



Non-bank financial intermediation in Spain

Financial year 2019

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The report on non-bank financial intermediation (NBFI) in Spain describes the most recent trends of the entities and activities that form part of the process and assesses their most important risks. This report forms part of the CNMV Non-Banking Financial Intermediation Monitor published every six months (<http://cnmv.es/portal/Publicaciones/PublicacionesGN.aspx?id=56&lang=en>).

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1 Executive summary

This publication monitors the entities that form part of non-bank financial intermediation (NBFi) in Spain. This edition analyses the main figures for this sector, as well as its most important risks in 2019. Risk analysis is a continuously evolving practice that is built on with new metrics in each edition of this half-yearly report. On this occasion, the findings of the analysis of various stress tests carried out on Spanish investment funds are included and the main liquidity management tools activated in the context of the coronavirus crisis are also described. Standouts of this edition are:

- The Spanish financial system grew by 1.9% in 2019, to stand at €4.64 trillion. This figure is still much lower than the highs reached in 2012 (€5.15 trillion), but marks a recovery from the lows of 2015 (€4.41 trillion). The most notable feature of 2019 was the fact that the increase in the size of the financial system came from growth in all its major components, including the banking sector, which had experienced several years of sharp asset reductions. Bank assets, which remain the most significant in terms of their weight in the system (55%), increased by 2.4%, to €2.54 trillion, assets of OFIs (other financial institutions), the next most significant (17.8%), rose by 2.2%, to €825 billion; insurance assets grew by 6.9%, to €321 billion, and pension funds assets were up by 3.2%, to €148 billion. The assets of financial auxiliaries also increased by 1.4%, to €65 billion.
- The assets of the non-bank financial intermediation sector in the broad sense (all non-bank entities) stood at €1.36 trillion in 2019, an increase of 2.9% compared with the previous year, representing around 30% of the total financial system. The performance of OFIs stands out in this sector, given that it is from this group of entities that those ultimately forming part of the narrow definition of NBFi are selected. OFI assets as a whole stood at €825 billion in 2019, 2.2% more than in 2018. This amount accounts for more than 60% of the non-bank financial sector. Leading the OFI segment in terms of volumes of assets were investment funds (with over €320 billion), captive financial institutions (€190 billion) and securitisation vehicles (€175 billion). It should also be noted that the total assets of OFIs have hovered around €800 billion since 2013, while at the same time undergoing a very significant change in composition in favour of investment funds and to the detriment of outstandings of securitisation vehicles.
- The level of interrelation among the major sub-sectors of the financial system is analysed through direct balance sheet exposure. 2019 data for the interrelation between the banking sector and OFIs reveal that the direct exposure between the two continues to decline: banks' claims on OFIs ("Bank exposure to OFIs") accounted for 9.5% of bank assets (14% in 2010) and banks' liabilities to OFIs ("Bank use of funding from OFIs") accounted for the same percentage in 2019, 9.5% of bank assets (10 percentage points less than in 2008).

- The delimitation of the narrow measure of NBFI is based on the non-banking financial sector in its broadest sense (all financial entities except banks) and aims to identify the entities that can be included in any of the five economic functions defined by the Financial Stability Board (FSB) in 2013¹ and to match these entities' activities with one or other of the typical banking risks. In practice, this process involves removing insurance undertakings, pension funds and financial auxiliaries, together with OFIs that do not carry out any of these economic functions (the main exclusions are captive financial institutions). This measure includes under NBFI certain types of investment funds, securitisation vehicles, finance companies, broker-dealers and mutual guarantee companies. The assets of these entities totalled €513 billion at year-end 2019. Stripping out the assets that are consolidated in banking groups, the narrow measure of NBFI in Spain gives total assets of €311 billion in 2019, almost 5% more than in 2018. The weight of this sector in the financial system as a whole (6.7%) remains below that of other advanced economies.
- Of the €513 billion corresponding to all economic functions, entities belonging to functions 1 and 5 (EF1 and EF5), which relate to certain types of investment funds and securitisation vehicles, represent the biggest proportions, with 52.1% and 34.2% of the total in 2019, respectively (50.2% and 36.6% in 2018). Finance companies (EF2) are the third most important, with a weight of 11.7%. Entities belonging to EF3 (broker-dealers) and EF4 (mutual guarantee companies) have a lower relative importance, of 1.8% and 0.2% respectively. These figures, which correspond to the total number of entities, change substantially if entities included in the consolidated balance sheets of banking groups are eliminated: investment funds (which are not consolidated) gain weight, reaching 86.1% of the narrow measure of NBFI, while the weight of securitisation vehicles, with a very large proportion of the total sector consolidated by banks, falls to 8.8%. Entities belonging to the remaining three economic functions represent barely 5% of the total.
- The analysis of the risks associated with NBFI does not currently point to the existence of significant vulnerabilities from the standpoint of financial stability. The most notable risks are still credit and liquidity risk for most NBFI entities. The colour map depicting the perceived intensity of these risks shows little change from the previous year. Thus, in 2019, the leverage of finance companies decreased and broker-dealers saw an increase in leverage and a reduction in credit risk. In the specific area of investment funds, the most exhaustive studies focus on an assessment of the liquidity conditions of the portfolios and debt acquired through derivatives transactions. Liquidity analyses indicate a decrease in the proportion of highly liquid assets, especially in certain categories, although it is considered that these are still sufficient to cover a possible increase in redemptions. However, the leverage indicators calculated suggest that the sector is excessively leveraged as a whole or in any particular category of funds.
- This publication includes two exhibits that address topics of special interest:
 - The first summarises the main findings of the latest stress tests carried out by the CNMV on mutual funds, with information up to June 2020.

This exercise uses a methodology based on a proposal made by the European Securities and Markets Authority (ESMA) that has been improved with the inclusion of granular data from the funds and more robust modelling. The most significant findings include the quantification of funds' high quality liquid assets (HQLAs) and the identification of funds that would not be able to cover a given redemption shock with their available liquid assets. The analysis reveals that only in the most extreme scenario a total of eight funds in three different categories would have liquidity problems (these funds account for 3.9% of equity in the corporate bond category, 0.5% in the sovereign and corporate bonds category and 0.2% of the funds in the "Other" category).

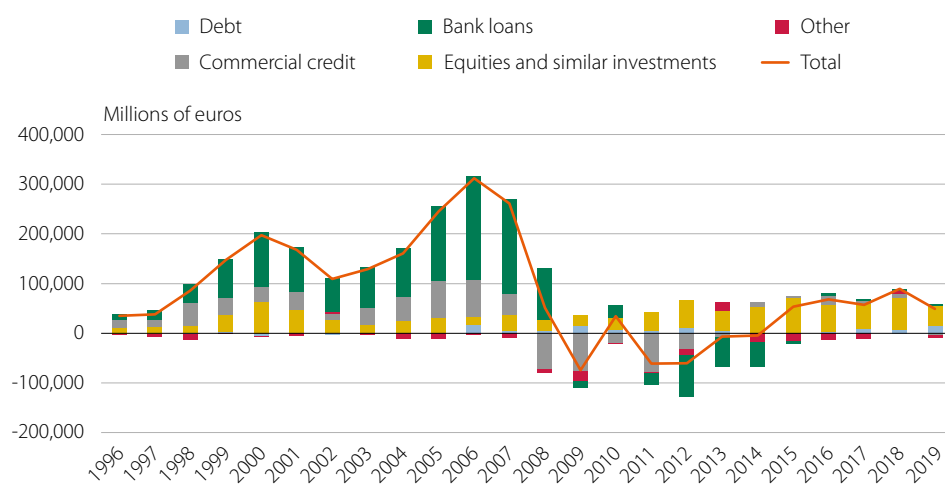
- The second exhibit describes the main liquidity management tools used by investment funds, their availability in different countries and their use in the most turbulent moments of the COVID-19 crisis. Work relating to the suitability of these tools and the standardisation of their availability at European level has intensified as a result of the recent crisis. There are in effect multiple tools for managing the liquidity risk of these institutions, some of a preventive nature and others that seek to minimise the damage for unitholders once the risk has materialised. However, only a few, such as suspension or redemption fees, are widely available in the different Member States, and there are also notable differences between undertakings for collective investment in transferable securities (UCITS) and alternative investment funds (AIFs). Spain stands out not only for the large number of tools it has available, but also for their dynamic implementation, as reflected in the two new tools approved since 2019. During the crisis, at European level there have been suspensions of redemptions in several funds (with exposure to the real estate sector and corporate debt), while in Spain there have been only five partial suspensions. The use of swing pricing systems or bid price valuations has also been encouraged.

2 Trends in main indicators

This section describes the most recent performance of the segments making up the Spanish financial sector, paying particular attention to non-banking segments. As explained in previous editions of this report, it is reasonable to assume that an economy with a more balanced financing structure between the banking sector and capital markets will be able to achieve higher long-term growth rates, as well as having less abrupt fluctuations in its economic cycle. Non-bank financing, in a broad sense, is emerging as a valuable alternative to bank financing, with benefits for both the parties involved and the economy as a whole. Companies that receive financing outside the traditional banking channel have greater possibilities of obtaining funding to finance their projects, their levels of transparency improve and their reputation is enhanced. Unfortunately, financing through the capital markets is in practice an option that is used frequently only by large companies, which is why we are seeing various initiatives at both the national and international levels to promote and facilitate the access of smaller companies to these markets. Lastly, it is worth highlighting the stabilising nature of the funding provided by the financial markets to companies at times when other alternative sources are significantly reduced or diminished, as seen just a few years ago (see Figure 1).

Financing of non-financial companies

FIGURE 1



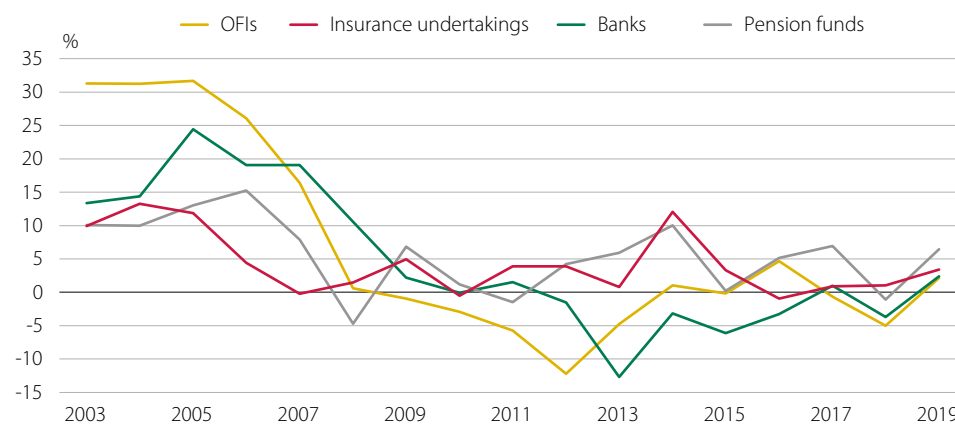
Source: Bank of Spain.

The Spanish financial system grew by 1.9% in 2019, to €4.64 trillion. It had reached a high of €5.15 trillion in 2012, when the bank restructuring process began in Spain, before falling to an all-time low of €4.41 trillion in 2015, since when it has shown a slightly upward trend. As seen in Figure 2, the reduction in the size of the Spanish financial system between 2012 and 2015 was caused exclusively by the decline in bank assets. The other large segments of the financial system (insurance undertakings, pension funds and OFIs) grew with varying degrees of intensity until 2018. The most notable feature of 2019 is that all segments showed growth (except for the

part corresponding to the Central Bank). As shown in Table 1, bank assets, which remain the most significant in terms of their weight in the system (55%), increased by 2.4%, to €2.54 trillion, assets of OFIs, the next most significant (17.8%), rose by 2.2%, to €825 billion; insurance assets grew by 6.9%, to €321 billion, and pension funds assets were up by 3.2%, to €148 billion. The assets of financial auxiliaries also increased by 1.4%, to €65 billion.

Annual growth of financial system assets

FIGURE 2



Source: Bank of Spain.

Structure of the Spanish financial system

TABLE 1

Millions of euros

	Central bank	Banks	Insurance undertakings	Pension funds	Financial auxiliaries	OFIs	Total
Size in 2019 (millions)	745,021	2,539,128	321,125	148,471	65,445	825,024	4,644,215
Size in 2018 (millions)	753,896	2,480,143	310,482	139,457	64,130	807,567	4,555,676
% of total (2019)	16.0	54.7	6.9	3.2	1.4	17.8	100.0
Growth 2019 (%)	-1.2	2.4	3.4	6.5	2.1	2.2	1.9
Cumulative growth 2002-2009	125.8	158.4	54.6	73.2	338.0	231.9	158.9
Cumulative growth 2009-2018	243.5	-25.4	26.5	35.0	13.1	-23.8	-9.1

Source: CNMV and Bank of Spain.

Identifying the non-bank financial intermediation sector based on entities that make up the financial system is not a simple task. In fact, the definition of activities and entities that are part of this sector has been modified and outlined more accurately in recent years in a revision process that has even affected the name of the sector, originally known as shadow banking.² Even so, there is no unequivocal delimitation of NBFIs. For example, the analyses carried out by the European Systemic Risk Board (ESRB) are based on all OFIs, whereas the FSB starts from a non-bank

2 The name *shadow banking* had negative connotations, suggesting a group of entities operating without being subject to regulation or supervision. The change of name to *non-bank financial intermediation* came about after some debate, led by securities supervisors, which highlighted the fact that most of the entities in this group are subject to regulation and supervision, which, in some cases, such as Spain, is very demanding.

aggregate to which it applies certain concepts to give a close approximation of NBF. The FSB itself, in its latest annual reports on NBF³ (*Global Monitoring Report on Non-Bank Financial Intermediation*) has relaxed its original definition of the sector, which starts with all financial entities that are not banks and ends with the same narrow measure that it has been presenting in recent years.

This section of our publication, which broadly follows the guidelines defined by the FSB, describes the trends in this more general aggregate, excluding banks and focusing on OFIs, while the following section defines the narrow measure of NBF in terms of its size and most significant risks. As regards NBF in this broad sense, based on all non-banking financial entities, it should be noted that the weight of this sector in the Spanish financial system as a whole was close to 30% during the years of the global financial crisis, falling to 25% in 2012 and subsequently returning to rates of close to 30%. In 2019, the assets of these entities stood at €1.36 trillion, 2.9% more than in 2018. The relative size of the non-bank financial sector in other jurisdictions is greater. According to FSB data, this proportion is, on average, close to 50% of the total financial system, with an increase of 8.9% registered in 2019.

