CNMV
Comisión
Nacional
del Mercado
de Valores

Non-bank financial intermediation in Spain

Financial year 2023

Non-bank financial intermediation in Spain

Financial year 2023

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 is part of the CNMV's publication called Non-bank Financial Intermediation Monitor and is published annually (http://cnmv.es/portal/Publicaciones/PublicacionesGN.aspx?id=56).

The Spanish National Securities Market Commission (CNMV) distributes its reports and publications via the Internet at www.cnmv.es.

ISSN (digital edition): 2695-5822

Layout: Cálamo y Cran

Table of contents

1 Executive summary 9

2 Breakdown of main figures 13

2.1 Credit intermediation and financing of entities included in NBFI 16

2.2 Interconnectedness between banks and OFIs 19

2.2.1 Interconnectedness in the investment funds' sector 20

3 Non-bank financial intermediation 25

3.1 Risk assessment of non-bank financial intermediation 28

3.1.1 Economic function 1: *management of collective investment vehicles whose characteristics make them susceptible to runs* 29

3.1.2 Economic function 2: *loan provision dependent on short-term financing* 37

3.1.3 Economic function 3: *intermediation in market activities dependent on short-term financing or secured funding* 38

3.1.4 Economic function 4: *facilitating credit creation* 40

3.1.5 Economic function 5: *credit intermediation based on securitisation for financing financial institutions* 43

3.2 Use of macroprudential tools 45

3.2.1 Stress tests 48

3.2.2 European Commission consultation on macroprudential policy for non-bank financial intermediation (NBFI) institutions 50

List of tables

Table 1 Structure of the Spanish financial system 14

Table 2 Structure of other financial institutions in Spain 15

Table 3 Classification of NBFI by economic function 26

Table 4 Degree of involvement of NBFI in financial risks. 2023 29

Table E1.1 Number of non-harmonised crowdfunding platforms and registered crowdfunding service providers 41

Table 5 Results of the stress tests (aggregate flows) 50

List of exhibits

Exhibit 1 Crowdfunding platforms in Spain 41

List of figures

Figure 1	Financing of non-financial companies	13
Figure 2	Annual growth rate of assets in the financial system	14
Figure 3	Distribution and trends of the OFI sector in Spain	16
Figure 4	Trends in credit intermediation	17
Figure 5	Bank and OFI liabilities	18
Figure 6	Trends in wholesale financing	18
Figure 7	Interconnection between banks and OFIs (% bank assets)	19
Figure 8	Analysis of fixed income assets in the portfolio of investment funds	21
Figure 9	Interconnections between investment funds in the area of fixed income	22
Figure 10	Interconnections between investment funds in the area of fixed income	23
Figure 11	Distribution of non-bank financial intermediation. 2023	27
Figure 12	From the non-bank financial sector to the narrow measure of NBFI. 2023	27
Figure 13	Relative weight of NBFI	28
Figure 14	Distribution of investment funds belonging to NBFI	30
Figure 15	Concentration in the collective investment sector	31
Figure 16	Credit risk in the different types of investment funds	32
Figure 17	Maturity transformation in different types of investment funds	33
Figure 18	Average modified duration of the fixed-income portfolio of the different types of investment funds	34
Figure 19	Liquidity risk in investment funds: distribution of HQLA assets. 2023	35
Figure 20	Gross leverage in different types of investment fund	36
Figure 21	Risk trends for finance companies	38
Figure 22	Assets of broker-dealers and number of entities	39
Figure 23	Risk trends for broker-dealers	40
Figure E1.1	Funding raised and outstanding balance on crowdfunding platforms	42
Figure 24	Evolution of securitisation bonds and commercial paper by asset type	43
Figure 25	Outstanding balance of securitisation bonds and commercial paper by credit rating	44
Figure 26	Maturity transformation risk in securitisation funds	45
Figure 27	Availability of liquidity management tools in IFs	47
Figure 28	Proportion of HQLA of investment funds by category	49

1 Executive summary

This publication provides a detailed overview of the developments and risks associated with entities that fall under the most stringent definition of non-bank financial intermediation (NBFI) in Spain in 2023. This definition, set by the Financial Stability Board (FSB) a few years ago, categorises entities based on their engagement in one of five specified economic functions. Entities involved in these functions exhibit risks similar to those found in the banking sector, often related to credit intermediation (through debt or loans), short-term financing, and high leverage. In Spain, the most significant NBFI institutions by asset volume are investment funds. Consequently, each year sees the introduction of new extensions or analytical enhancements aimed at improving understanding of this sub-sector's risks. For the first time, this report includes a network analysis to evaluate the interconnections among these entities through investments in both public and private fixed income assets.

– **The broader distinction between the banking and non-banking sectors continued to demonstrate the dominance of the former in 2023, accounting for 72% of total assets**, including those of the central bank. Within the non-banking sector, other financial institutions (OFIs) – from which the NBFI measure is derived – remained the most significant, holding assets worth €973 billion, an increase of 4.7% from 2022, and representing 66.2% of the non-banking aggregate's assets.

– **The total assets across the five economic functions amounted to €515 billion in 2023, which is a 5.4% rise from 2022.** However, when the volume of assets consolidated within the banking perimeter is excluded, the narrowest measure of NBFI in Spain is approximately €350 billion. This figure accounts for just 6.6% of the Spanish financial system and is lower than in some neighbouring economies, though in absolute terms, it is the highest recorded since 2007.

– **Over 90% of the assets of non-bank financial institutions fall under the first economic function, which includes the majority of collective investment schemes.**[1] The remaining 10% consists of securitisations (6.2%), finance companies (2.2%), and broker-dealers and mutual guarantee companies, which together account for less than 1% of NBFI.

