≤ 1.00%)	5 (1.00% < PD ≤ 1.50%)	6 (1.50% < PD ≤ 3.00%)	7 (3.00% < PD ≤ 5.00%)	8 (PD > 5.00%) and default (D)
ICAS BE credit assessment	1, 2+, 2, 2-, 3+, 3 and 3-	4+, 4 and 4-	5+ and 5	5-	6+	6 and 6-	7+, 7, 7-, 8 and D

**SOURCE:** Banco de España.

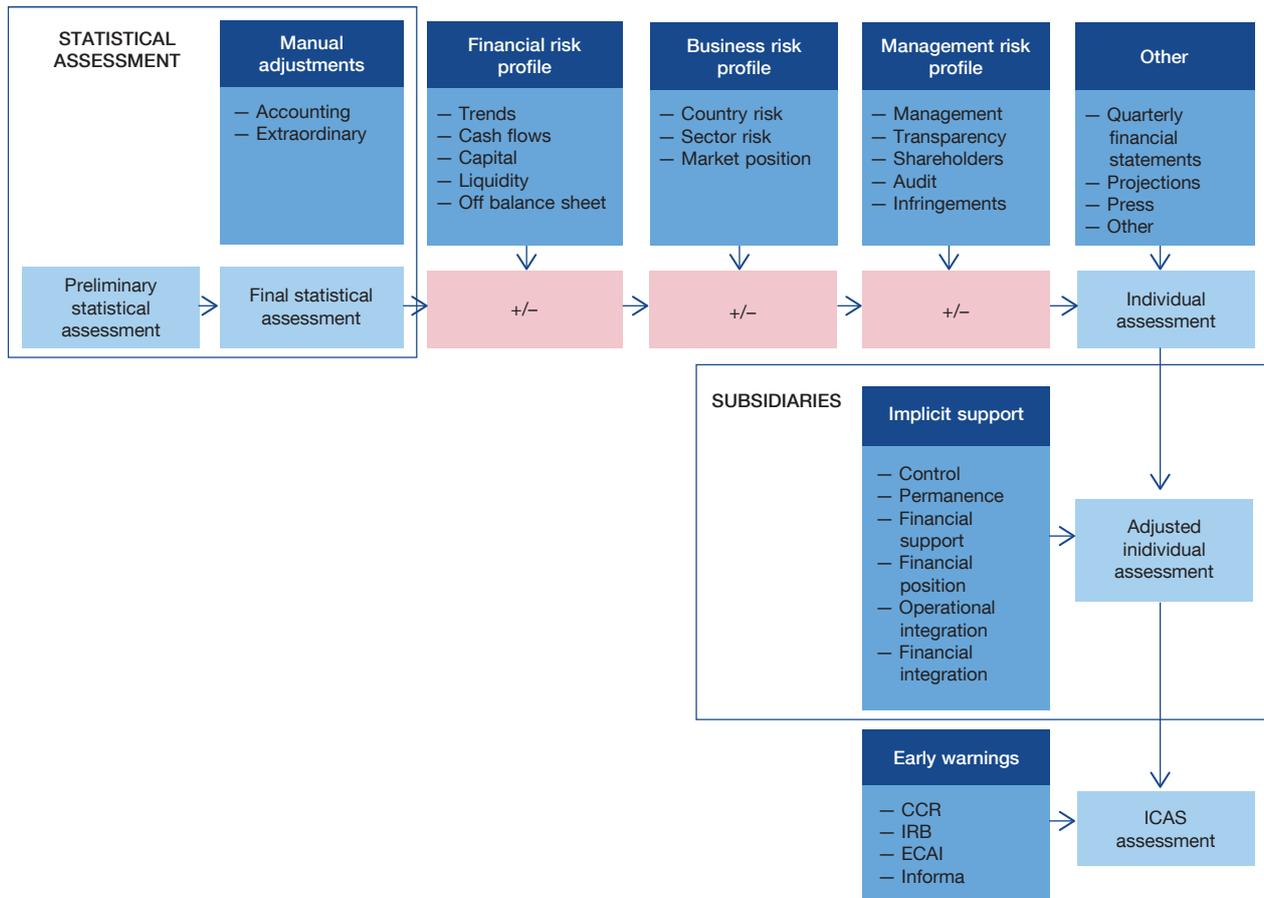
**a** The CQSs are defined on the basis of the one-year probability of default of the assets assessed by the assessment system.