OFIs stand out among non-banking entities not only because they form the biggest group, but also because this group forms the basis from which the narrow measure of NBF is obtained, by identifying the entities that perform certain functions. As shown in Table 2, OFI assets were €825 billion in 2019, 2.2% more than in 2018. This amount accounts for more than 60% of the non-bank financial sector. Leading the OFI segment in terms of volumes of assets were investment funds (with over €320 billion), captive financial institutions (€190 billion) and securitisation vehicles (€175 billion). In relative terms they represent 39%, 23% and 21% respectively of total OFI assets (see left hand panel of Figure 3). The composition of OFIs in the international sphere shows some similarities with respect to Spain, but there are also differences. Among the similarities, the preponderance of investment funds and captive financial institutions stands out, with amounts representing close to 50% and 20%, respectively, of the aggregate assets of OFIs. In contrast, other entities such as broker-dealers are more significant (in terms of their size) than in Spain, unlike securitisation vehicles, which account for a mere 4% of the sector.

Structure of other financial institutions

TABLE 2

Millions of euros

	Non-money market investment funds	Money market investment funds	Captive financial institutions	SFVs: securitisation	Broker- dealers	Finance companies	REITs	Other	Total
Size in 2019 (millions)	317,082	3,788	190,088	175,542	9,392	59,893	32,714	36,525	825,024
Size in 2018 (millions)	290,041	6,810	189,432	184,576	4,563	60,504	32,381	39,260	807,567
% of total (2019)	38.4	0.5	23.0	21.3	1.1	7.3	4.0	4.4	100.0
Growth 2019 (%)	24.4	-44.4	0.3	-4.9	105.8	-1.0	1.0	-7.0	2.2
Cumul. growth 2002-2009	33.3	-74.7	845.3	917.4	14.3	49.0	-	-	231.9
Cumul. growth 2009-2018	55.1	-49.6	-33.3	-61.8	-65.4	11.4	378.9	124.5	-23.8

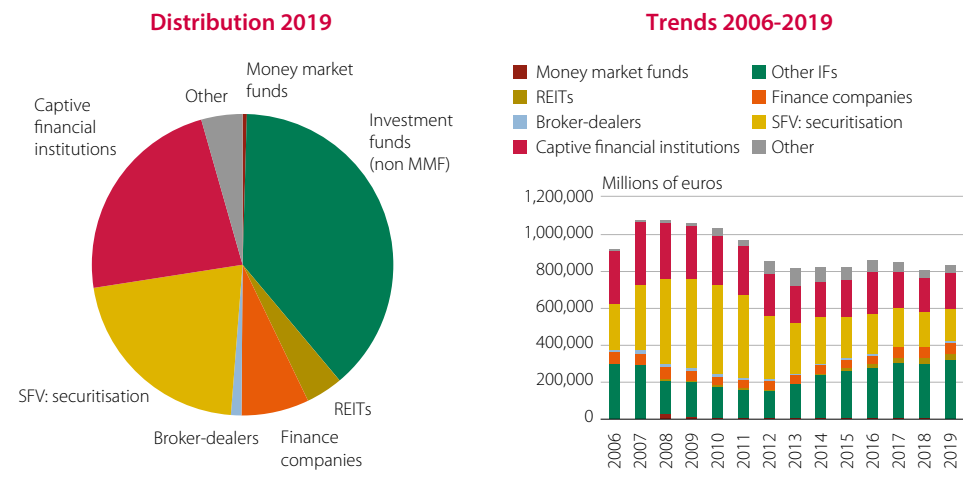
Source: CNMV and Bank of Spain.

3 The latest report, published in December 2020, is available at: <https://www.fsb.org/2020/12/global-monitoring-report-on-non-bank-financial-intermediation-2020/>

As explained in previous editions of this report (and as shown in the right-hand panel of Figure 3), OFI assets peaked in the years between 2007 and 2010, exceeding €1 trillion. From 2010 onwards, due to the effects of the crisis, OFI assets reduced gradually until 2013, due to the decline in assets of their largest components. Since then, the aggregate size of the OFI segment has held relatively steady at around €800 billion, but there has been a substantial change in its composition the relative weight of funds increasing from 23% to 38%, while that of securitisation vehicles has decreased from 34% to 21%. The collective investment industry has grown very substantially in recent years, doubling its assets in just a few years.

Distribution and trends of the OFI sector in Spain

FIGURE 3



Source: CNMV and Bank of Spain.

In the OFI segment, there are different types of entities that carry out very different financial activities. Some of them fulfil certain economic functions defined by the FSB (and which are described in the next section) and, consequently, are considered to be part of NBF1 in the strict sense. This group includes investment funds, although not all of them,⁴ structured finance vehicles (SFVs) for securitisation, broker-dealers, and finance companies. In contrast, the OFI sub-sectors that do not belong to the strict measure of NBF1 are captive financial institutions and money lenders, real estate investment companies and funds (REITs),⁵ central counterparties (CCPs), venture capital firms and the SAREB (Asset Management Company for Assets Arising from Bank Restructuring). Due to the size of their assets, a prominent place within this group of entities that are not included in NBF1 is occupied by captive financial institutions and money lenders, defined as entities that provide investment services with assets or liabilities that are not traded, for the most part, in open financial markets.⁶ At the end of 2019, the financial assets of these entities stood at €190 billion, slightly above the figure for the previous year. The other the entities that are not part of NBF1, together have assets of close to €70 billion.⁷

4 Equity funds are not part of the narrow measure of NBF1.

5 Real Estate Investment Trusts.

6 This sub-sector essentially comprises subsidiaries of groups of companies or entities that provide loans from their own funds through a single source. In Spain, a great many of these institutions are companies specially set up for the issuance of preferred stock and other negotiable securities.

7 Information on investment funds that do not belong to the economic functions is not included.

2.1 Credit intermediation and financing of entities included in NBF1

Trends in main indicators

The objective of this section is to provide an overview of the involvement of non-bank financial intermediaries in credit intermediation and the granting of loans within the financial system, as well as their use of wholesale financing and the temporary purchase of assets (repos).

In 2019, credit intermediation in the financial system as a whole (excluding deposits) increased by 1.1%, having contracted by 2.5% in 2018, with increases of different amounts in all sub-sectors except for pension funds (see Table 3). In the specific case of OFIs, credit assets stood at €235.64 billion at the end of 2019, representing 28.6% of the total value of their financial assets, a percentage that is much lower than the rest of the financial system sub-sectors. The most significant OFIs by far in terms of credit intermediation are securitisation vehicles, which account for practically 60% of the total.

Credit intermediation in the Spanish financial system

TABLE 3

Millions of euros

	Banks	Insurance undertakings	Pension funds	OFIs	Total
Credit assets ¹ 2019 (millions)	1,707,405	240,188	65,936	235,642	2,249,171
Credit assets ¹ 2019 (% of assets)	68.2	74.3	44.4	28.6	59.2
Growth 2019 (%)	0.7	3.7	-1.4	1.8	1.1
Loans 2019 (millions)	1,281,826	2,285	13	98,689	1,382,812
Loans 2019 (% of assets)	51.2	0.7	0.0	12.0	36.4
Growth 2019 (%)	0.4	-5.6	-14.1	0.7	0.4

Source: CNMV and Bank of Spain.

¹ Excluding deposits.

Since 2002, credit assets of OFIs have grown, in cumulative terms, by 25.1%, representing an annual average of 1.3%. These figures are much lower than those of other financial sector entities. For example, banking institutions have registered a cumulative increase of 92.4% (annual average of 3.9%). Total financial assets of these entities have decreased from 59.0% to 28.6%.

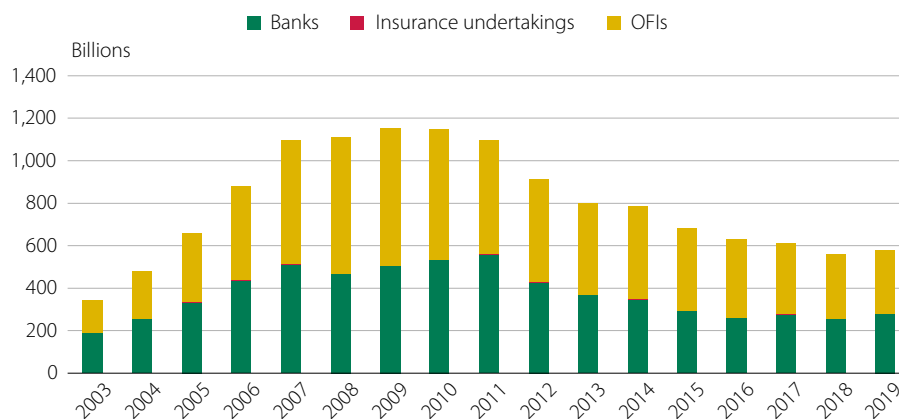
In relation to the financing received by entities in the financial system, wholesale financing is one of the main sources of funds. Although these instruments are positive for price formation and liquidity in secondary markets, they can also generate current obligations and consequently create risks associated with maturity transformation and liquidity outside the banking system. In the same way, wholesale financing can increase the interconnectivity among different financial institutions and therefore contribute to increasing the procyclicality of the system.

Spanish OFIs reached their greatest degree of dependence on wholesale financing in 2009, with €647 billion, from which point on this figure began to decrease sharply year after year to stand at €297 billion at year-end 2019, having fallen by 2.1% compared with the previous year. In relative terms, this represents 35.9% of the total financial assets of these entities, a percentage that has been progressively decreasing since 2009, when it was above 60%. If these figures are compared with the figures

for banks, as might be expected, banks' wholesale financing is well below that of OFIs, accounting for just over 11% of financial assets (a high of almost 18% was reached in 2006). Wholesale funding is residual for insurance undertakings, standing at just under €1.3 billion at year-end 2019, 0.4% of their financial assets (see Figure 4). Pension funds do not obtain funding by issuing the instruments used for wholesale financing.

Wholesale financing¹ of financial system entities

FIGURE 4



Source: Bank of Spain.

¹ Wholesale financing is understood as funding obtained by issuing bonds and commercial paper and from repos.

Within this type of obligation, long-term financing is the predominant source for OFIs, accounting for 70.9% of total wholesale financing in 2019, while for banks this figure stands at 86.8%. However, the trend marked over the years has been very different for the two types of entities, especially in the first years of the global financial crisis. Long-term financing of OFIs rose sharply until 2009-2010, in both absolute and relative terms, to exceed €550 billion, more than 86% of the total. From then on, in the worst moments of the crisis dependence on short-term financing increased in importance, a trend that has continued in recent years, although at a slower pace. However, for banks, long-term financing, which in 2007 stood at 20 percentage points below the figure for OFIs (which was approximately 60%), has since increased to 86.8%, as mentioned previously.

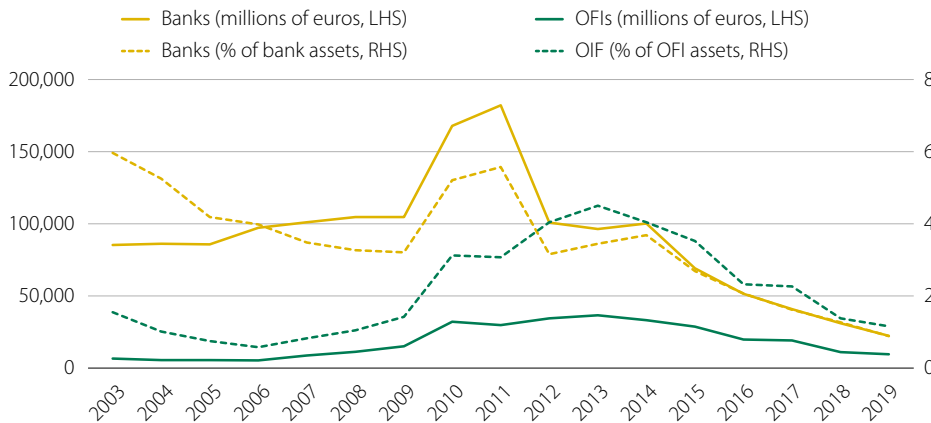
Repos deserve a separate analysis in the area of wholesale financing, as they have shorter repayment terms and, therefore, the associated risks may be higher in terms of financial stability. In the case of insurance undertakings, wholesale financing through repos accounts for the largest share of funding, almost 90% of the total. However, as we have already seen, wholesale financing is residual for these entities, so the absolute figures are not high (just over €1 billion in repos).

In the OFI segment, financing through repos has reduced, and never exceeded 9% of total wholesale financing. The highest level was reached in 2013, with €36.5 billion, which represented 8.4% of the wholesale financing of these entities (4.5% of total financial assets, see Figure 5). In 2019, after declining year after year, repo financing was just over €9.5 billion, just 3.7% of wholesale financing. In the case of banks, this type of financing through repos accounted for over 50% of wholesale financing in 2002 and remained at around 30% in 2010 and 2011, with liabilities of €180 billion. From 2012, this type of financing began to decline, reaching 8.0% last year, at just over €22 billion.

Financing through repos

FIGURE 5

Trends in main indicators

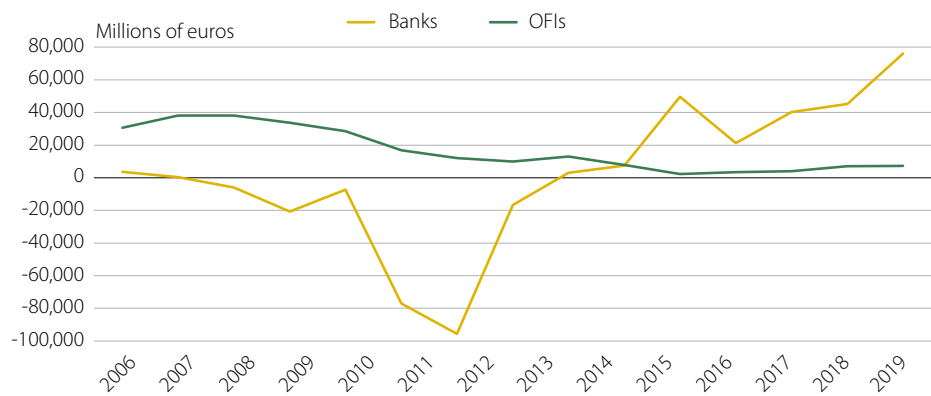


Source: Bank of Spain.