– **The evaluation of financial risks for entities within economic function 1 (EF1) shows no significant changes from the previous year and does not highlight any major vulnerabilities.** Many risk metrics had shown substantial improvement in the previous year, largely due to increased investment in public debt assets, which generally enhanced liquidity conditions and reduced

1 Equity investment funds are not included in this function due to their limited role in credit intermediation.

credit risk in portfolios. This trend persisted into 2023, but at a more moderate pace. Consequently, there was a slight increase in the level of high quality liquid assets, as well as in the proportion of assets of better credit quality. Duration indicators continued to reflect very low interest rate risk for the funds, and leverage assessments confirmed that the average leverage level in NBFI remained well below regulatory limits. Some of these metrics suggest that Spanish funds are in a less vulnerable position compared to the rest of the sector within the European Union.

– **In 2023, the estimated leverage for investment funds and open-ended investment companies (SICAVs) within the NBFI sector was 19% of assets in terms of gross exposure.** Net exposure, however, was reduced to 9% of assets. In the realm of hedge funds, which operate under a more flexible regulatory framework, aggregate leverage was also very low, with an average gross exposure of 27.6%. Only a few small entities were identified as making more intensive use of leverage.

– **The direct interconnection between banks and OFIs continued to decrease in 2023. However, alternative analyses present different and intriguing findings.** An example is the specific analysis included in this edition of the report, focusing exclusively on investment funds, which uncovered a high degree of interconnectedness among these entities based on common exposures to sovereign debt and private fixed income assets. At least three clusters of funds with very high interconnections have been identified, with significant links also existing between funds from different clusters. This suggests that a shock affecting the common assets of these institutions could lead to significant adverse effects within these groups.

– **Spanish collective investment schemes (CISs) have access to a wide range of liquidity management tools.** By the end of September 2024, 83% and 43% of CISs in EF1 (in terms of assets) had provisions for requiring advance notice and for using an anti-dilution mechanism, respectively. Furthermore, in 2023, five investment funds temporarily implemented partial subscriptions and redemptions due to the suspension of trading for certain securities within their portfolios.

– **On 22 May 2024, the European Commission launched a public consultation on macroprudential policy for entities within the NBFI sector, which the CNMV participated in.** In its response, the CNMV stressed the importance of having comprehensive, shared data across Europe, particularly for open-ended investment funds, and underscored the need to incorporate international recommendations into the European framework, especially regarding the availability and use of liquidity management tools.

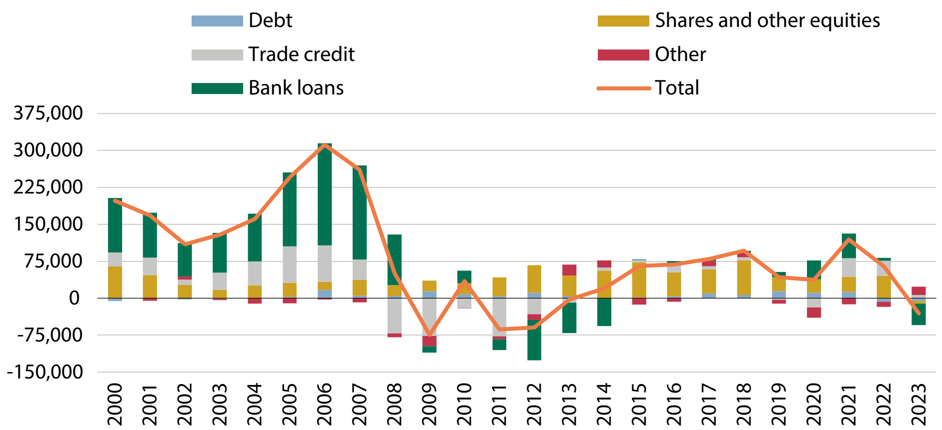
– **The CNMV's half-yearly stress tests on investment funds confirm the sector's resilience against a hypothetical scenario of increased redemptions.** The applied methodology, which compares the estimated liquid assets for each investment fund (High-Quality Liquid Assets, HQLA) with a theoretical and highly severe redemption amount, identifies only eight funds that would struggle to handle this redemption simulation under the worst-case scenario considered in the exercise. These eight funds are in the high-yield corporate fixed income category.

- **This edition of the NBFI report includes a section on the development of crowdfunding in Spain.** While it has not yet been officially classified under any of the economic functions defined by the FSB, it could potentially fall under EF4, as these platforms facilitate connections between investors and entities seeking funding. Spain initially regulated this sector with Law 5/2015, followed by harmonisation at the European level. By the end of 2023, a total of 21 platforms had complied with these regulations. The funding volumes managed by these platforms remain small: in 2023, equity financing amounted to €125 million (a decrease of 61.5%), debt financing reached €152 million (an increase of 153%), and loans totalled €8 million (a decrease of 20%). More than 70% of the financing was directed towards the real estate sector.

2 Breakdown of main figures

The rising cost of financing continued to burden non-financial companies' access to funding in 2023.[2] As shown in Figure 1, the flow of financing to these companies was negative that year, a phenomenon not seen since the European sovereign debt crisis of 2011-2012). The decline in financing, which occurred amidst a broader context of deleveraging in the private sector, reached €31 billion (2.1% of GDP) and was especially pronounced in bank lending. Unlike previous periods of declining bank credit, the contribution from other financing sources, particularly those from financial markets, was minimal in 2023. Neither fixed income nor equity issuances, whether listed or unlisted, managed to offset the reduction in traditional bank lending.

Financing of non-financial companies FIGURE 1



Source: Bank of Spain. Data in millions of euros.