The expert model of the ICAS BE has five areas of analysis, each with a series of risk indicators. The analysts progress through the areas sequentially (see Figure 1):

- A *statistical assessment validation* is performed by evaluating the accuracy and consistency of the financial information used and taking into account the possible non-standard or extraordinary effects that might exist.
- The *financial risk* profile is evaluated, supplementing the information used in the statistical assessment. In this case, less easily quantified aspects are taken into account, such as trends observed in the main balance sheet and income statement aggregates, NFCs' financial flexibility or the existence of financial contingencies not reflected on their balance sheets.
- The *business risk* to which the NFC is exposed is estimated. This is key to understanding future developments in its ability to discharge its financial obligations. The analyst evaluates the specific characteristics of the sector (or sectors) in which the NFC operates and its competitive position within it (them).
- *Management risk* is taken into account. The quality of management and of corporate governance, elements that also affect the credit assessment, is reviewed. The findings in the audit reports and the possible penalties imposed on NFCs for infringements are used by analysts as evidence for this type of risk.
- A review is conducted of any *additional information* that might be relevant to evaluating the NFC's creditworthiness; the information is gathered from various sources, such as the media, specialist market providers or even quarterly summaries of the financial statements provided by the NFCs themselves.

Figure 1

**ICAS BE EXPERT MODEL (a)**



**SOURCE:** Banco de España.

**a** The expert model analysis process is based on the preliminary statistical assessment and, following analysis of various elements, it provides the corporation's individual assessment. If the corporation is a subsidiary of an economic group, the implicit support that it could receive from the parent is analysed, giving rise to the adjusted individual assessment. Lastly, all corporations, be they subsidiaries or not, are subject to an analysis of possible early warnings from external references. The corporation's ICAS assessment is finally obtained using this last piece of information.

It should be noted that environmental, social and governance (ESG) criteria are included throughout the analysis process. The consideration of these factors in the credit assessment is in line with the practice of other external assessment sources (e.g. ECAIs). These sources apply a comprehensive approach when evaluating NFCs' credit risk, which takes into account not just environmental, but also social and governance factors. It is important to highlight that these factors are considered insofar as they could have an impact on NFCs' financial risk (in this case, credit risk). Therefore, these factors are unrelated to their preparedness for dealing with the threats and opportunities that ESG factors may pose in more general terms. Over the coming years, the ICAS BE will more closely monitor the

impact of these factors on credit assessments in order to incorporate best practices and thus be able to conduct a systematic and uniform analysis of the ESG factors.

The outcome of this entire analysis process is the NFC's preliminary assessment. In those cases where the NFC belongs to an economic group, it is also advisable to consider the positive and adverse decisions that the parent undertaking could take in relation to the assessed NFC. To do so, an assessment is conducted of matters such as the parent's percentage of ownership of/degree of control over the subsidiary and its integration in financial and business terms within the group.

Once the effect of the implicit support has been incorporated in the NFC's assessment (in the case of subsidiaries), an analysis is conducted of the possible early warning alerts triggered in the CCR and the divergence from the assessments provided by external references (ECAIs and IRB).

This entire analysis process results in the ICAS BE's final assessment, which, for the purposes of determining the eligibility of credit claims and the valuation haircut to be applied, directly matches the Eurosystem's harmonised scale (see Table 5). Specifically, on the ICAS BE scale the credit assessments 1 to 5 are mapped to the eligible CQSs on the Eurosystem's scale (1 to 4) and the other credit assessments (5 to D) are mapped to the ineligible CQSs (5 to 8).

#### 4.4 Credit assessments

Having described the credit assessment process, it is worthwhile to highlight some of the relevant aspects of the assessments performed by the ICAS BE:

- *12-month time horizon.* The assessments characterise the NFCs with a conservative estimation of the probability of default over the next 12 months. The statistical assessment of the first stage ties a one-year PD to an NFC, based on information from the most recent financial statements, and the expert model corrects this assessment upwards or downwards on the ICAS BE's rating scale.
- *Yearly validation.* The assessments are subject to a rigorous performance monitoring process on a yearly basis. This consists of analysing the consistency, for each risk category, between the frequency of default observed in the last twelve months and the PD assigned to each category. Significant unjustified deviations could lead the Eurosystem to apply an adjustment penalising the ICAS's assessments and, ultimately, its exclusion as a credit quality assessment system source.