In net terms, i.e., the difference between transactions made through repos in which the entity is a provider of liquidity and those in which the entity receives financing, banks are observed to have been recipients of liquidity until 2013, after which they increasingly became net providers of liquidity for the economy (see Figure 6), as a consequence of the cumulative drop of almost 80% in financing through repos between 2014 and 2019. In terms of banking assets, however, repos have remained stable, or even increased slightly in recent years. In contrast, OFIs have consistently been net providers of liquidity over the last 15 years, although the amount provided fell substantially until 2015 and has remained well below €10 billion ever since. In 2019, it stood at around €7 billion, very similar to the previous year.

Net position – repos

FIGURE 6



Source: Bank of Spain.

2.2 Interconnectedness between banking institutions and OFIs

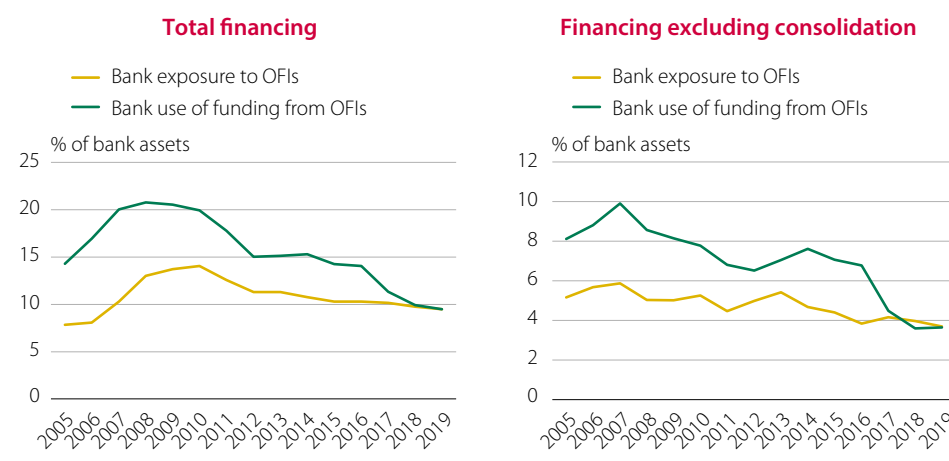
During periods of stress or financial difficulties, not only is the size of the different financial sub-sectors relevant, but also the interrelations between them, as these are channels that lend themselves to risk contagion. These connections can occur both directly (through credit financing, for example) and indirectly, as when two entities have assets in the same entity or share prices, or debt securities that perform in a similar manner, for different reasons. In order to determine the direct interrelation, data have been obtained on bilateral exposures among the financial sectors. For example,

banks' exposure to OFIs is calculated as the assets they hold in OFIs as a portion of their total assets (Figure 7).

As shown in the left-hand panel of Figure 7, in 2019, banks' claims on OFIs ("Bank exposure to OFIs") accounted for 9.5% of bank assets,⁸ a figure that has been decreasing progressively since 2010, when it was over 14%. Further, in 2019, banks' liabilities to OFIs ("Bank use of funding from OFIs") accounted for the same percentage, namely 9.5% of banks' assets, after having decreased by 45 basis points in one year and more than 10 percentage points since 2008.

Interconnectedness between banks and OFIs

FIGURE 7



Source: CNMV and Bank of Spain.

In absolute terms, in 2019, these figures were around €241 billion (see Table 4). If the claims or liabilities of OFIs that are consolidated in the banking groups themselves are excluded,⁹ the aforementioned percentages decrease, in the case of claims, to 3.7% of banks' assets, while banks' liabilities to OFIs are very similar, at 3.6%. Based on the trend of this exposure over recent years, the greatest interrelation (in net terms) between the two sub-sectors mentioned occurred in 2007, when banks' claims on OFIs accounted for around 6% of total bank assets and their liabilities to OFIs for 10%. The latter figure was a consequence of the significant increase that occurred between 2002 and 2007, after these liabilities went from just over €33 billion to almost €300 billion. In the case of claims, although there was also an increase during the same period, this was much less abrupt, going from €35 billion to just over €130 billion.

⁸ This same figure accounted for 29.2% of OFI assets.

⁹ In Spain, interconnectedness data for banks and OFIs that are consolidated in banking groups are available only for the SFV sub-sector.

Interconnectedness between banks and OFIs

TABLE 4

Trends in main
indicators

Millions of euros

	Banks' exposure to OFIs		Banks' liabilities to OFIs	
	Total	Consolidated in banking groups	Total	Consolidated in banking groups
2011	424,555	273,467	600,260	370,374
2012	374,996	209,151	499,679	283,068
2013	327,653	170,337	438,661	234,354
2014	302,292	170,669	429,976	215,894
2015	271,103	154,798	376,069	189,633
2016	262,155	164,081	358,520	185,805
2017	261,663	154,392	291,811	176,149
2018	242,221	143,900	246,231	156,837
2019	240,582	146,654	240,617	148,119

Source: CNMV and Bank of Spain.

The interconnectedness of OFIs with the other sectors in the financial system is much lower than with banks, and the relationship with other entities belonging to the same sub-sector is the strongest, followed by the relationship with the insurance undertakings. For example claims of entities belonging to the OFI sub-sector on others in the same group amounted to just over €28 billion at year-end 2019, while claims on insurance undertakings amounted to €13 billion and liabilities to €18 billion. In terms of banks, the greatest interconnectedness also occurs with OFIs, followed by the relationship with other banking entities, which amounted to €112 billion at the end of the previous year.

3 Non-bank financial intermediation

To identify and evaluate the risks associated with NBFIs, the criteria developed by the FSB in 2013 based on five economic functions were used.¹⁰ Entities that carry out activities that can be included in any of these functions will be considered as belong to NBFIs. This methodology aims to ensure that the different jurisdictions delimit their NBFIs sector based on the activity of the institutions and not on their legal form and, in addition, a certain consistency in the analyses performed is achieved between the different countries, even in the section relating to risk assessment in this sector. Table 5 shows a summary of the five economic functions described by the FSB and the entities of the Spanish financial system that belong to each one.¹¹

Classification of NBFIs according to economic functions

TABLE 5

Economic functions	Definition	Member entities	Size in millions of euros, (% of total NBFIs), % change 1H19
EF1	Management of collective investment schemes with features that make them susceptible to runs	Money market funds, fixed income funds, mixed funds, ¹ hedge funds and open-ended collective investment schemes (SICAVs)	267,342 (52.1%) 5.6%
EF2	Loan provision that is dependent on short-term funding	Finance companies	59,893 (11.7%) -1.6%
EF3	Intermediation of market activities that is dependent on short-term funding or on secured funding	Broker-dealers	9,392 (1.8%) 105.8%
EF4	Entities that perform the <i>facilitation</i> of credit creation	Mutual guarantee companies	1,068 (0.2%) -1.3%
EF5	Securitisation-based credit intermediation and funding of financial institutions	Structured finance vehicles (SFVs) whose object is the securitisation of assets	175,542 (34.2%) -4.9%

Source: CNMV and Bank of Spain.

¹ According to the criteria established by the FSB, only mixed funds with a percentage of equity of less than 80% of the total portfolio are included in the EF1 category. In Spain, according to current legislation, the exposure of mixed funds to equity cannot exceed 75% of the portfolio, so all of them are considered as NBFIs.

The volume of assets included in NBFIs is calculated on the basis of the non-banking financial sector (in previous editions referred to as MUNFI)¹² and entities that

¹⁰ FSB (2013). *Op. cit.*

¹¹ For further details, see the first article in this series: Ispuerto, A. (2019). "Non-bank financial intermediation in Spain". *CNMV Bulletin*, Quarter I, pp. 79-122. Available at: https://cnmv.es/DocPortal/Publicaciones/Boletin/Boletin_I_2019_WEBen.PDF

¹² *Monitoring Universe of Non-bank Financial Intermediation*. The line set by the latest FSB report has been followed, which no longer refers to this group of entities in this way.

engage in an activity that does not fall within any of the five economic functions described in the previous table are excluded. This will allow the entities that will eventually be included in the narrow measure of NBFi to be identified. Firstly, pension funds, insurance undertakings and financial auxiliaries are excluded. The remaining entities are the OFIs, which, as already mentioned, have been used on many occasions as an approximation or broad measure of NBFi. The European Systemic Risk Board (ESRB) continues to do so. The entities that do not fulfil any of the economic functions are then excluded from OFIs to obtain a more limited definition of NBFi. As explained in the previous section, OFIs that are not part of NBFi are as follows (in order of importance according to asset size): captive financial institutions and money lenders, equity investment funds, real estate investment companies and funds, or REITs, the SAREB, CCPs and venture capital firms.

Furthermore, some entities that are not OFIs may be included in NBFi although these are usually of small size. In Spain this is the case of mutual guarantee companies, which are not OFIs but do form part of NBFi, since they fulfil one of the economic functions mentioned. Lastly, to obtain a figure that is as accurate as possible from the section of the financial system that carries out financial intermediation activities, but does not belong to the banking sector, the entities that are consolidated in banking groups are excluded, even though they belong to one of the described economic functions.¹³ A strict definition of NBFi is obtained with this calculation.

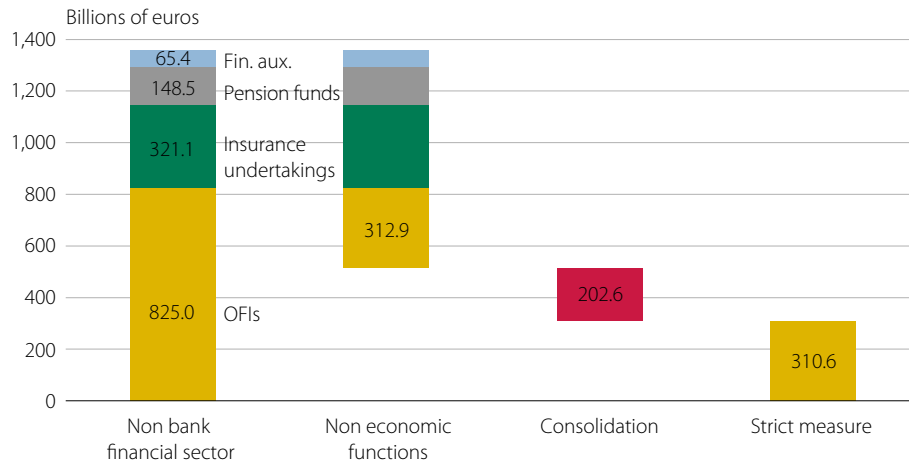
Figure 8 depicts this process of filtering entities, which starts with the non-banking financial sector and ends with the narrow measure of NBFi. In 2019, the size of the non-bank financial sector was €1.36 trillion. Excluding insurance undertakings, pension funds and financial auxiliaries together with OFIs that do not carry out any of the economic functions included would lead to a measure of NBFi (prior to discounting the bank consolidation figures) of €513 billion. Stripping out the assets that are consolidated in banking groups (€203 billion), the narrow measure of NBFi in Spain would have a size of €311 billion in 2019, almost 5% more than in 2018 (€296 billion).

13 As described in each section of this chapter, bank consolidation occurs for two main reasons: either the entity in question is controlled by a bank or the assets belonging to the entity are also on the bank's balance sheet (and therefore subject to banking regulations). The latter case would relate to securitisation vehicles, whose assets must remain on the bank's balance sheet if the associated risks and returns have not been substantially transferred to third parties.

From the non-bank financial sector to the narrow measure of NBFi. 2019

FIGURE 8

Non-bank financial
intermediation

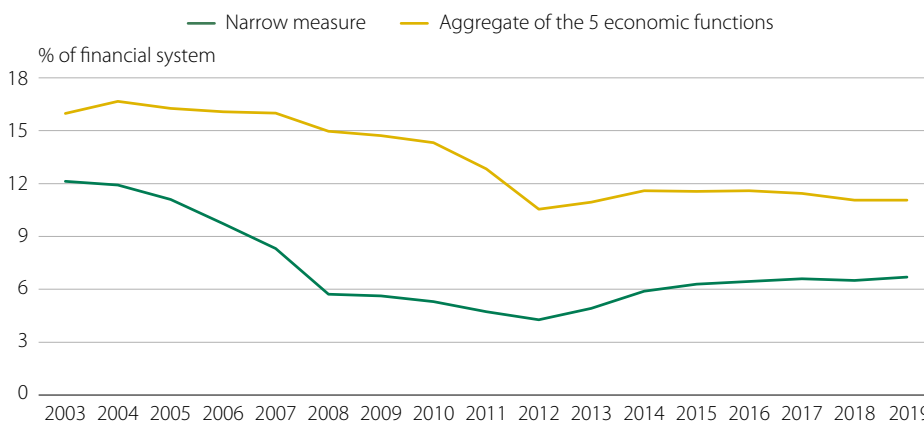


Source: CNMV and Bank of Spain.

NBFi data appear to indicate that the slight growth trend marked by these entities in Spain since 2013 is continuing, especially in the narrow measure (see Figure 9). The assets of this measure represented 6.7% of the total financial system (6.5% in 2018), higher than the low registered in 2012 (4.3%) but still far below the figures of close to 12% seen in 2003 and 2004. The decline in significance of this sector until 2013, as explained in previous editions of this report, was due to the decrease in the size of the two most significant types of entities in this aggregate: investment funds and securitisation vehicles. The slight recovery in recent years is due exclusively, as explained in more detail later, to the growth of the investment fund industry (although this industry too has seen some fluctuations). Securitisation outstandings continue to fall.

Relative weight of NBFi

FIGURE 9



Source: CNMV and Bank of Spain.

Table 6 shows the assets of the entities making up NBFi for each of the economic functions in 2019. The most important functions in terms of size are economic function 1 (EF1), which contains certain classes of investment funds, and economic function 5 (EF5), which contains securitisation vehicles. At year-end 2019 assets of these two groups of entities stood at €267 billion and €175 billion, respectively, which represents 52.1% and 34.2% of NBFi (prior to stripping out the assets consolidated in banking groups). The performance of both these functions, as mentioned

above, has been uneven for some years and combines growth in the fund industry (EF1 grew by 5.6%) and the contraction of securitisation outstandings (EF5 decreased by 4.9%). This is followed by economic function 2, comprising finance companies, with assets of close to €60 billion (11.7% of the total). Lastly, economic functions 3 (broker-dealers) and 4 (mutual guarantee entities) are very small, with assets accounting for barely 1.8% and 0.2% of total NBFI, respectively.