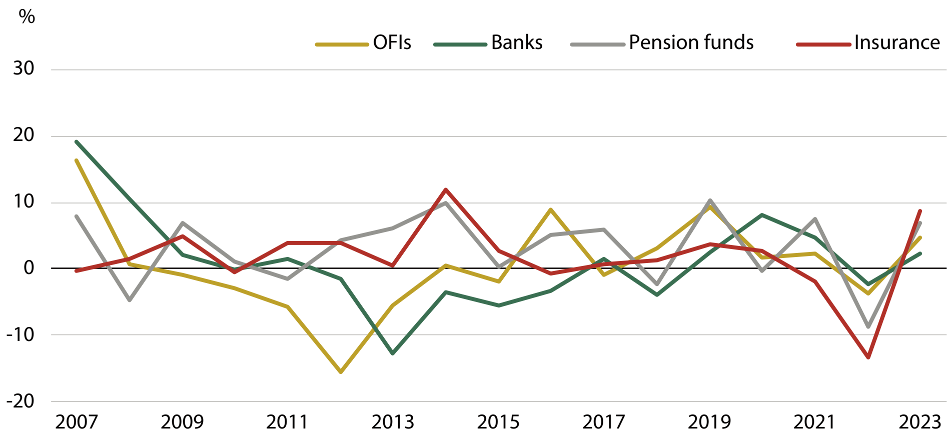
The financial system in Spain reached €5.26 trillion at the end of 2023, equivalent to 3.5 times the country's GDP, marking a 1.2% increase from 2022. This growth, with varying levels of intensity, was widespread across all sectors, except for central bank assets, which fell by 8.8% to just below €895 billion. As shown in Figure 2 and Table 1, sector increases varied, ranging from a 2.3% rise in banking sector assets to an 8.7% rise in the insurance sector. Pension funds also saw a significant increase of 6.9%, similar to other financial institutions (OFI), whose assets grew by 4.7%.

2 The synthetic interest rate on new loans and credit for non-financial companies rose from 2.3% in 2022 to 5.2% in 2023, up from 1.9% in 2021. Consequently, the average interest rate on outstanding loans to these companies increased from 2.7% in 2022 to 4.4% in 2023, compared to 1.7% in 2021. In addition, the Bank Lending Survey indicated that lending criteria became stricter in 2023, particularly in the third quarter, while demand for bank loans from non-financial companies declined during the year.

These changes have raised the relative importance of both the banking sector within the overall financial system, but also of OFIs, with the latter forming the basis for measuring NBFI. Banking assets grew to nearly €2.9 trillion, accounting for 55% of the financial system. This growth aligns with the previously mentioned decline in credit balances to the non-financial sector and is attributed to increased bank financing through other means, such as acquiring fixed-income and equity assets. Meanwhile, OFIs strengthened their position just behind the banking sector, with assets totalling €973 billion, accounting for slightly less than 19% of the system. The insurance sector (6%) and pension funds (3%) followed at some distance, with combined assets of €460 billion.

Annual growth rate 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	Pension funds	Financial ancillary services	OFIs	Total
Size in 2023 (millions)	893,390	2,894,402	303,440	157,481	35,366	973,112	5,257,192
Size in 2022 (millions)	979,506	2,827,721	279,187	147,285	34,051	929,585	5,197,335
% of total (2023)	17.0	54.5	5.8	3.0	0.7	18.5	100.0
Growth 2023 (%)	-8.8	2.3	8.7	6.9	3.9	4.7	1.2

Source: CNMV and Bank of Spain.

The broad division between banking and non-banking sectors continues to highlight the dominance of the banking sector within the traditional financial system. In 2023, assets in the banking sector, including those held by the central bank, made up 72% of the total, while the wider non-banking sector accounted for the remaining 28%. Since 2013, this non-banking proportion has consistently ranged between 27% and 29%, underscoring the significant level of banking penetration in Spain's financial system. The latest report from the FSB[3] notes similar levels of banking penetration in other European countries like France, Germany, and Italy, as well as in many emerging markets. However, the greater

3 FSB (2023). *Global Monitoring Report on Non-Bank Financial Intermediation*, 18 December. Available at: https://www.fsb.org/uploads/P181223.pdf

significance of NBFI in some of the largest jurisdictions means that, across the sample as a whole, the banking and non-banking sectors hold nearly equal shares, each around 48%.[4]

OFIs remain the most significant entities within the non-banking sector, with assets totalling €973 billion in 2023, accounting for 66.2% of this group, a figure much like that of the previous year. Among OFIs, non-money market investment funds stand out for their asset volume, achieving substantial growth of 12% in 2023, bringing their total to nearly €390 billion. This represents over 40% of the OFI sector (see Table 2). In the CIS sector, while smaller in scale, money market funds saw a notable resurgence. After years of stagnation, their asset volume doubled between 2022 and 2023, reaching €10.5 billion. This significant growth, continuing into 2024, is attributed to rising interest rates in recent years, which have made these products more attractive. Following investment funds in importance are captive financial institutions and securitisation vehicles, with assets of €318 billion (33% of OFIs) and almost €140 billion (14% of OFIs), respectively. These sub-sectors have shown differing trends, with the former advancing and the latter declining, a pattern observed in previous years. The other sub-sectors within OIFs are considerably less significant and exhibit diverse behaviours. However, some are included in the definition of NBFI and are therefore analysed in more detail later.