- *Stability.* The assessments are intended to be stable over time, despite being tied to a relatively short time horizon. The aim of this characteristic is for counterparties to be able to rely on a stable source of collateral that is not affected by the impact of the economic cycle. To achieve this aim, the ICAS BE includes some elements, particularly in the expert model, that lend stability to the assessments assigned.
- *Consistency.* The centralised organisation and structured nature of the ICAS BE contribute to the consistency and comparability of the assessments assigned. Furthermore, all the individual credit assessment reports are subject to the four-eyes principle, which requires reviews and discussions by the two committees.
- *Ongoing monitoring.* In addition to the yearly review of the assessments, the ICAS monitors them on an ongoing basis in order to identify as soon as possible any changes in the assessed NFCs' credit quality that might necessitate a change to their assessments. This intends to ensure that impairment of collateral is identified early. To facilitate this process, a list of corporations with unfavourable prospects is kept and reviewed on an ongoing basis. The NFCs on this list are subject to maximum supervision.
- *Confidentiality.* The credit assessments are confidential and not disclosed to the public. Their use is also restricted. The assessments are performed by the Banco de España in the exercise of its functions, specifically to implement monetary policy. The assessments are not shared with either the NFCs or the counterparties, which can only gain access to ascertain the eligibility of an NFC, based on the information provided by the collateral framework described in Section 4.5.

#### 4.5 Operational aspects of credit claim mobilisation

The developments implemented in the ICAS BE in recent years have been accompanied by an improvement in the IT systems handling collateral mobilisation. In this context, in 2014 the Banco de España launched a new application for pledging and handling non-mortgage loans in order to make this process more efficient, harmonise practices and act as a catalyst for liquidity for all Spanish counterparties.

The improvements brought about by this new application in the area of credit claims can be grouped into two types. First, the counterparties can consult the eligibility of the NFCs assessed by the ICAS BE independently, both through electronic consultations (by file) – using the list of NFCs to be consulted – and, shortly, manually by terminal. They can also send electronically all the information required to mobilise credit claims. This facilitates a swift response from the Banco de España.

However, mobilisation of credit claims still requires interested counterparties to submit to the initial and regular verification of the veracity of the information on the credit claims. Undoubtedly, this could entail the adaptation by the applicants of their IT systems and of certain legal and operating procedures.

## 5 ICAS BE expansion plans

As detailed above, the ICAS BE has a strategic role within the Banco de España due to its contribution to the development of in-house credit assessment capacities. In the monetary policy arena, this development has two significant effects, outlined in previous sections. First, a more direct transmission of monetary policy measures to the real economy, in this case to NFCs. Second, an advantageous effect on the role of NCBs as lenders of last resort.

To achieve these aims, the ICAS BE devised a plan, the first phase of which was completed in 2019, to expand by assessing all large Spanish enterprises (including unlisted enterprises). The second phase of the plan envisages the assessment of all remaining Spanish NFCs, i.e. the SMEs.

As described in Section 2.1, bank financing is highly important to SMEs, particularly in Spain. Information on the financing structure of NFCs shows that Spanish NFCs are more dependent on bank loans than their euro area counterparts.<sup>40</sup>

The NFCs' reliance on loans also means, from the supply side perspective, that loans extended to those NFCs represent a significant share of counterparties' balance sheets, with this being particularly significant in Spain.<sup>41</sup> By enterprise size, the total volume of loans extended to SMEs is of a similar magnitude to that of loans extended to larger enterprises overall (see Chart 3.1). This makes SMEs a clear potential target for the ICAS BE.<sup>42</sup>

With regard to assessing Spanish SMEs, it is important to highlight the repercussions for the ICAS BE of assessing such a high number of corporations. In the case of large enterprises, the concentration of credit claims in a relatively small set of enterprises (around 500) enabled each NFC to be assessed individually by an