Structure of non-bank financial intermediation

TABLE 6

Millions of euros

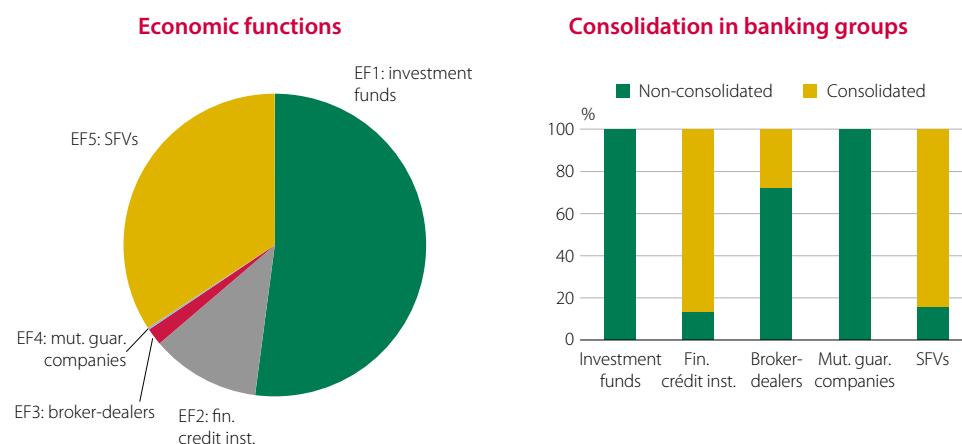
	EF1	EF2	EF3	EF4	EF5	Aggregate of the five functions	NBFI (narrow)
Size in 2019 (millions)	267,342	59,893	9,392	1,068	175,542	513,237	310,598
Size in 2018 (millions)	253,074	60,873	4,563	1,083	184,576	504,169	295,954
% of total (2019)	52.1	11.7	1.8	0.2	34.2	100	-
Growth 2019 (%)	5.6	-1.6	105.8	-1.3	-4.9	1.8	4.9
Cumulative growth 2002-2007	48.7	79.1	78.4	115.6	647.0	151.9	66.3
Cumulative growth 2007-2018	-12.1	-6.8	-77.8	51.4	-48.0	-30.9	-22.0

Source: CNMV and Bank of Spain.

To calculate the narrow measure of NBFI, the assets of those entities that are consolidated in banks must be excluded. As shown in the right-hand panel of Figure 10, consolidation affects entities with different economic functions in a very different way. There are entities, such as investment funds or mutual guarantee entities, where there is no consolidation; such as broker-dealers, where consolidation affects a relatively small part of their assets, and entities such as securitisation vehicles or finance companies, where consolidation affects around 85% of assets. As a consequence of these differences, the relative importance of entities in the narrow measure of NBFI changes significantly after consolidation, increasing, above all, the role of investment funds. The assets of these institutions would represent 86.1% of the narrow measure of NBFI, while securitisation vehicles would remain at 8.8%. The remaining three functions would account for only 5% of the narrow measure of NBFI.

Distribution of non-bank financial intermediation. 2019

FIGURE 10



Source: CNMV and Bank of Spain.

The ultimate objective of the definition and delimitation of entities that make up the narrow measure of NBFIs is the identification and monitoring of the potential risks that these may pose to financial stability. For this purpose, this section sets out an approximation of the assessment of these risks. A specific analysis is carried out of credit risk, maturity transformation, liquidity risk and leverage in the area of investment funds,¹⁴ finance companies, broker-dealers and SFVs.¹⁵

Table 7 shows the intensity of the risks analysed according to established thresholds that have taken into account the analyses that various international studies and forums have carried out on these issues, adapting to the characteristics of each type of entity.¹⁶ The absence of colour indicates low risk, while purple indicates a moderate, medium or high risk depending on the intensity of the colour (light, medium or dark). As shown, the major risks affecting NBFIs are currently credit risk and liquidity risk. Most entities have a medium or high level of credit risk,¹⁷ and liquidity transformation risk is also the same for all entities except broker-dealers, for which it is practically zero.

In general terms, there have been few changes from the previous year. Thus, in 2019, leverage in finance companies decreased from a high-risk level to a medium-risk level and in the case of broker-dealers, there have been two changes: an increase in leverage to reach a medium risk level and a reduction of credit risk, which, after three years at high risk level, has fallen to medium.

Risks associated with non-bank financial intermediation. 2019

TABLE 7

	Investment funds			Finance companies	Broker-dealers	SFVs: securitisation
	Money market funds	Fixed income funds	Mixed funds			
Credit risk	●	●	●	●	●	●
Maturity transformation	○	●	○	○	○	●
Liquidity risk	●	●	●	●	○	●
Leverage	○	○	○	●	●	●
Interconnectedness with the banking system	○	○	○	○	○	●
Relative importance ^{1,2} (%)	0.7	15.5	29.6	11.7	1.8	34.2

Source: CNMV.

¹ The weights of each of the entities presented in this table do not add up to 100%, since mutual guarantee companies and some types of funds that also belong to NBFIs are not represented.

² These percentages are calculated according to the total size of the sector, without discounting the entities that are consolidated in banking groups.

14 The risks associated with money market funds, fixed income funds and mixed funds are analysed separately.

15 Mutual guarantee companies are not included in the analysis, since their weight in the sector is less than 0.5%.

16 See Isperto, A. (2019). (*Op. cit.*) for further details on the thresholds defined for each risk and type of entity.

17 This risk has been calculated as the ratio of credit assets to total financial assets. Credit assets are made up of cash, deposits and fixed income securities, both domestic and foreign.

3.1 Economic function 1

As seen in Table 5, economic function 1 (EF1) is defined as the management of collective investment schemes with features that make them susceptible to runs. Taking these considerations into account, due to the differing criteria of the existing investment vehicles in Spain, it is considered that the following belong to this economic function: money market funds, fixed income funds, mixed funds,¹⁸ hedge funds¹⁹ and open-ended collective investment companies (SICAVs).

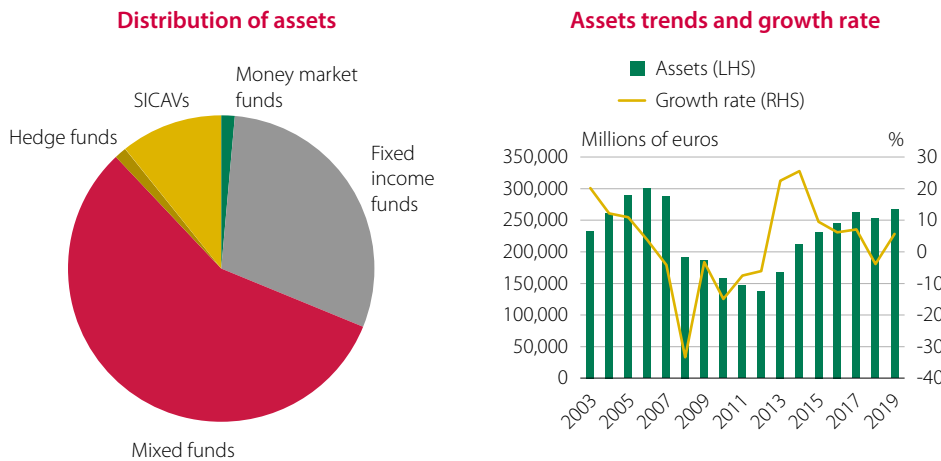
As described at the beginning of this section, in Spain, investment funds belonging to EF1 accounted for 86.1% of the total narrow measure of NBF1 at the end of 2019, a percentage that has been growing in recent years (in 2010 it was 60%). As shown in the right-hand panel of Figure 11, the assets of these funds fell sharply during the period 2008-2012, to recover strongly from 2013 onwards, experiencing high annual growth rates that have exceeded 20% on occasion since then. This growth trend was only interrupted in 2018, when the assets of these vehicles contracted by 3.8%. In 2019, the fund assets rose again, by 5.6%, to stand at €267 billion.

As shown in the left-hand panel of Figure 11, Spanish mixed funds represented more than half of the total for collective investment schemes (CIS) included in the narrow measure of NBF1 at the end of 2019, specifically 56.8%, and almost two thirds of these corresponded to mixed fixed income funds or global funds (in both cases the assets of the fund category exceeded €40 billion). Fixed income funds, with the second biggest category, accounted for 29.8% of the total at the end of 2019, four percentage points more than in 2018, thus breaking the declining trend of the last seven years. In 2011, they had a weight of close to 50%. The assets of open-ended collective investment schemes (SICAVs) were 10.8% of the total, a percentage that has been gradually decreasing in recent years. Lastly, at the end of 2019, money market funds and hedge funds accounted for 1.4% and 1.3%, respectively.²⁰

18 See note 1 to Table 5.

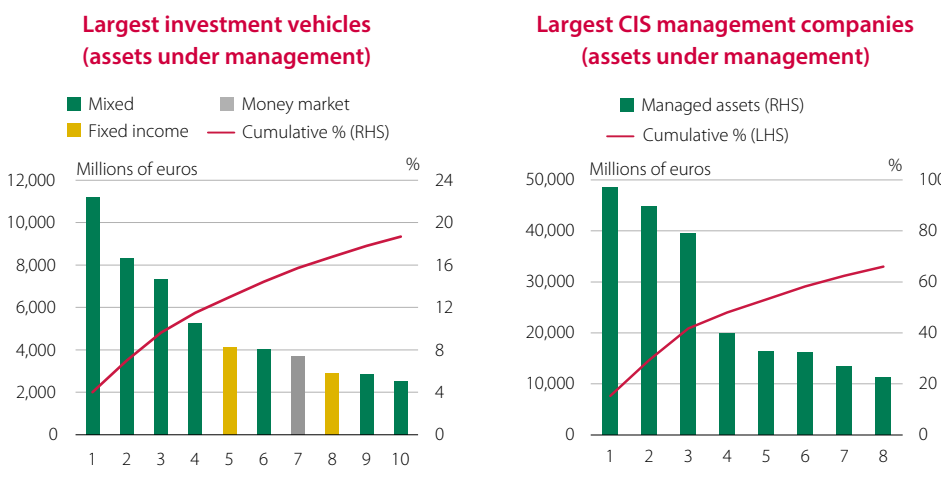
19 These institutions may be subject to runs in their liquidity windows, if they have any. The four types of hedge funds that exist in Spain are included under this name: Hedge funds (funds and companies) and funds of hedge funds (funds and companies).

20 During the first quarter of 2019, a new CNMV Circular entered into force amending Circular 1/2009, of 4 February, on the categorisation of collective investment schemes according to their investment objective, partially amending Circular 3/2011, of 9 June. This new Circular was necessary in order to comply with Regulation (EU) 2017/1131 on money market funds, which establishes common standards in the European Union in relation to the maturity, composition and liquidity of money market funds portfolios to avoid disparities in levels of investor protection. In the case of Spain, managers of money market funds had to establish whether they could remain as such under the new legislation or, given that the new conditions are more restrictive, they had to change their category to newly created short-term fixed income. At the end of 2019, two funds remained classified as money market funds, while the rest had changed category.



Source: CNMV.

In Spain, at year-end 2019, there were a total of 3,977 active investment vehicles belonging to EF1 (156 fewer than in 2018). Of these, 1,332 corresponded to investment funds, 2,573 to open-ended collective management schemes (SICAVs), and 72 to hedge funds. In terms of assets under management, the investment funds are generally the biggest. For example, a total of 52 funds each managed assets of more than €1 billion, a figure that was not exceeded by any SICAV or hedge fund. The high level of concentration of investment funds also stands out. As shown in Figure 12, the four largest vehicles, all of which were included in the mixed fund category and two of which were global funds, one a mixed equity fund and the other a mixed fixed income fund, accounted for 11.5% of total assets, one percentage point more than in 2018. Additionally, the ten largest funds (seven mixed funds, two fixed income funds and one money market fund) accounted for just under 20% of the total (see left hand panel of Figure 12).



Source: CNMV.

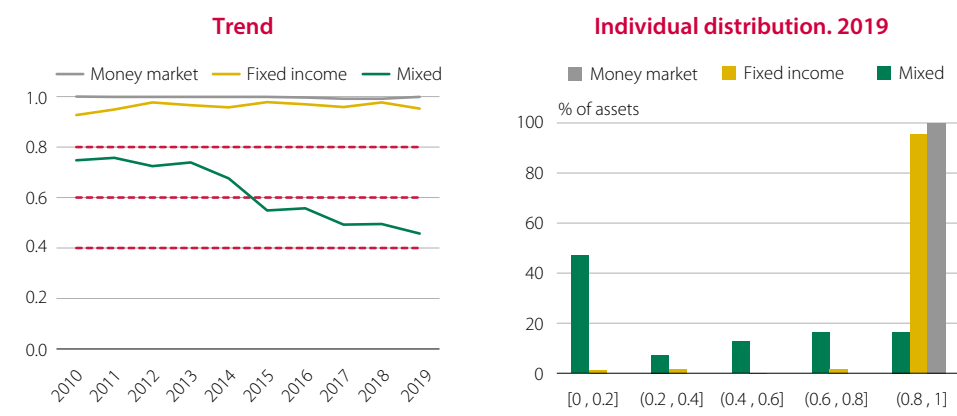
There is also a high level of concentration in terms of the managers of these vehicles, as traditionally the investment fund sector has mostly been managed by collective investment scheme management companies (CISMCS) belonging to banking groups. At the end of 2019, the three largest CISMCS – all belonging to banks – accounted for over 40% of the total assets of investment funds and the seven largest accounted for 65% (see right hand panel of Figure 12).

As illustrated in Table 7, the risks associated with Spanish investment funds are not very high, with the exception of credit risk, since by their very nature these funds have a significant percentage of credit assets in their portfolios. As might be expected, money market funds accounted for the largest share, with practically 100% of assets invested in credit assets at the end of 2019, followed by fixed income funds, with a share of 95%. In contrast, for mixed funds, this proportion stood at 46% at the end of the previous year (moderate risk level), a figure that has been decreasing systematically in recent years, after standing at close to 80% in 2009 and 2010 (see left hand panel of Figure 13). This decline is due to the gradual increase in the weight of equity assets in the global portfolios of these funds, since those with an investment policy that includes a higher percentage of fixed income (essentially mixed fixed income funds) have seen a gradual loss of capital, while funds with an investment policy that features a higher proportion of equity assets (mixed equity) or fewer restrictions on their investments (especially global funds) have experienced growth.