Structure of other financial institutions in Spain

TABLE 2

Millions of euros

	Non-money market investment funds	Money market investment funds	Captive financial institutions	SFV: securitisa-tion	Broker-dealers	Finance companies	REITs	Other	Total
Size in 2023 (millions)	389,970	10,501	318,343	139,917	3,487	54,131	35,861	20,903	973,112
Size in 2022 (millions)	348,140	5,237	310,136	149,543	4,339	53,904	36,401	21,886	929,585
% of total (2023)	40.1	1.1	32.7	14.4	0.4	5.6	3.7	2.1	100.0
Growth 2023 (%)	12.0	100.5	2.6	-6.4	-19.6	0.4	-1.5	-4.5	4.7

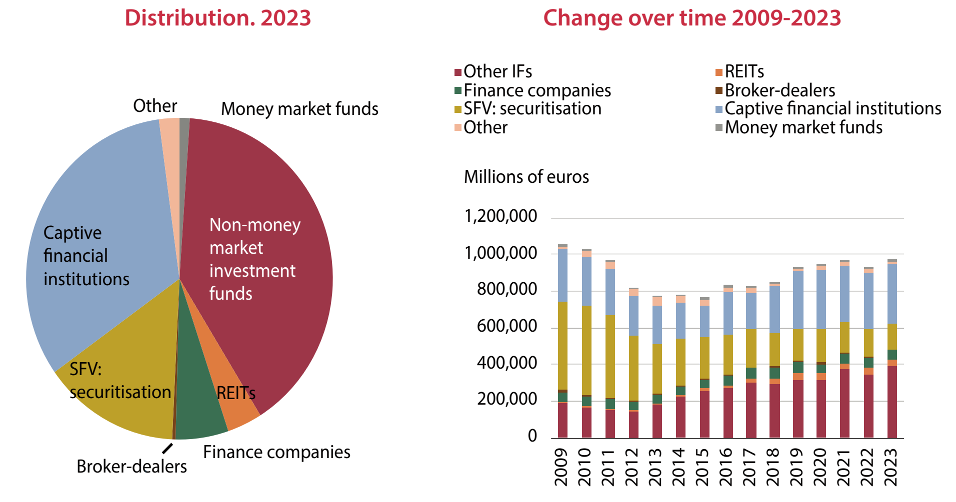
Source: CNMV and Bank of Spain.

Internationally, investment funds and captive financial institutions are also the largest components of the OFI sector, though with a much larger gap between them compared to Spain. They account for just over 50% and 16%, respectively, of the aggregate assets of OFIs.[5] In contrast, as in previous years, entities such as broker-dealers play a more prominent role abroad than in Spain, comprising nearly 9% of the sector, while securitisations account for only about 4.5%.

4 The remainder of the sector (4.6%) consists of public financial institutions.

5 It is also worth noting that in Spain, the presence of money market funds and hedge funds within investment funds is significantly smaller compared to other jurisdictions. On average, they represent 0.6% and 0.5% of OFIs, respectively, while internationally these figures are around 6.5% and 5%.

Distribution and trends of the OFI sector in Spain FIGURE 3



Source: CNMV and Bank of Spain.

Forty-seven percent of OFI assets belong to entities not considered part of NBFI. Notably, captive financial institutions form the majority of this category, accounting for 70% of the excluded assets. Further behind are real estate investment trusts (REITs), central counterparty clearing houses (CCPs), and venture capital firms. Venture capital is increasingly important as a funding source, complementing more traditional methods, but is currently excluded from the NBFI tally due to its closed nature. The remaining €515 billion of OFI assets considered part of NBFI is comprised of investment funds (though not all),[6] structured finance vehicles (SFVs) for securitisation, broker-dealers, and finance companies. As explained later, the narrow measure of NBFI is derived by subtracting assets consolidated in banks, which amounted to €167 billion in 2023. Consequently, this narrow measure of NBFI reached nearly €350 billion, representing an 11.5% increase from the previous year (see Figure 11).

2.1 Credit intermediation and financing of entities included in NBFI

This section aims to provide a general overview of the involvement of non-bank financial intermediaries in credit intermediation. It presents figures related to both the financing these entities provide and the funding they receive. Particular attention is given to their use of wholesale financing in the latter context.

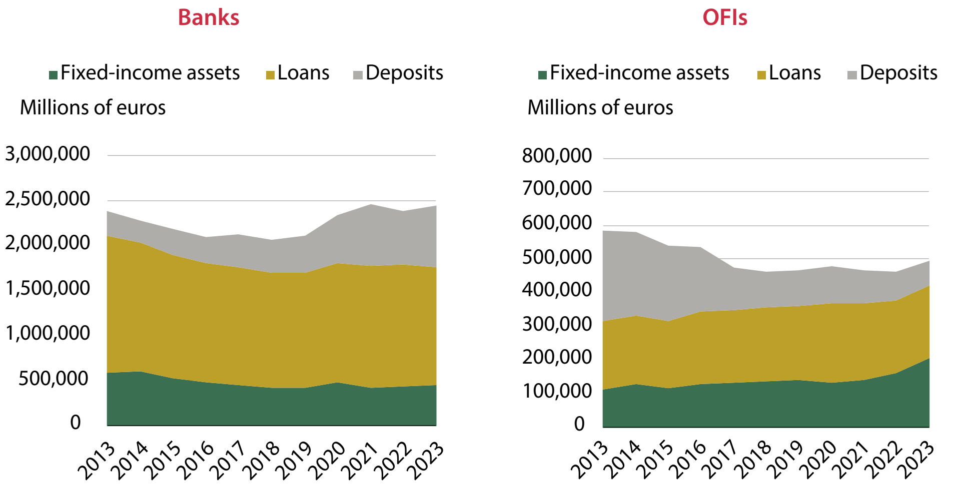
In 2023, credit intermediation across the entire financial system rose by 3.6%, reaching just over €3.2 trillion. This increase was noted across all sectors, though to varying extents, and was partly driven by the revaluation of fixed-income assets, which reversed the decline seen the previous year.[7] The banking sector is, by far, the subsector with the largest volume of credit assets, surpassing €2.4 trillion in the past year, with a 2.4% increase. Loans make up the largest share of these assets, at 46.0% (see the left panel of Figure 4). For OFIs, credit assets grew by 7.0% in 2023,

6 Equity funds are not part of the narrow measure of NBFI.

7 For instance, in 2023 fixed income investment funds experienced a portfolio revaluation of 4.2%, while in 2022 it was -5.4%.

amounting to nearly €495 billion by the year's end, which is about half of their total financial assets. Within OFIs, investment funds are the most significant in terms of credit intermediation, accounting for 42.2%[8] of the total, followed by securitisation vehicles at 27.5%. However, the composition differs significantly between these two types of vehicles: in investment funds, nearly all assets are fixed-income (almost 90%), whereas, in securitisation, credit assets are linked to the loans securitised by these entities.