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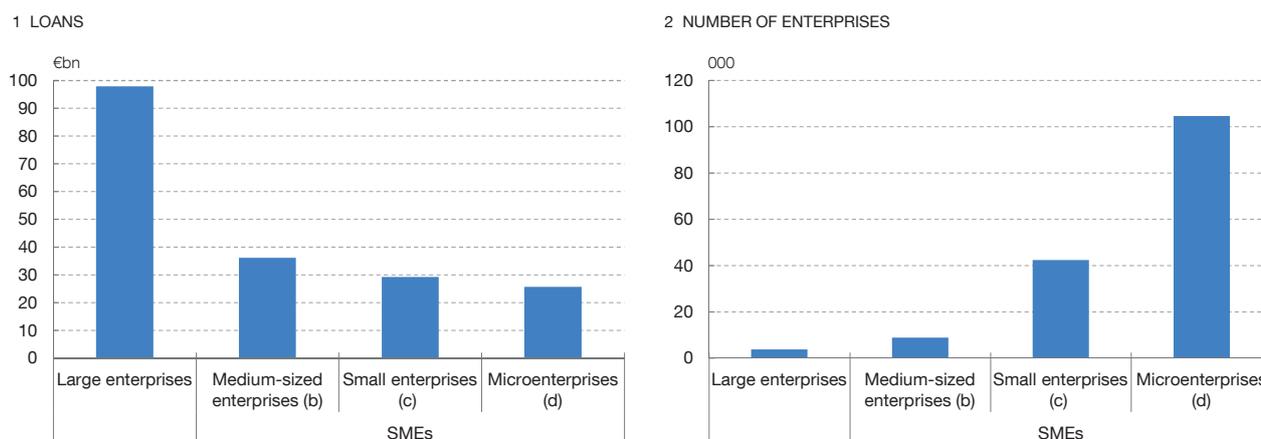
40 Tamura and Tabakis (2013) analyse the geographical differentiation of the financing structure of NFCs in the euro area. The findings for Spain show that bank debt accounts for more than 50% of total financing, with a negligible amount of financing obtained through marketable debt securities [see Chart 2 of Tamura and Tabakis (2013)].

41 Tamura and Tabakis (2013) also analyse the weight of lending to NFCs on counterparties' balance sheets and once again found significant differences between countries; in Spain and Italy the weight was much higher (exceeding 20%) than in France and Germany (10%).

42 The ICASs of other NCBs also assess smaller enterprises. At the Banque de France, 95% of the NFCs assessed have annual turnover of less than €50 million [see Schirmer (2014)]. At the Deutsche Bundesbank, 82% of NFCs are deemed to be SMEs [see Deutsche Bundesbank (2019), p. 3].

Chart 3

**LOANS EXTENDED TO ENTERPRISES (a)**



**SOURCE:** Banco de España.

- a The volume loans was calculated as per Note a to Chart 2, with the sole difference being that, due to the unavailability of a credit assessment source for SMEs, the credit quality filter was not applied in any case.
- b Medium-sized enterprises are deemed to be all those enterprises within the SME category as defined by the European Commission (see Commission Recommendation 2003/361/EC, Annex, Article 2) that are not included in the small enterprise or microenterprise subcategories.
- c Within the SME category, a small enterprise is defined as an enterprise which employs fewer than 50 persons and whose annual turnover and/or annual balance sheet total does not exceed EUR 10 million (see Commission Recommendation 2003/361/EC, Annex, Article 2.2).
- d Within the SME category, a microenterprise is defined as an enterprise which employs fewer than 10 persons and whose annual turnover and/or annual balance sheet total does not exceed EUR 2 million (see Commission Recommendation 2003/361/EC, Annex, Article 2.3).

analyst. The complexity of Spain’s large economic groups and the significant amount of public information available for financial analysis justified this approach.

SMEs are in particular abundance (in excess of 150,000) (see Chart 3.2). Furthermore, there is less public information available. This limits the value added by the expert analysis. The concurrence of both factors leads to the conclusion that a case-by-case assessment of SMEs is not the most appropriate option. Other alternatives need to be evaluated.

The assessments resulting from the statistical models must be the basis of the credit assessment of the SMEs. These models may incorporate manifold information sources, such as those set out in Section 4.2. Thus, the financial information from the financial statements, which is not disclosed as and when events occur, may be supplemented with the regular monthly information from the CCR on NFCs’ payment history. External references provided by other sources will serve to incorporate additional relevant information from the sources’ financial relationships with the NFC. Lastly, sectoral analyses conducted in the assessment of large enterprises may help to foreshadow the aggregate effects that might affect SMEs, the impact of which should be greater due to their businesses being less diversified.