Looking at individual data, it can be observed in the right-hand panel of Figure 13 that the two Spanish money market funds that existed at the end of 2019 had a percentage of credit assets greater than 80%, whereas in fixed income funds this threshold was exceeded in more than 95% of cases (in terms of assets).²¹ In mixed funds, however, this threshold was only exceeded by funds accounting for 17% of total assets, while more than 50% were at a low risk level (less than 40%).

Credit risk in the different types of investment funds

FIGURE 13



Source: CNMV.

In relation to the maturity transformation risk, i.e., the entity's ability to meet its current obligations, in the case of investment funds the ratio of non-current assets to assets managed by the fund has been used, rather than the ratio of current liabilities to current assets as in other entities. The reason for this difference is that in investment funds unitholders can redeem their equity stakes with a high frequency and therefore current liabilities would not represent all the possible *obligations* of the fund.

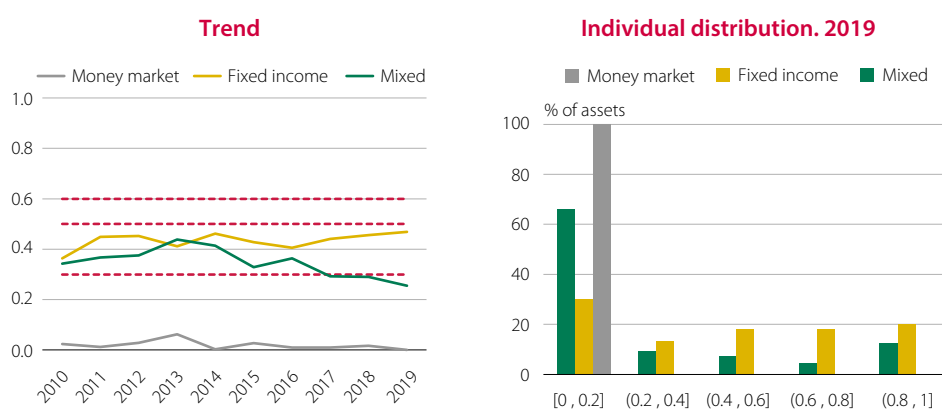
Using this calculation, only fixed income funds have a moderate level of risk (see left hand panel of Figure 14), with a proportion of long-term assets of 47%. The risk is low in the other categories, although in mixed funds the ratio was above 30% until 2016

21 It should be noted that 3% of the assets of fixed income funds has a proportion of credit assets of less than 40% due to their investing practically all their assets in other CIS, which despite being mostly other fixed income funds, are considered for the purpose of analysis as investment in equities.

(moderate level), with similar values to those of fixed income funds. However, over the past three years it has decreased, to stand at 26% at the end of 2019. In money market funds, which have significant restrictions on long-term investment,²² the maturity transformation risk is practically nil. As regards the individual distribution of the ratio among funds, the right-hand panel of Figure 14 shows that in the two money market funds registered at the end of 2019 the percentage of long-term assets was below 20%. Although in global terms there does not seem to be a high level of maturity transformation risk in fixed income and mixed funds, the individual analysis indicates that a significant number of funds have a high proportion of long-term assets in their portfolios. In particular, 38% and 17% of the assets of these two types of funds, respectively, had a percentage of long-term assets higher than 60% of total assets in 2019.

Maturity transformation in the different types of investment funds

FIGURE 14



Source: CNMV.

The analysis of liquidity risk is complex, as there is no single and unequivocal definition of *liquid assets*. In general, the liquidity of an asset is related to the possibility of its being bought or sold in a short time without incurring significant losses. Therefore, this concept is related to the nature of the asset and to the situation in the financial markets, given that in periods of turbulence asset liquidity tends to decrease rapidly. The assets that are usually considered most liquid due to their nature are cash and deposits, followed by repos and generally, public debt instruments. These are followed by equities and, lastly, private sector fixed income assets. However, liquidity conditions may vary for each asset class, depending for example on the credit risk of the issuer of the instrument. Taking all these considerations into account, the CNMV assesses different liquidity metrics for investment funds. These metrics, which are all complementary, take into account the type of asset, the issuer's credit rating and market conditions. In the area of liquidity risk analysis, Exhibit 1 also presents the results of the regular stress tests carried out by the CNMV to assess the level of resilience of Spanish CIS in different adverse redemption scenarios.

The assessment of liquidity risk is particularly important in the area of investment funds, since most of these institutions allow daily redemptions to be made, which can make them vulnerable in the event of a significant and unexpected increase in the volume of redemptions, such as that seen in March 2020. An important part of the CNMV's supervisory task consists of ensuring that these institutions manage this risk appropriately and in particular that they have sufficient liquid assets to deal

22 In money market funds, the average duration of the portfolio must be less than or equal to 60 days and the average maturity cannot exceed 120 days.

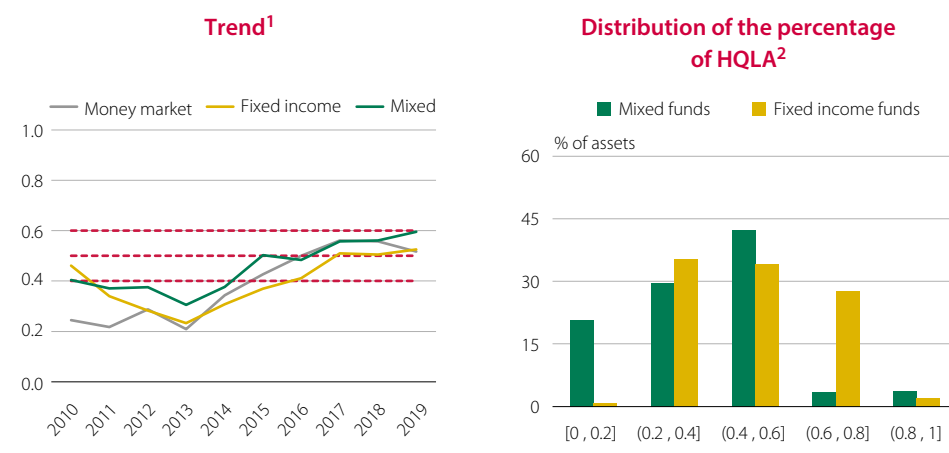
with a situation of this type. Liquidity risk management not only includes an assessment of the liquidity of the fund portfolio, as detailed below, but also the appropriate use of the liquidity management tools that exist in the legislation and that are described in the second Exhibit in this report.

Three metrics are commonly used to measure the liquidity of investment fund portfolios. The first metric assesses the proportion of less liquid assets, defining deposits, public debt, secured issues, repos and 50% of the value of the equity portfolio as liquid assets. According to this metric, the proportion of less liquid assets has marked an upward trend since 2013 for all categories assessed, although greater stability was observed in some years. The increase in the proportion of less liquid assets in the previous years may have derived both from the increase in investment in both corporate debt assets and other funds of funds. Since the latter can invest in liquid assets, the proportions presented in the figure should be interpreted as a maximum reference for less liquid assets.

The second metric incorporates the credit ratings of the different types of assets, so that based on this rating and the type of asset, an assumption is made about the proportion of the portfolio that can be considered to be made up of High Quality Liquid Assets (HQLAs). This metric is widely used in numerous reference studies and, in our case, it is also used in the aforementioned stress tests. The distribution of these assets in 2019 is shown in the right-hand panel of Figure 15.²³ This panel shows that a large part of funds' assets have a high proportion of liquid assets. In particular, 49.6% of the assets of mixed funds and 64.1% of the assets of fixed income funds have a proportion of liquid assets of greater than 40% of the total portfolio. However, this indicator has deteriorated for mixed funds, which is also consistent with the first liquidity metric for these funds, as discussed above.

Liquidity risk in the different types of investment funds

FIGURE 15



Source: CNMV.

¹ Less liquid assets as a percentage of total assets, defining deposits, public debt, guaranteed issues, repos and 50% of the value of the equity portfolio as liquid assets.

² High Quality Liquid Assets (HQLAs) are considered to be all cash and deposits, 50% of the value of the equity portfolio and variable percentages of public debt, private fixed income and securitisations depending on their credit rating. The percentage of public debt that would be considered liquid ranges between 0 and 100%, that of private fixed income is between 0 and 85% and that of securitisations is between 0 and 65%.

²³ The number of funds included in this analysis is less than the total number of funds belonging to EF1, since funds whose investment in other CIS was over 60% have been excluded. For these funds, it is considered that an appropriate assessment of the liquidity conditions of a sufficiently relevant part of its assets cannot be made.

The last of the metrics considered is applied only to the assets of the private fixed income portfolio, since it is considered that these may experience a greater deterioration in liquidity in periods of market uncertainty. In the analysis, maturity is taken into account (the assets are considered liquid if they have a duration of less than one year) in addition to the availability of a representative number of intermediaries willing to buy and sell them at a normal market spread. The proportion of less liquid assets assessed in this way, which came to represent 30% of the funds' private fixed income portfolio in 2009, has progressively decreased in subsequent years to reach lows of less than 7% of this portfolio in the first half of 2019. Subsequently, a slight increase in this proportion was observed, to 8.7% in December 2019 (1.6% of investment funds' assets).

The results of the different indicators available to assess the liquidity conditions of investment funds, together with the findings of the stress tests, suggest that the proportion of less liquid assets increased in 2019, especially in some categories such as mixed investment funds, but the level of highly liquid assets remains sufficiently high to meet any significant increase in redemptions. The recent period of turbulence seen in March 2020, which constitutes a *real test* of this type, allowed the level of resilience of investment funds to be verified, since the increase in requests for redemptions was met without any noticeable problem, with partial suspension of redemptions put in place by just five institutions.

Stress test for mutual funds

EXHIBIT 1

For several years now, liquidity risk and, in particular, the risk that the proportion of liquid assets of investment funds may not be sufficient to meet a potential increase in the volume of redemptions, has been one of the most significant vulnerabilities identified in these institutions as a whole at an international level. During the global financial crisis, there were several cases of money market funds that experienced serious difficulties in covering the increase in redemptions. From a supervisory perspective, the evaluation and identification of this risk, together with the development of tools that allow it to be properly managed, has become an essential task. Multiple regulatory tools have been developed, which are not standardised across European countries. Exhibit 2 of this report describes the most relevant liquidity management tools, as well as their availability in the different EU Member States and summarises their use by Spanish funds during the coronavirus crisis. In regard to the work carried out to identify these risks, the exhibit highlights the *stress tests* that simulate one or more market shocks and assess the level of resilience of the institutions. This exhibit provides a summary of the main findings of a test of this type performed on Spanish mutual funds, applying a methodology that was initiated by the European Securities and Markets Authority (STRESI framework – ESMA, 2019)¹ and later expanded by the CNMV (see Ojea, 2020).² The full results of the test are described in Losada, R. and Martínez Pastor, A. (2020). “Stress test for investment funds”. *CNMV Bulletin*, Quarter IV.

Specifically, the CNMV has designed a stress test for the sector comprising money market investment funds, undertakings for collective investment in transferable securities (UCITS) and quasi-UCITS.³ The database used for the test has been extracted from the confidential statements submitted by Spanish investment fund managers to the CNMV in its supervisory role. The granularity of the information contained in this database with respect to the type of unitholder, the composition of the fund portfolio, its category and volume of assets allows the funds to be classified into detailed and representative categories. In this case, the categories of

mutual funds are: i) wholesale public debt funds, ii) retail public debt funds, iii) investment grade corporate fixed income funds, iv) high yield corporate fixed income funds, v) mixed fixed income funds, vi) wholesale equity funds, vii) retail equity funds and viii) other investment funds (global and absolute return). The funds are then filtered, as detailed in Ojea (2020), so that those which could distort the simulation of the scenarios are eliminated from the sample. For instance, funds with portfolios containing unidentifiable assets that represent more than 40% of their assets are eliminated (such as funds that mostly invest in other funds). Guaranteed funds are also eliminated from the sample because they penalise redemptions outside the pre-established liquidity windows.

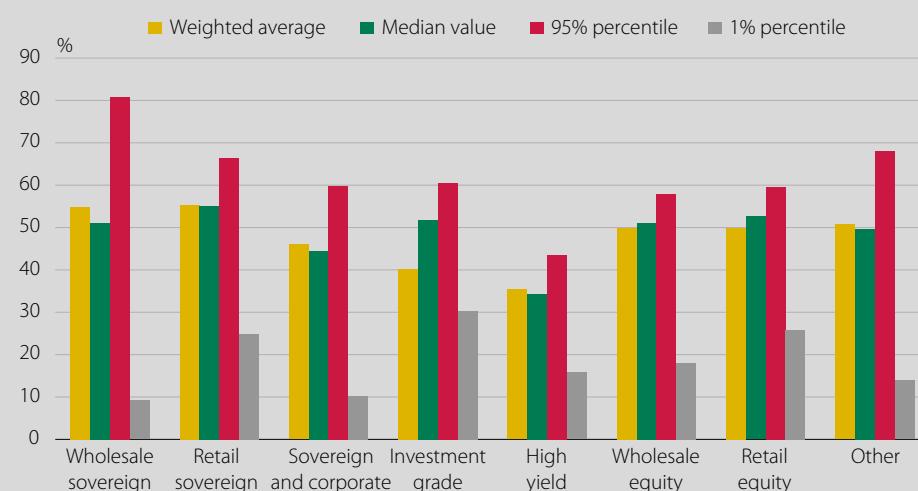
Results of the stress test with data at 30 June 2020

Using the methodology developed by the CNMV, the stress test was carried out on mutual funds with data from December 2008 to June 2020. The three most important findings were as follows. Firstly, the proportion of liquid assets in the investment funds' portfolios is quantified. The funds that could experience difficulties in meeting redemptions in different adverse scenarios are then identified, and lastly an estimate is made of the impact of the sale of fund assets on the financial markets.

Figure E1.1 shows the proportion of liquid assets of the funds measured using the HQLA approach⁴ by category, which defines the assets available to the funds in the event of a negative shock occurring in the next six months. The weighted average of liquid assets for most categories is around 50% of the funds' assets. Only those categories that include corporate bonds fall below this figure, especially the category that includes funds with a large percentage of high-yield corporate bonds in their portfolios. It is also important to note that in all categories there is a certain percentage of funds that have available liquidity well below the average. This is especially relevant for the wholesale sovereign, sovereign and corporate categories.