Trends in credit intermediation FIGURE 4



Source: CNMV and Bank of Spain.

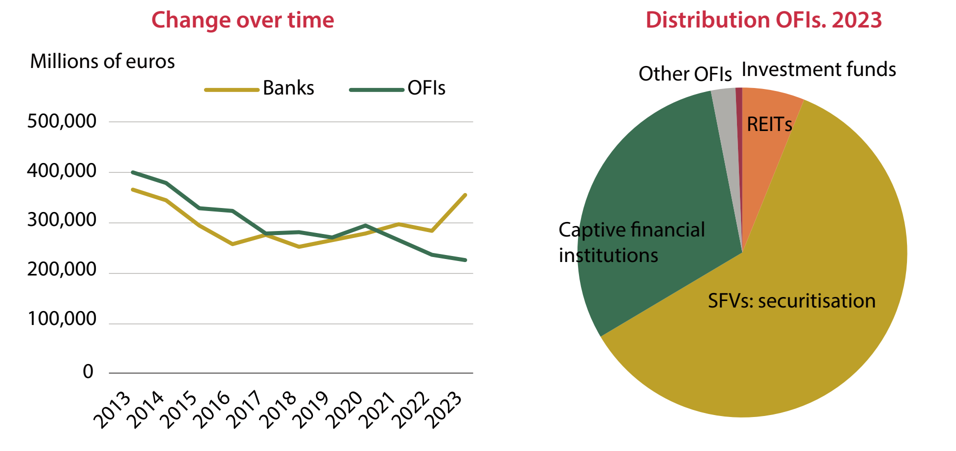
Regarding the financing received by entities within the financial system, the figures are considerably smaller than those for financing provided, despite the notable growth in 2023. Overall indebtedness[9] reached nearly €590 billion at the end of 2023, marking a 12% increase from 2022, with nearly all of it attributed to banks and OFIs. Bank debt surpassed €356 billion, a 25.3% rise from the previous year, while OFI debt was just under €227 billion (see the left panel of Figure 5). As illustrated in the right panel of Figure 5, within the OFIs, securitisation funds account for the majority of liabilities, representing 60% of the total, owing to the inherent nature of their operations.[10]

8 This figure does not include money market funds, which represent 2.1% of OFI credit assets.

9 The entities' liabilities primarily consist of fixed-income assets, loans, and repos included on the liabilities side of the balance sheet.

10 Nearly all liabilities are made up of bonds or commercial paper issued by the entities themselves.

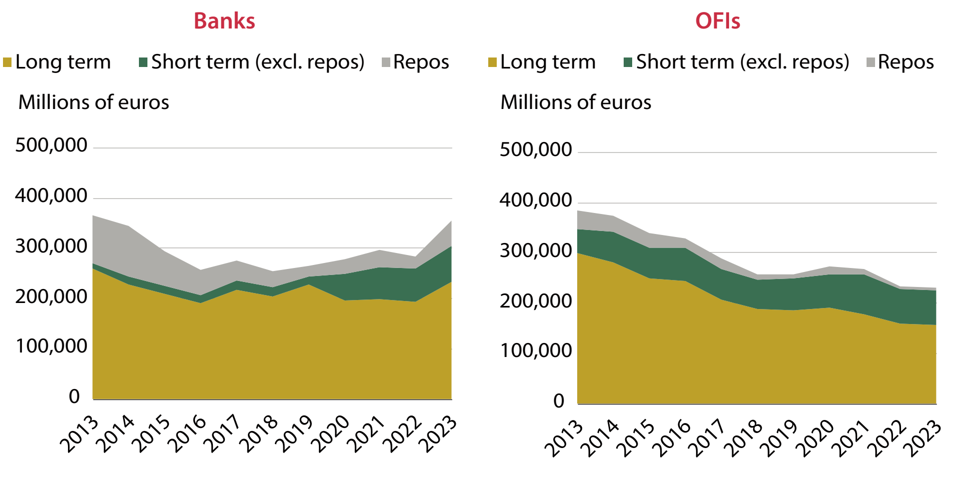
Bank and OFI liabilities FIGURE 5



Source: CNMV and Bank of Spain.

On the liabilities side, OFIs' reliance on wholesale funding, one of the most significant sources of finance,[11] has been declining in recent years. By the end of 2023, this type of financing amounted to just over €230 billion, representing 23.6% of these entities' total financial assets, down from 25.2% in 2022. As expected, this proportion is higher than that of banks, which stands at 12.4%. Long-term financing is the main component of wholesale funding for OFIs, accounting for 68.3% of the total in 2023, a figure similar to that of 2022 (see the right panel of Figure 6).

Trends in wholesale financing FIGURE 6



Source: CNMV and Bank of Spain.

In the area of wholesale financing, repurchase agreements require closer examination due to their short repayment terms, which pose higher potential risks to financial stability. For OFIs, the use of repos has significantly declined over recent years. By 2023, repo financing was just €4 billion, making up 1.8% of

11 These instruments are essential for effective price setting and liquidity in secondary markets, but they can create short-term obligations and associated risks related to the maturity transformation and liquidity outside the banking system. Furthermore, wholesale funding can increase connectivity among various financial institutions, thereby potentially contributing to the procyclicality of the financial system.