The measures recently approved by the Eurosystem in response to the COVID-19 crisis have enabled the extension of the scope of the acceptable credit assessment systems. The different alternatives include the possibility of the ICAS BE temporarily assessing non-financial corporations using purely statistical models, provided that the assessment is conservative enough to mitigate the risk of not resorting to expert analysis.

The set of tools used by the ICAS BE in the analyses of all Spanish NFCs contains statistical models developed for SMEs. These models are similar in nature to the statistical model described in Section 4.3.1 and are differentiated according to enterprise size (see the differentiation in Chart 3). In order to satisfy the Eurosystem's new requirements, the statistical assessments from these models have been adjusted using conservative criteria and supplemented with information from external sources, in line with what is set out in previous paragraphs.

The assessment of NFCs using statistical models will enable Spanish counterparties to avail themselves of a greater number of eligible credit claims. First, new NFCs may be identified that satisfy the minimum credit quality requirement (one-year PD of up to 1.5%) applied to date to debtors until now. Second, portfolios of business loans may be presented that, in certain conditions of uniformity and granularity, may even have a one-year PD of more than 1.5%. In the latter case, the ICAS BE must use estimates of the credit claims' loss given default (LGD) in order to calculate the applicable valuation haircuts. These haircuts, as in the case of any collateral, follow the principle of risk equivalence; accordingly, the haircuts are larger for assets with a higher PD/LGD. However, the haircuts may be lower than those applied to individually mobilised credit claims due to the mitigation of risk resulting from belonging to a diversified portfolio.

## 6 Conclusions

The Banco de España in-house credit assessment system has been operating since the end of the 1990s and has focused on the use of credit claims as collateral in traditional monetary policy operations. It has thus enabled the mobilisation of credit claims vis-à-vis Spanish NFCs that did not have an external rating from an ECAI. Since 2014 the ICAS has undertaken a series of actions, geared towards increasing the number of NFCs assessed, with the ultimate aim of being in a position to assess any Spanish NFC.

Simultaneously, the use of credit claims in the Eurosystem's monetary policy has increased significantly as a result of the global financial crisis triggered in 2008. The level reached in 2012 remains to this day, and there are various factors behind why the effect has not been temporary. The key factors include it being in the

counterparties' interest to use this type of less liquid asset for central bank financing transactions, leaving more liquid assets for compliance with regulatory targets or to be provided as collateral in market operations.

However, central banks can also benefit from the use of these assets, as it facilitates the transmission of monetary policy to the real economy and provides a wide collateral base that ensures the effectiveness of their expansionary financing policies. One option available to NCBs with a view to mobilising these assets is to develop ICASs, which also means avoiding the disadvantages inherent in other sources (ECAIs and IRB). The relevance to other NCB functions may render ICASs a strategic asset for such institutions.

In this connection, mention should be made of the role of ICASs in the provision of emergency liquidity assistance. Given that the collateral framework applicable in this case may not coincide with the monetary policy framework, the NCB should be in a position to assess a sufficiently abundant and varied group of assets, among which credit claims can play an important role. The expansion plan designed by the ICAS BE makes it possible to cater to this and other needs. However, the success of the plan hinges on the preparedness of the counterparties themselves to meet the more numerous eligibility requirements imposed on these assets than on more standard asset types.

The ICAS BE had future plans to perform credit assessments on the Spanish NFCs that were not at that point being assessed. However, the COVID-19 crisis has brought those plans forward and Spanish SMEs now fall within the scope of the ICAS BE. The challenge that lies ahead is ambitious, as the high number of new NFCs combined with the current economic uncertainty will require all efforts to be focused on anticipating any adverse developments in credit risk that might affect the soundness of the Eurosystem's and, in particular, the Banco de España's balance sheets. However, the necessary response to the COVID-19 crisis, in the terms established by the ECB Governing Council, has led to this step being taken, thus facilitating access by Spanish counterparties to Eurosystem financing transactions and capitalising on the high interdependence between SMEs and the Spanish banking sector.

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