Proportion of HQLA of investment funds by category

FIGURE E1.1



Source: CNMV. For each category of investment funds, the weighted average of the liquid assets in the portfolio and the median value are represented. In addition, the proportion of liquid assets is given for two other percentiles of the distribution of funds, 1% and 95% (the median corresponds to the 50% percentile). In the case of wholesale sovereign funds, for example, this means that if the funds are ranked from the lowest to the highest proportion of liquid assets, the value of this proportion for 1% of the funds (those with the lowest data) is less than 10% of the portfolio and, similarly, the value of this proportion for 95% of the funds is less than 80% of the portfolio.

The analysis, which considers different redemption shock scenarios for the different categories of funds, reveals that the mutual fund market is largely resilient in the scenarios posited. The table below, which represents the percentage of funds (or assets) in each category that could experience difficulties in meeting redemptions in different scenarios, shows that only in the most extreme scenario, the *Conditional Expected Shortfall* or *CoES*⁵ ($\alpha = \beta = 2\%$), are funds identified that could experience these difficulties. Specifically, it would affect eight funds distributed among the three categories and representing 16.7% of the funds in the corporate bond category, 2.5% of the funds in the sovereign and corporate bond category, and 1.0% of the funds in the “Other” category. These same funds account for 3.9%, 0.5% and 0.2% of total assets in each of the categories.

Results of the stress tests under different scenarios (aggregate flows) TABLE E1.1

%

Number of funds with RCR¹ < 1 in each style / Total of funds in each style

Scenarios	Wholesale sovereign	Retail sovereign	Sovereign and corporate	Investment grade corporate	High yield corporate	Wholesale mixed equity	Retail mixed equity	Other
<i>ES</i> ($\alpha = 3\%$) ²	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>CoES</i> ($\alpha = \beta = \sqrt{5\%}$)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>CoES</i> ($\alpha = \beta = \sqrt{3\%}$)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>CoES</i> ($\alpha = \beta = \sqrt{2\%}$)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>CoES</i> ($\alpha = \beta = 2\%$) ³	0.0	0.0	2.5	0.0	16.7	0.0	0.0	1.0

Assets of funds with RCR¹ < 1 in each style / Total funds in each style

Scenarios	Wholesale sovereign	Retail sovereign	Sovereign and corporate	Investment grade corporate	High yield corporate	Wholesale mixed equity	Retail mixed equity	Other
<i>ES</i> ($\alpha = 3\%$) ²	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>CoES</i> ($\alpha = \beta = \sqrt{5\%}$)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>CoES</i> ($\alpha = \beta = \sqrt{3\%}$)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>CoES</i> ($\alpha = \beta = \sqrt{2\%}$)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>CoES</i> ($\alpha = \beta = 2\%$) ³	0.0	0.0	0.5	0.0	3.9	0.0	0.0	0.2

Source: CNMV.

¹ RCR: Redemption Coverage Ratio. Defined as the ratio of liquid assets of each fund to the size of the redemption (net outflows). Therefore, funds with an RCR < 1 are identified as those that could directly experience liquidity problems.

² This is the baseline scenario used in the stress test carried out by ESMA (2019). *ES* = *Expected Shortfall*, a risk measure for expected redemptions considering only the largest redemptions that may arise. In this case, the largest 3% of redemptions is considered.

³ The number of funds that could experience liquidity problems stands at eight: one corresponds to the sovereign and corporate category, six to the high yield corporate category and one to the “Other” category.

The last step in this test is to estimate the impact on debt and equity market prices when funds are subject to adverse redemption scenarios. The results shown in Table E1.2 suggest that the impact is limited. Unsurprisingly, even in the most adverse scenario, *CoES* ($\alpha = \beta = 2\%$) and applying a pro rata settlement method,⁶ it is estimated that equity asset prices would fall on average by 8.17 basis points (bp), investment grade private debt asset prices would fall by 7.95 bp, high yield private debt prices by 5.59 bp and public debt prices by 3.09 bp.

Impact on asset prices in the securities markets

TABLE E1.2

Pro rata settlement (bp)

Scenarios	Public sector debt	IG corporate debt	HY corporate debt	Equity
ES ($\alpha = 3\%$) ¹	1.52	3.48	1.85	4.17
CoES ($\alpha = \beta = \sqrt{5\%}$)	1.21	2.70	1.29	3.27
CoES ($\alpha = \beta = \sqrt{3\%}$)	1.47	3.34	1.72	4.02
CoES ($\alpha = \beta = \sqrt{2\%}$)	1.71	3.99	2.22	4.70
CoES ($\alpha = \beta = 2\%$)	3.09	7.95	5.59	8.17

Source: CNMV.

¹ This is the baseline scenario used in the stress test carried out by ESMA (2019). *ES* = *Expected Shortfall*, a risk measure for expected redemptions considering only the largest redemptions that may arise. In this case, the largest 3% of redemptions is considered.

- ESMA (2019). *Stress simulation for Investment funds*. ESMA Economic Report.
- Ojea, J. (2020). "Quantifying uncertainty in adverse liquidity scenarios for investment funds". *CNMV Bulletin*, Quarter II, pp. 25-47.
- Money market funds are those regulated by Regulation (EU) 2017/1131 of the European Parliament and of the Council, of 14 June 2017, on money market funds. UCITS are funds regulated by Directive 2009/65/EC of the European Parliament and of the Council, of 13 July 2009, on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS). In Spain, UCITS and quasi-UCITS are regulated by Law 35/2003, of 4 November, on Collective Investment Schemes and its implementing regulations, which transposes Directive 2009/65/EC into Spanish law. It is important to note that according to European regulations most of the quasi-UCITS funds are considered as alternative investment funds (AIFs), which ESMA includes in the "Other" category. These alternative funds are regulated at European level by Directive w2011/61/EU of the European Parliament and of the Council, of 8 June 2011, on alternative investment fund managers and amending Directives 2003/41/EC and 2009/65/EC and Regulations (EC) No. 1060/2009 and (EU) No. 1095/2010.
- The HQLA approach measures the liquidity of the fund portfolio using an index that attributes to each asset class a degree of liquidity (a weight that can take values from 0 to 100) depending on its characteristics: $HQLA_i = \sum_{k=1}^n (w_{i,k} * s_{i,k}) * 100$. Where $w_{i,k}$ is the weight (degree of liquidity) of asset k of fund i and $s_{i,k}$ represents the proportion of that asset in the fund's portfolio. In other words, the HQLA index is a weighted average of the liquidity of the assets that make up the fund portfolio. The attributed weights, $w_{i,k}$, correspond to those applied under Basel III.
- CoES is defined as: $CoES_{ij}(\alpha, \beta) = \int_n^u F_i^{-1}(v) dv$, where $u = F_i^{-1}(CoVaR_{ij}(\alpha, \beta))$ and F_i^{-1} is the inverse distribution function of variable i . *CoVaR* in this context takes a value that fulfils the expression: $Pr(Net\ flow\ \%_i < CoVaR_{ij}(\alpha, \beta) | Net\ flow\ \%_i < VaR_j(\alpha)) = \beta$, where $VaR_j(\alpha)$ is the percentile α of net flows j that determines the severity of the conditional redemptions, while β is the percentile that determines the severity of redemptions conditional on the previous scenario. For example, for CoES ($\alpha = \beta = 2\%$), to calculate the redemption shock applied to the funds in each of the categories, the largest 2% of redemptions in each category have been taken into account selected at times when the largest 2% of redemptions occurred in the whole fund sector.
- The pro rata settlement method consists of liquidating the assets of a fund in such a way that the proportion of each asset class in the portfolio is always maintained regardless of its total. This would be the most appropriate method to protect investors, unlike the cascade settlement method, whereby the most liquid assets are sold first.

Lastly, in relation to the leverage of CIS, Spanish legislation establishes that mutual CIS (with the exception of hedge funds) can only be temporarily indebted and for a specific reason²⁴ and the debt can never exceed 10% of their assets. In Spain, no

²⁴ Royal Decree 1082/2012, of 13 July, approving the implementing regulations of Law 35/2003, of 4 November, on Collective Investment Schemes.

category exceeded 2% in 2019 nor had it done so since 2009.²⁵ Additionally, at an individual level, no fund exceeded 10% at the end of last year.

However, CIS can also be leveraged through the use of derivatives. The tools required to analyse this are under development and will make use of the indicators recently proposed by the International Organization of Securities Commissions (IOSCO) to monitor the leverage of these institutions on an international scale.²⁶ The information available to the CNMV on the use of derivatives by Spanish CIS does not point to the existence of significant vulnerabilities to any of the possible risks that the use of derivatives may generate (counterparty, market and contagion). It is calculated that at the end of 2019 the exposure to market risk of CIS belonging to NBFIs subject to UCITS regulations in regard to leverage limits²⁷ and carrying out their calculations using the commitment method²⁸ (96% of the total in terms of assets)²⁹ accounted for 28.3% of assets,³⁰ a percentage that is well below the maximum permitted under current legislation (100%).³¹ An individual analysis of mixed and fixed income funds shows that exposure to market risk was less than 40% in more than 90% of fixed income funds and 50% of mixed funds (in terms of assets), while only 1.2% and 6.3% respectively had relatively high levels of exposure to this risk (between 80% and 100% of assets) (see right hand panel of Figure 16).

For the remaining CIS forming part of NBFIs (4% of total assets), about 1% of the assets correspond to CIS that declare that they do not carry out any type of derivatives transactions; 1.4% to CIS that are also subject to UCITS regulations on the leverage limits, where exposure to market risk is calculated in accordance with VaR methodology, and lastly, 1.5% correspond to CIS subject in general terms to UCITS regulations but able to be more flexible in certain aspects of their operations through derivative instruments and able to exceed the 100% limit of exposure to market risk. In the case of the latter, known as quasi-UCITS, the level of exposure was around 90%.

25 To assess the level of leverage of investment funds we calculated the ratio of their liabilities to their assets.

26 IOSCO (2019). *Final Report on Recommendations for a Framework Assessing Leverage in Investment Funds*. December.

27 Includes both CIS that comply with UCITS regulations in their entirety and those that do not fully comply (CIS availing themselves of one of the exceptions established in Article 72 of Royal Decree 1082/2012) although they do comply in relation to derivatives transactions.

28 The European commitment method, the technical specificities of which are set out in the ESMA *Guidelines on Risk measurement and the calculation of global exposure and counterparty risk for UCITS* (CESR/10-788), allows exposure to be calculated based on the conversion of all derivatives contracts to the equivalent investment in their underlying assets. The method is based on considering the market value of the underlying asset (or its notional value if this is more conservative) adjusting it for the delta in the case of options and incorporating rules to offset long positions with short positions of the same underlying asset (netting) as well as between different underlyings (hedging).

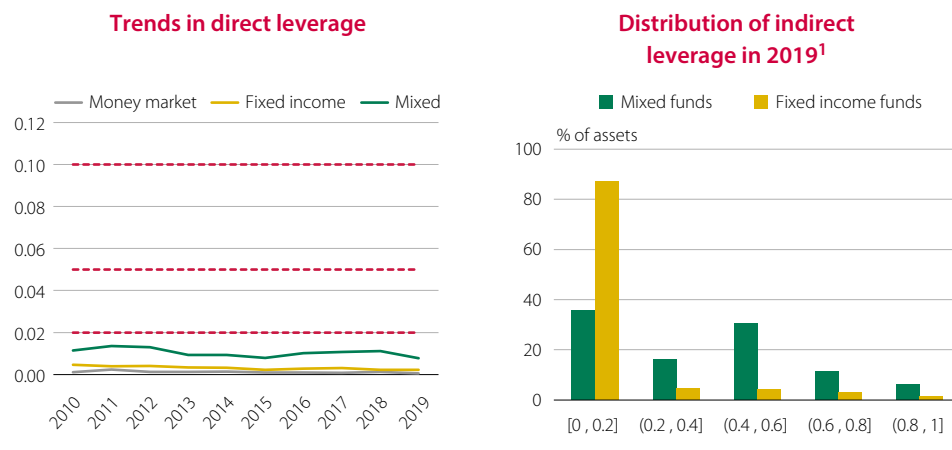
29 Hedge funds, which are analysed later, are not included here.

30 It should be noted that the level of leverage is overestimated in some CIS that invest part of their assets in other CIS. This is because the calculation of the market risk generated by the derivatives transactions that arises as a result of this investment is set, in order to simplify the calculation, at 100% of the investment in other CIS.

31 The legislation also imposes additional requirements on transactions with derivatives not traded on organised markets: such as limiting the risk assumed with a single counterparty to 10% of its assets.

Leverage in the different types of investment funds

FIGURE 16



Source: CNMV.

¹ Investment funds, both UCITS and quasi-UCITS, that use the commitment method and belong to NBFII (except for money market funds).

Lastly, for hedge funds (included in the category of AIFs and as such having more flexible regulations), empirical evidence also indicates that the level of leverage is generally moderate and only a few isolated funds make more intensive use of it. In the pure hedge funds category, four institutions exceeded 100% of gross leverage in December 2019, with a maximum figure of 170%. For funds of hedge funds, i.e., funds and companies that invest in other hedge funds, it must be borne in mind that leverage is largely taken on indirectly through investment in hedge funds, gross direct leverage being very low. Only two institutions (out of a total of seven) reported direct leverage, of 23% and 70% respectively.

Counterparty risk, the risk that the financial difficulties experienced by an entity may be transmitted to its counterparties or lenders and which is amplified with a high use of leverage, has not materialised in Spanish investment funds. Consequently, exposure to this risk, which in the case of these vehicles originates from derivatives transactions in OTC markets through transactions pending settlement, is at very low levels and a long way from the levels that could be considered potentially systemic. Thus, at the end of 2019, the aggregate liabilities of UCITS and quasi-UCITS in respect of OTC derivatives transactions represented 0.32% of their total assets. Looking at it from the other side, the counterparties of OTC transactions carried out by investment funds were exposed to counterparty risk equivalent to 0.15% of the total assets of these funds. In the case of hedge funds (including CIS that invest in hedge funds) these figures were 0.86% and 0.58%, respectively.