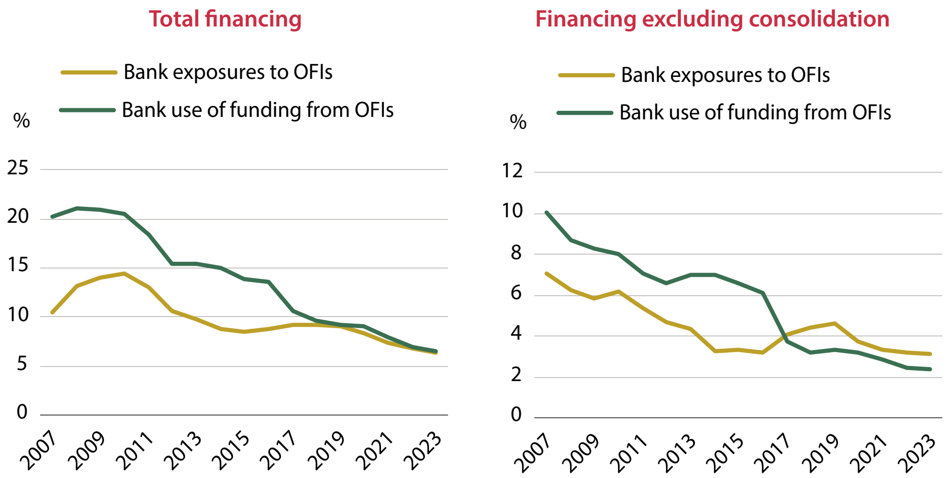
wholesale financing, a marked decrease from over €36 billion a decade ago. In contrast, banks saw their repo financing increase to 14.4% in 2023, amounting to over €51 billion, having doubled in the span of just one year.

2.2 Interconnectedness between banks and OFIs

Understanding the interconnections between different financial sectors is becoming increasingly important for assessing financial stability risks. These interconnections can be examined in several ways. Entities may have direct links through the financing they provide to and receive from each other, as well as indirect connections. Indirect links can be assessed through indicators such as price correlation between assets or entities and the analysis of common positions. This section presents two approaches to analysing interconnections: i) the first approach, familiar from past editions of this publication, examines the direct exposure between banks and OFIs as a primary channel for contagion, and ii) the second, a more innovative approach focused solely on investment funds, measures the common positions these institutions hold in fixed income assets. If significant common positions are identified among these institutions, further risk analyses may be conducted to evaluate the potential impact of shocks on these shared assets.

The assessment of direct exposure between banks and OFIs, as highlighted in previous reports, indicates that it remains low and is decreasing over time. This is evident whether we measure the banks' claims on OFIs ("Bank exposures to OFIs" in the panels of the figure below) or evaluate banks' liabilities to OFIs ("Bank use of funding from OFIs"). As shown in the left-hand panel of Figure 7, both the exposure of banks to OFIs and their liabilities were close to 7% of bank assets in 2023, significantly lower than in previous years. This evaluation holds even if we exclude the rights and obligations of OFIs that are consolidated within their own banking groups[12] (see right-hand panel of Figure 7), which reduces this level of dependence to about 3% for bank exposure to OFIs and to less than 2.5% for financing.

Interconnection between banks and OFIs (% of bank assets) FIGURE 7



Source: CNMV and Bank of Spain.

12 In the Spanish context, data on the interconnection between banks and OFIs 20 that consolidate within banking groups are only available for the SFV subsector.

The level of interconnection between OFIs and other financial system subsectors is quite limited. The only notable relationship is with insurance companies; by the end of 2023, claims against these companies totalled €14 billion, while obligations were nearly €20 billion. As in previous years, the internal interconnection among the entities within the OFI sector was more significant, amounting to nearly €43 billion, which is €2 billion more than the previous year and €8 billion more than two years ago.

Banks remain at the forefront of interactions between the financial and non-financial sectors of the economy (households, companies, and public administrations), but OFIs are becoming increasingly important. Assessing these interconnections is crucial for understanding systemic risk, as it identifies the channels through which a crisis might spread across different parts of the economy. By the end of 2023, households and non-financial corporations had claims on banks amounting to €1.08 trillion and €365 billion, respectively. Households also held significant claims on insurance companies (over €200 billion), pension funds (€151 billion), and notably on OFIs (€312 billion), almost all of which were linked to household investments in various types of CIS. Regarding non-financial sector obligations outside the banking channel, the largest obligations were between non-financial companies and OFIs, totalling €217 billion, with 73% of these involving captive financial institutions.

2.2.1 Interconnectedness in the investment funds' sector

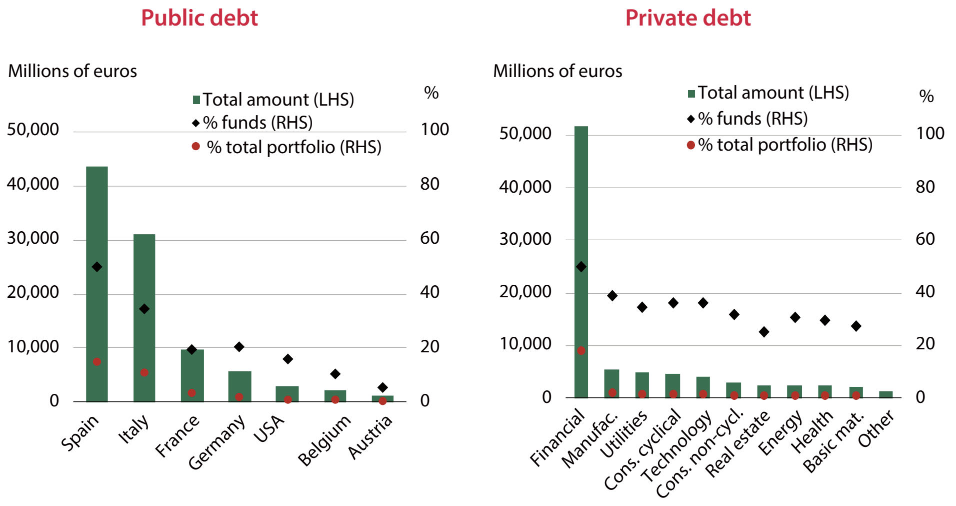
The analysis of interconnections through common positions in investment funds focuses on fixed income asset investments, as these are the most significant in the funds within NBFI.[13] By the end of 2023, investment in public debt amounted to €101.23 billion, while private fixed income investment totalled €84.31 billion, representing roughly 40% and 33% of these institutions' portfolios. Regarding public debt (see the left panel of Figure 8), investment funds had a notably high exposure to Spanish and Italian sovereign debt, with amounts nearing €44 billion and €31 billion, respectively, by the end of 2023. This exposure accounted for 15.2% and 10.7% of the funds' portfolios and affected a significant number of entities: over half had some exposure to Spanish sovereign debt, and nearly 35% included Italian debt assets in their portfolios.[14] Although exposure to the sovereign debt of other countries was less significant, it remained relevant. Noteworthy investments included French debt (€10 billion) and German debt (€6 billion), which impacted 20% of the funds in each case.

Exposure to private fixed income assets is predominantly concentrated in instruments issued by the financial sector. As shown in the right-hand panel of Figure 8, this exposure totalled nearly €52 billion at the end of 2023, representing 18% of the funds' portfolios, and impacted half of the entities. Investments in private fixed income from other sectors accounted for significant proportions of funds, ranging from 25% to 40%, but the amounts were much smaller, around €5 billion in sectors such as industrial, utilities, cyclical consumption or technology, or lower.

13 As explained in a later section, all funds except equity funds are part of NBFI due to their role in credit intermediation, partly driven by investments in debt assets.

14 Many of these funds may have exposure to both types of debt.

Analysis of the fixed income assets in the portfolio of investment funds FIGURE 8



Source: CNMV.

The analysis of interconnections among investment funds, based on their positions in fixed income assets, shows a high level of interconnectedness. This analysis considered the importance of each fund's investments in sovereign debt, differentiated by the issuing country, and investments in private fixed income, differentiated by sector. The next two figures (9 and 10) demonstrate the findings of this analysis from various perspectives. In total, 364,088 interconnections have been identified between pairs of funds.[15]

Figure 9 illustrates the interconnections identified among the largest funds in the sector, which account for 70% of the total portfolio (136 funds). These funds are arranged around the circle, with their size being proportional to the size of their portfolio assets, and their colour representing their category (fixed income, mixed, or money market). The figure depicts only the top 10% of interconnections between pairs of funds, using segments. The thickness of the line and the intensity of its colour are both indicative of the strength of the interconnection, with thicker and darker grey lines showing stronger connections. This panel indicates a very high degree of interconnectedness among the funds, both in terms of the number and intensity of connections. The network density of the funds in this diagram, which serves as a representative measure of interconnectedness, is 0.89[16] (on a scale from 0 to 1), and the weighted average number of links per fund is 26.

The fixed income and mixed funds show a high level of interconnectedness, especially among medium-sized funds. An analysis by category reveals that both types of funds are interconnected not only within their respective categories but also with each other. The figure highlights several medium-sized funds (excluding the smallest), which can be considered hubs due to their numerous connections with funds both within and outside their categories. Interestingly, the large monetary fund represented by a grey circle in the analysis does not have significant

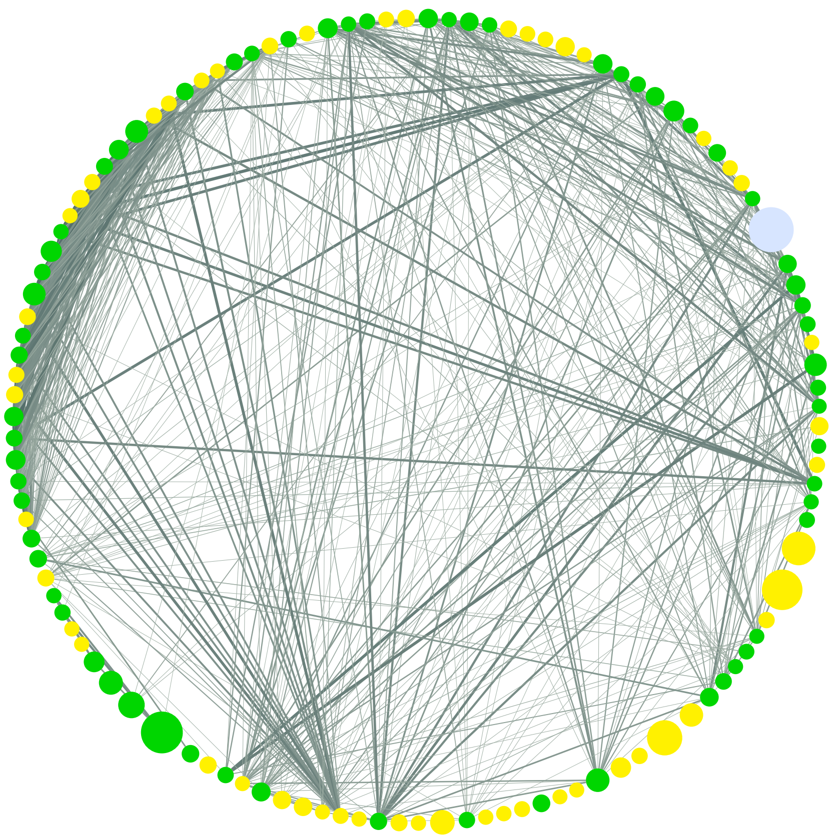
15 Based on 980 sub-funds of investment funds.

16 This indicator is calculated by dividing the number of links in a graph by the total possible number of links in that graph. A network with a density of 0 means there are no links between nodes, whereas a network with a density of 1 is a fully connected graph where all nodes are linked to each other.

links with the other funds. Regarding size, it is notable that the largest funds, not just the monetary ones, have minimal connections with other investment funds. In the figure, they appear to have none, but this is because only the top 10% of the strongest connections are shown for illustrative purposes. The group of funds in the top left of the panel, which features multiple interconnections, primarily invests in Spanish and Italian government debt.