Availability and use of liquidity tools in collective investment schemes

EXHIBIT 2

Among the most relevant risk analyses in the area of collective investment are those relating to the liquidity risk and leverage of these institutions, topics that are also covered in this report. The perception of excessive risk in these areas may trigger the activation of one or more of the existing tools, from either a micro- or a macroprudential standpoint, if a serious threat to the stability of the financial system is perceived. Therefore, risk analysis must be carried out in

parallel with the assessment of the suitability of the available tools. In the particular area of liquidity management tools (LMTs), it should be noted that these instruments seek to mitigate the mismatch between the redemption profile that a fund may be faced with and the proportion of liquid assets available to service these redemptions. The nature of these tools is diverse, as is their level of efficiency and effectiveness. Most can be activated by the CIS manager and some by the securities regulators. However, there is no standardised set of tools available in the different European jurisdictions. Analysing the availability of these tools and their standardisation among countries has become a priority for the coming years both at EU level and in the international sphere, stemming from the experiences of some CIS during the worst moments of the COVID-19 crisis. This exhibit reviews the liquidity management tools of Spanish CIS (UCITS and AIFs) and describes their use during the crisis, all within a European Union context.

Tables E2.1 and E2.2 describe the availability of the most relevant liquidity management tools in a total of seven EU Member States for UCITS (Table E2.1) and AIFs (Table E2.2). It can be observed that there are variations in availability among States, the suspension of redemptions and the possibility of establishing redemption fees being the only options available in all the countries considered and for both types of funds. Other tools such as swing pricing schemes or redemptions in kind are also widely available (although not in all countries). Lastly, there are tools that are not generally available, although this is more noticeable in the case of alternative funds. Examples are mandatory liquidity buffers and side pockets. There is a particularly wide range of tools available in Spain. Both the number of available tools and their relevance are noteworthy and the result of a continuous process of assessing these needs, which has recently led to the implementation of new tools. Two of the most innovative tools are: i) the possibility of temporarily requiring specific liquidity buffers in an institution or group of institutions¹ and ii) the possibility, implemented during the worst moments of the crisis caused by the pandemic,² of establishing notice periods, even if this possibility is not provided in the fund management regulations.

Tools available for UCITS

TABLE E2.1

	Spain	Germany	France	Italy	Ireland	Luxembourg	Netherlands
Suspension of redemptions	✓	✓	✓	✓	✓	✓	✓
Gates	✗	✓	✓	✗	✓	✓	✓
Side pockets	✓	✗	✓	✗	✗	✓	✓
Redemption fees	✓	✓	✓	✓	✓	✓	✓
Redemptions in kind	✓	✓	✓	✗	✓	✓	✓
Swing pricing	✓	✓	✓	✗	✓	✓	✓
Mandatory liquidity buffers	✓	✗	✗	✗	✓	✓	✗
Side letters	✗	✗	✗	✗	✗	✗	✓

Source: CNMV and ESMA.

Tools available for alternative funds (AIFs)

TABLE E2.2

	Spain	Germany	France ¹	Italy ²	Ireland	Luxembourg	Netherlands
Suspension of redemptions	✓	✓	✓	✓	✓	✓	✓
Gates	✓	✓	✓	✓	✓	✓	✓
Side pockets	✓	✗	✓	✓	✓	✓	✓
Redemption fees	✓	✓	✓	✓	✓	✓	✓
Redemptions in kind	✓	✓	✓	✗	✓	✓	✓
Swing pricing	✓	✓	✓	✗	✓	✓	✓
Mandatory liquidity buffers	✓	✓	✗	✗	✓	✗	✗
Side letters	✓	✓	✗	✗	✓	✓	✓

Source: CNMV and ESMA.

¹ There are certain specificities in the availability of these tools depending on the type of AIF.

² Gates and side pockets available for open-ended AIFs reserved to professional investors.

Spanish investment funds suffered large volumes of redemptions in the early part of the crisis, particularly in the second half of March, for an aggregate amount accounting to 2% of their assets. In the subsequent months, and with a somewhat irregular pattern, funds have recovered part of these outflows, and cumulative net redemptions between March and November are estimated at 1.7% of assets. The CNMV, in its supervisory role, has not identified any cases in which these redemptions were carried out with difficulty. In fact, no Spanish fund had to activate any extraordinary liquidity measures such as the suspension of redemptions or side pockets.

However, five funds did have to implement partial redemptions. This mechanism is similar to that of side pockets, but its implementation is more agile. By using this tool, only a part of the fund is affected by the suspension. According to Spanish regulation, management companies must activate this measure when the proportion of assets on which trading has been suspended represents more than 5% of the institution's portfolio. The largest fund affected by a partial suspension of redemptions was a fund of funds with assets of €420 million, which had invested 7% of its assets in a Luxembourg investment fund that suspended redemptions and stopped calculating the value of its units. In this case, any investor wishing to request a redemption of the affected fund of funds received a partial redemption equivalent to 93% of the price of the redeemed units. When the suspension of the underlying fund came to an end, investors would receive the pending redemption, based on the valuation.

The same mechanism was also adopted by four other smaller funds (with assets of €19 million). One of these was also a fund of funds affected by the suspension of redemptions of one of its underlying funds, while the others had investments in high yield debt assets. Two of them were significantly affected by the high levels of uncertainty in asset valuations, as well as decreases in liquidity in some investments. In all cases, the weight of these bonds was less than 6% of the fund's assets.

The CNMV reinforced its coordination mechanisms with management companies during the crisis, encouraging these institutions to use the available liquidity management tools where appropriate. In particular, the use of mechanisms that

prevent the increase in redemptions from being detrimental to unitholders remaining in the fund was particularly recommended. One of the mechanisms most recommended was the use of asset valuations based on bid prices in order to ensure that the price paid to investors redeeming their units was in line with the price that the fund would obtain from the sale of the assets. Another widely recommended mechanism was the use of swing pricing schemes, which also help to pass on part of the transaction costs to investors requesting redemptions.

As regards the use of these tools, most management companies have internal procedures that provide for asset valuations based on the bid price when net redemptions exceed a certain threshold. In relation to the application of swing pricing schemes, a significant number of funds have notified the CNMV that they would use this mechanism when net redemptions also exceed a certain threshold. The internal procedures of the management companies must establish the amount of redemptions required to activate this mechanism, as well as the swing pricing factor to be used. The first-time application of this mechanism requires a public notification be submitted to the CNMV.

At EU level, management companies used similar tools, particularly the suspension of redemptions, swing pricing schemes and gates, although their use varied substantially from one jurisdiction to another. In the case of UCITS, suspensions of redemptions mainly affected funds with significant exposure to corporate debt assets, with aggregate assets of €22 billion in March. This figure dropped to €400 million in June. In the case of AIFs, the institutions using the suspension of redemptions had assets of €40 billion at the end of June, mainly due to suspensions in real estate funds. In general, suspensions in UCITS and AIFs were not caused by difficulties in meeting the increase in redemptions, but by valuation problems affecting some assets, in particular corporate debt assets, OTC derivatives and real estate assets.

1 Royal Decree-Law 22/2018, of 14 December, establishing macroprudential tools.

2 Royal Decree-Law 11/2020, of 31 March, adopting urgent complementary measures in the social and economic sphere to deal with COVID-19.

3.2 Economic function 2

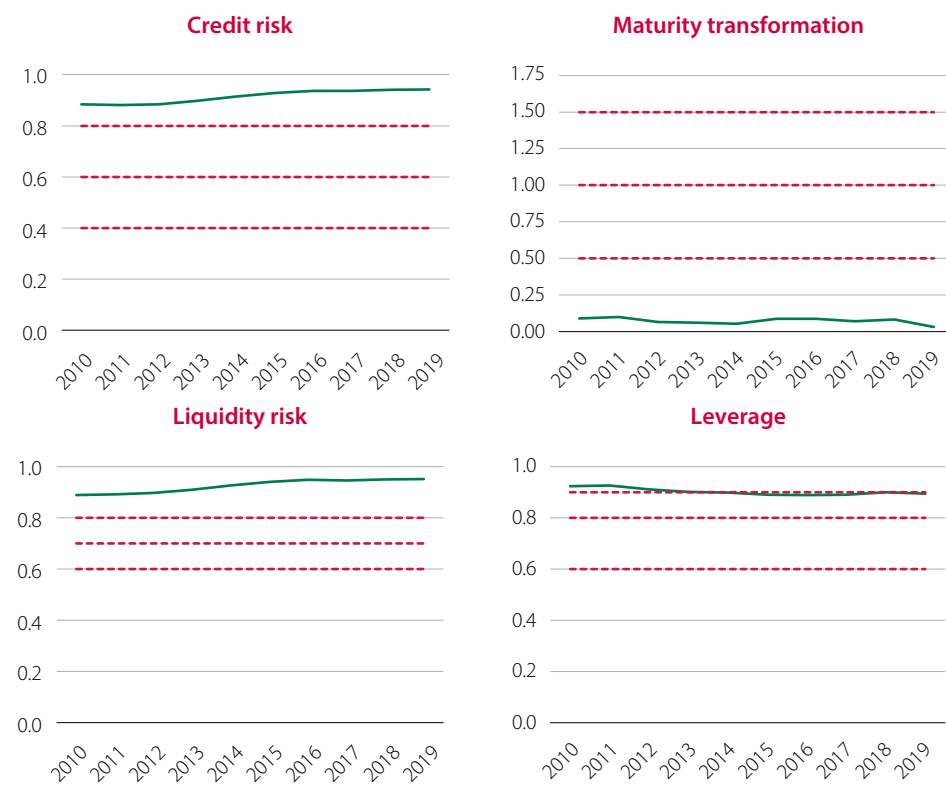
Economic function 2, defined as loan provision that is dependent on short-term funding, can comprise a wide variety of entities and, depending on the jurisdiction, with very different legal frameworks. In the case of Spain, this includes finance companies. In Spain, as we have seen, the financial assets of these institutions represent 11.7% of total economic functions, with close to €60 billion at year-end 2019, after reaching €70 billion in 2008. If the amount consolidated in banking groups, which increased in 2019 compared with previous years, is excluded, the financial assets of these entities fall to €8 billion, representing 2.6% of NBF1 in its strict sense. It is important to take this into account when analysing the risks of these entities, given that in principle, regardless of their level, the effects in terms of financial stability would not be significant.

The panels in Figure 17 illustrate some indicators related to the most important risks that are analysed for these entities. As shown in the upper left hand panel, the credit risk assessment is high for these entities due to the nature of their activity, since more than 90% of the financial assets correspond to loans granted. The high liquidity risk

and leverage, which are also around 90%, originate from the low level of liquid assets and own funds held by these entities. The indicator for maturity transformation risk is at very low values, well below 25%, having actually decreased to 3% in 2019 (see upper right hand panel of Figure 17). This decline was due to the low volume of current liabilities held by the finance companies, which amounted to just €700 million in total.

Trends in the risks of finance companies

FIGURE 17



Source: CNMV.

3.3 Economic function 3

EF3 is defined as intermediation of market activities that is dependent on short-term funding or on secured financing of client assets. In Spain, broker-dealers belong to this category.

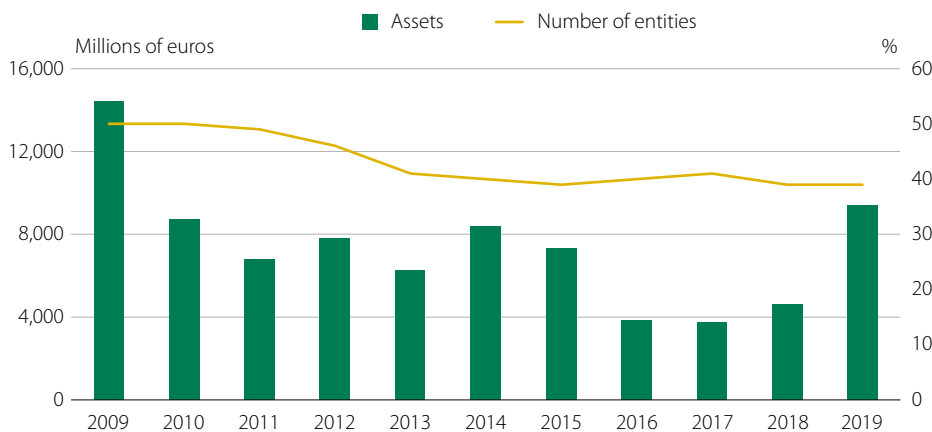
At the end of 2019, there were 39 broker-dealers registered with the CNMV, with total assets of €9.42 billion, representing an increase of more than 100% compared with 2018 (see Figure 18). We would point out that this surge was due to the very substantial increase in the Spanish activity of a broker-dealer belonging to a foreign credit institution, due to the transfer of part of its operations as a result of Brexit. Nonetheless, the size of this sector remains relatively small compared with that of other jurisdictions, since in Spain investment services are provided mostly by credit institutions. Consequently, nearly 90% of the fees received for these services in 2019 corresponded to credit institutions, whereas broker-dealers received around 7%³² (the remaining 3% corresponded to brokers).

32 It is worth mentioning that these figures correspond to a classification of entities carried out from a legal point of view, taking into account the legal form of each of them. However, there are some entities that

Assets of broker-dealers and number of entities

FIGURE 18

Non-bank financial
intermediation



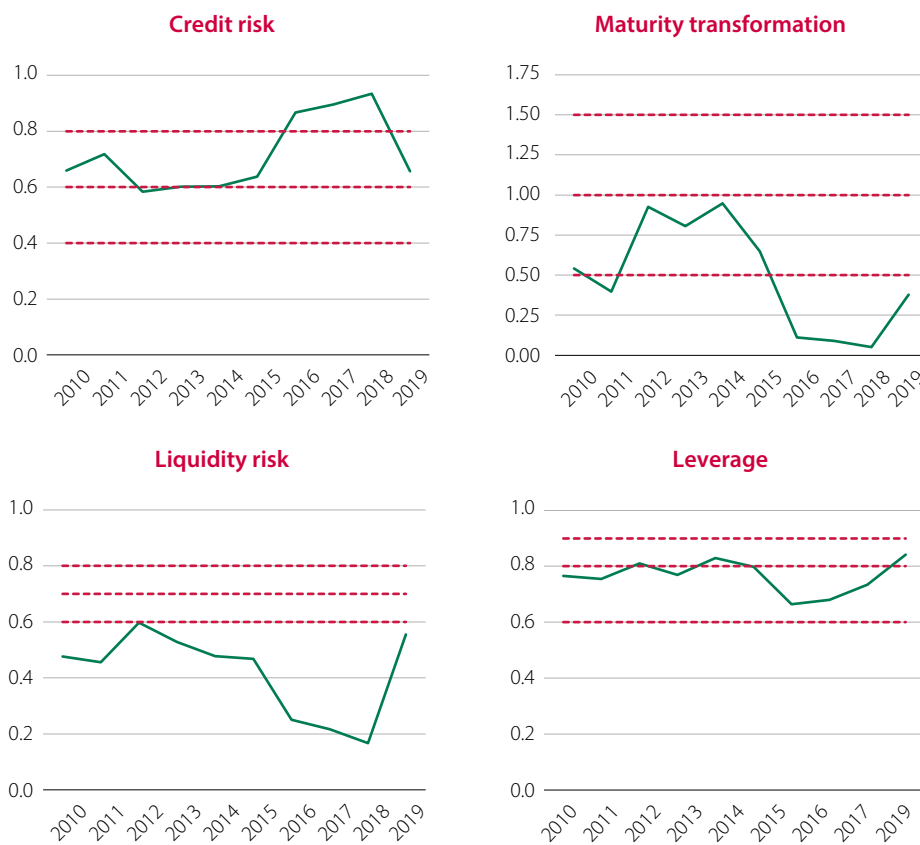
Source: CNMV.

As we have already mentioned, broker-dealers have a very low relative weight in all five economic functions (although in 2019 this increased from 0.9% to 1.8%), so the risk of contagion to the rest of the financial system is very limited. Even so, analysing the risks associated with these companies regardless of their size, we see that the incorporation of the entity referred to above has had a significant impact on the risk indicators calculated for the sector in 2019. As seen in the different panels of Figure 19, the credit risk indicator has decreased considerably, while the others have increased. A notable increase was observed in liquidity risk and maturity transformation risk, although indicators did not exceed the threshold that separates low risk from moderate risk. However, the leverage indicator went from moderate risk to medium risk.

have the legal form of a bank, but whose business model is based on the provision of investment services. The estimates made show that the amount of income received by these entities related to the provision of investment services in Spain, discounting rebates to third parties, was just under €500 million in 2019, almost €100 million more than in 2018. From a broader perspective, it is estimated that 68% of the business relating to the provision of investment services in Spain (including CIS management), assessed through fee and commission income, corresponds to commercial banks or entities belonging to their groups, while the rest corresponds to financial entities specialising in the provision of investment services and without corporate ties to commercial banks.

Risk trends for broker-dealers

FIGURE 19



Source: CNMV.

3.4 Economic function 4

This category comprises the entities that carry out a *facilitation* activity for credit creation. In Spain, this group consists only of mutual guarantee companies. These companies are defined as financial entities whose main purpose is to facilitate access to credit for SMEs and to improve, in general terms, their financing conditions through the provision of guarantees to banks, public administrations or to customers and suppliers. Apart from this, the possible inclusion of crowdfunding platforms in the narrow measure of NBFi (specifically in EF4) is being discussed, since these are vehicles that facilitate the contact between the investor and the entity that requires financing. At present, these entities are not included in the analysis, although the CNMV is collecting data on them, with an increasing level of detail.³³

In Spain, mutual guarantee companies account for a very small fraction of the narrow measure of NBFi, since their financial assets represent only 0.2% of the total. Consequently, should these entities experience difficulties, it is very unlikely that the risks would spread to the rest of the financial system.

Given that the size of this sector is below the 0.5% threshold, it is considered that it does not present any risks to financial stability and therefore no measurement analysis

33 The most recent estimated information for these platforms represents an insignificant amount (in 2019 they raised financing of €139.1 million).

of potential risks has been carried out (It has been carried out for all other entities included in NBFI.)

3.5 Economic function 5

EF5 is defined as securitisation-based credit intermediation and funding of financial entities. This category comprises structured finance vehicles (SFVs) whose purpose is the securitisation of assets.

As these entities provide funding to banks or other financial institutions, whether or not there is a real transfer of assets or risks, they may be an integral part of the credit intermediation chains, so the risks associated with NBFI must be taken into account, especially when considering maturity transformation. It is important to mention that in general terms securitisation issues in Spain are structured in such a way that payments are made from pools of assets that are gradually amortised, so this is not a major problem. It can also be considered that in Spain securitisation has been more of a tool for financing than for transferring risk, unlike in other jurisdictions, where it was identified as one of the most significant problems in the last financial crisis due to the reduction or quasi elimination of incentives for risk assessment by the entities granting the original loans.³⁴

As mentioned at the beginning of this section, securitisation in Spain represents a relatively large fraction of NBFI, being the second most important sector. Thus, the financial assets of SFVs amounted to just over €175 billion at year-end 2019, which represented 34.2% of the aggregate assets of the five economic functions, although in 2010 this figure was as high as €489 billion. Subsequently, the financial crisis had a significant negative impact on these vehicles, whose assets declined rapidly. This decline has not yet finished, although the pace has slowed. In 2019 alone, they dropped by 4.9%. In the same way as for finance companies, a very high percentage of securitisation vehicles are consolidated in banking groups,³⁵ so although they have a large size compared with the entities belonging to the other economic functions, once the assets included in banks' balance sheets are deducted, the figure falls to 8.8%.

As the left hand panel of Figure 20 shows, securitisation bond issues declined substantially between 2009 and 2011, which was the most unfavourable moment for the securitisation market as it was virtually paralysed globally. The decrease in issues was not as abrupt as could have been expected because financial institutions issued securitisations to which they subscribed themselves in order to use these assets as collateral in financing transactions with the Eurosystem (the percentage of issues subscribed by issuers came close to 100% between 2008 and 2010). Even so, this contraction affected securitisation outstandings, which fell progressively from

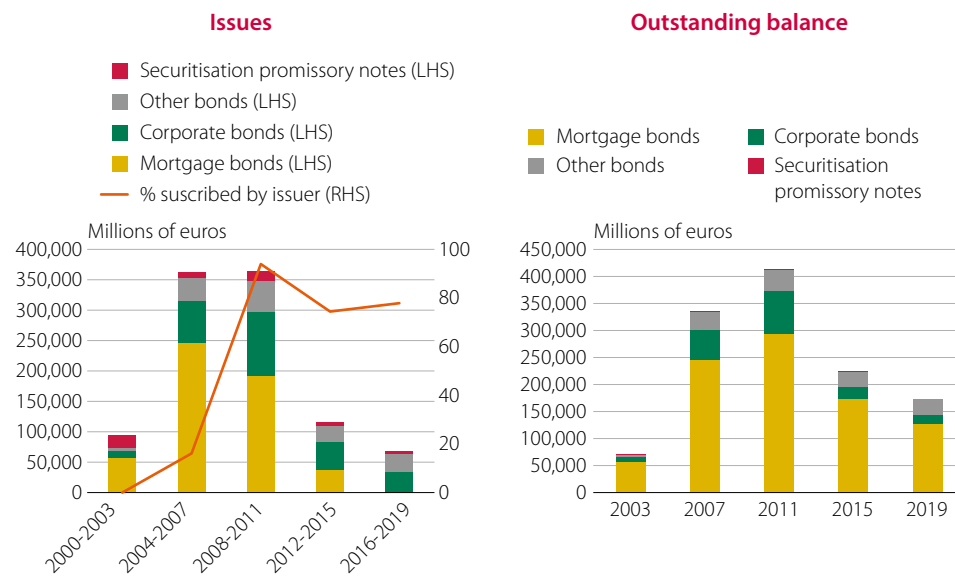
34 For further information see Martín, M.R. (2014). *Analysis of Spanish securitisation funds: characteristics at the time of their creation and performance during the recession*. CNMV, Working Document No. 57.

35 The reason why this happens in Spain is that the transferor entity in most situations retains control, in accordance with Bank of Spain Circular 4/2017 and IFRS 10 (Consolidated Financial Statements) since among other things it continues to be exposed to the variable returns of the funds and the securitised assets, either through credit enhancements, or through a swap in which it collects the returns of the securitised portfolio and pays the bond coupons. In these cases, according to the existing accounting standards, the vehicle must remain on the balance sheet of the issuing banks and therefore falls within the scope of *traditional* banking regulations.

2009, and more sharply from 2011 onwards (see right hand panel of Figure 20). Since that year, the percentage of issues subscribed by issuers has fallen but remains at high levels, at close to 80%.³⁶

Trends of securitisation bonds and promissory notes by asset type

FIGURE 20



Source: CNMV and Bank of Spain.

By type of asset, it can be observed that in Spain securitised assets have traditionally corresponded mostly to mortgage bonds, whose outstanding balance has been around three-quarters of the total since the first issues were made, thanks mainly to issues carried out between 2003 and 2009, which in many cases are still outstanding. Since then, although they remain predominant, mortgage bond issues have been approaching those of other types of underlying assets, especially those of business loans.

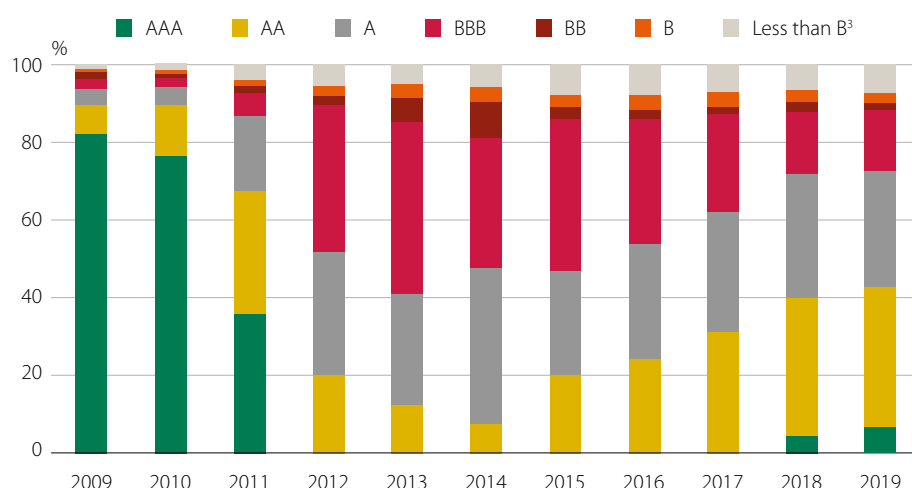
The credit rating of securitisation vehicles as a result of the increase in the risk associated with Spain and for reasons intrinsic to these instruments and the assets they held, declined from the start of the crisis, with very significant falls registered in 2011 and 2012. As shown in Figure 21, while in 2008 more than 90% of the assets were rated AAA and only 3% were BBB or lower, in 2017 there were virtually no AAA assets and BBB or lower rated assets accounted for just over 37%. However, in 2018 and 2019, the situation improved substantially, with 77% of AAA rated assets and 27% of BBB or lower rated assets in December of last year.

36 In January 2011, the amendment to the Capital Requirements Directive, known as CRD II, entered into force. Article 122.1.a) included the obligation of the originator to retain a minimum of 5% of the nominal value of securitisations.

Outstanding balance of securitisation bonds and promissory notes by credit rating^{1,2}

FIGURE 21

Non-bank financial
intermediation



Source: CNMV.

¹ Does not include MARF (Alternative Fixed Income Market).

² Ratings grouped according to their Standard & Poor's equivalent.

³ Includes unrated issues.

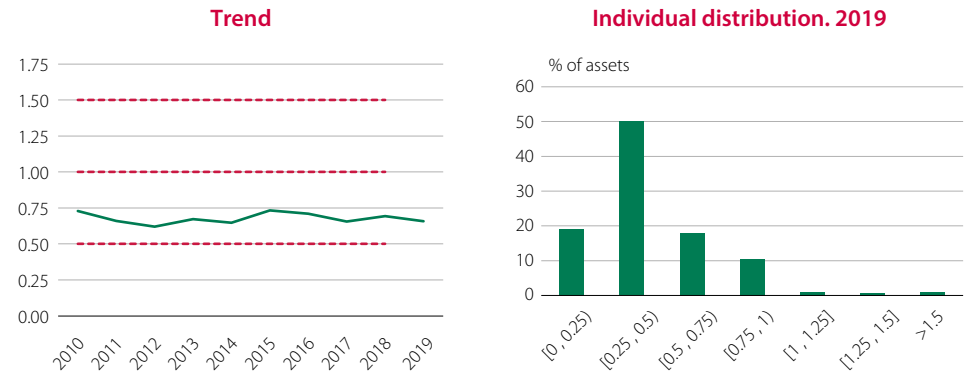
In relation to the risk assessment of these entities, the risk of maturity transformation is clearly the most relevant, while the liquidity risk is also appreciable. Credit risk and leverage risk are not very significant for SFVs. Firstly, credit risk is practically 100% by definition: all SFV assets are made up of loans transferred by the originator or transferor. Something similar happens with leverage: securitisation funds do not have own funds, so the ratio, as it is constructed, is always equal to one. Liquidity risk stood at 93% at the end of 2019, a figure that has not changed substantially in recent years as a result of the aforementioned balance sheet composition: almost all the assets are made up of the loans granted and, therefore, there are very few liquid assets. The individual distribution shows that around 85% of the funds (by assets) had liquid assets of less than 10% of total assets (liquidity risk greater than 90%), while in practically all vehicles these assets were under 20%.

The level of the risk indicator associated with maturity transformation, which, as already mentioned, is the most important for establishing the risk that these vehicles can pose to financial stability, was 66% in 2019, slightly below the 2018 figure, with a moderate asymmetry in the maturities of liabilities relative to assets (see left hand panel of Figure 22). This figure has ranged between 62% and 73% in the last nine years, so it is relatively stable. There are substantial differences among the different vehicles, although the dispersion of the values of the maturity transformation risk indicator for 2019 was lower than that of 2018. In this way, as shown in the right hand panel of Figure 22, in 69% of funds (in terms of assets) the ratio of current liabilities to current assets was less than 50% (low risk), whereas this was the case in 34% of the funds in 2018. In contrast, only 2.6% of total assets was held by vehicles that experienced a level of risk of over 100% (medium or high risk), compared with 6.2% the previous year.

It must also be borne in mind that in Spain most of the securitised assets come from long-term loans or credits – mostly mortgages – and the same applies to the securities issued (liabilities). Thus, at the end of 2019, the current assets and liabilities of Spanish securitisation funds accounted for only 28% and 14% of their balance sheet, respectively.

Maturity transformation risk in securitisation funds

FIGURE 22



Source: CNMV.