Interconnections between investment funds in the area of fixed income FIGURE 9

Area: 70% of the portfolio and 10% of the highest interconnections



Source: CNMV. Each circle represents an investment fund, with its size proportional to the size of its portfolio and its colour indicating its category: yellow for fixed income, green for mixed, and grey for monetary funds. The thickness and intensity of the colour of the lines connecting the funds indicate the degree of similarity between their portfolios. The analysis estimated a total of 364.1 billion interconnections, but only the top 10% of the strongest ones are shown.

Figure 10 features a two-panel illustration showing interconnections greater than 0.5,[17] covering all fixed income, mixed, and monetary investment funds. In the first panel, colours represent the categories of these institutions, while the second panel, which focuses on the strongest connections, uses colours to indicate the different clusters or fund groups identified, which are highly interconnected. By examining both panels, it is possible to determine whether each cluster mainly consists of funds from the same category. The network's density is 0.76, and each fund has a weighted average of 163 links.

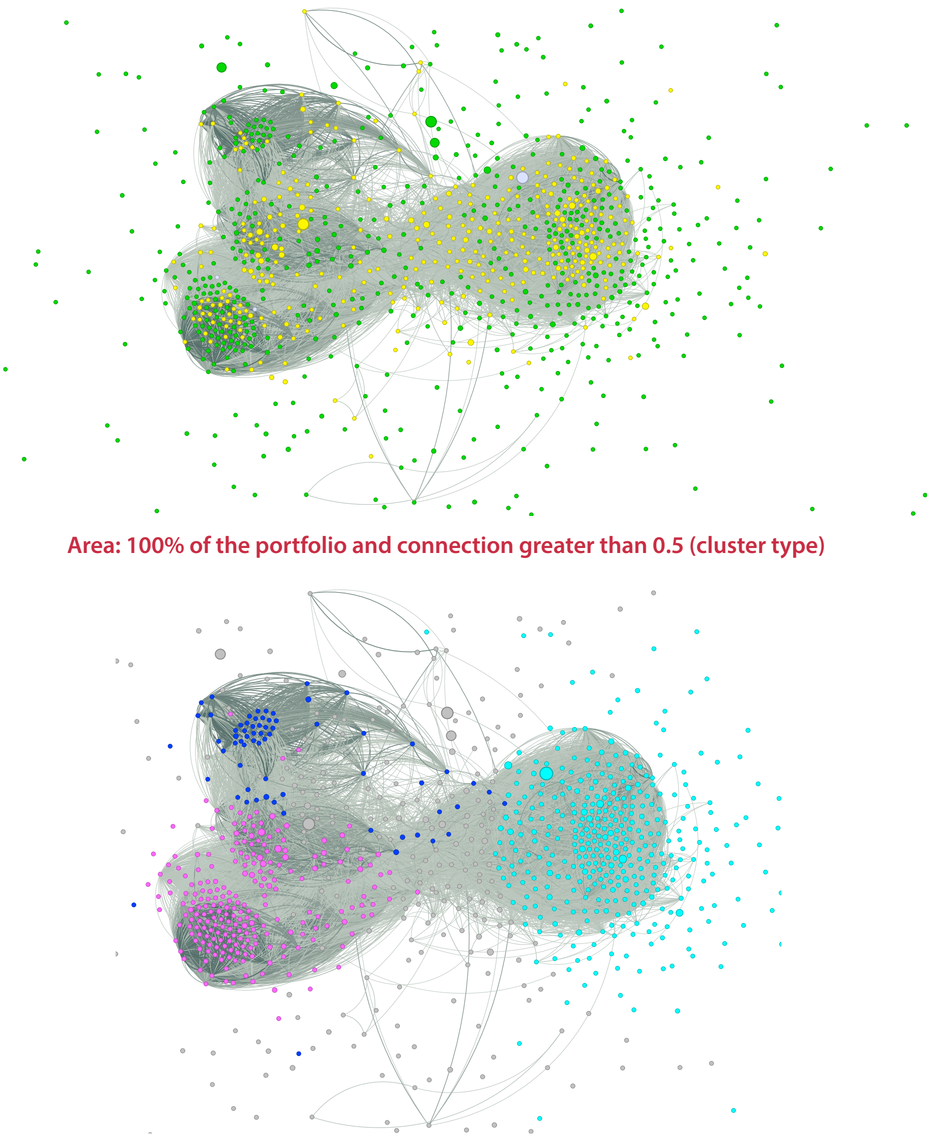
17 Accounts for 12.3% of total interconnections.

As shown in Figure 10, three major fund groups have been identified, each with high interconnection levels both within and among the groups.[18] Most funds (71.3%) belong to one of these three groups, confirming the network's high level of connectivity, with each group containing a similar percentage of each category. One group contains the most funds, with 403 (group 1, light blue, positioned towards the right of the panels). Another group is relatively small, consisting of just 67 funds with a relatively low average size (group 2, dark blue, at the top left). The third group has an intermediate number of funds, specifically 232 (group 3, purple, bottom left).

Interconnections between investment funds in the area of fixed income FIGURE 10

Area: 100% of the portfolio and connection greater than 0.5 (category type)

Area: 100% of the portfolio and connection greater than 0.5 (cluster type)



Source: CNMV. Each circle symbolises an investment fund, with its size reflecting the portfolio size. In the upper panel, the colour indicates its category: yellow for fixed income, green for mixed, and grey for monetary funds. In the lower panel, the colour represents the cluster to which the fund belongs. Although these panels display results for all the funds, only interconnections with values above 0.5 (on a scale of 0 to 1) are shown, representing the top 12.5% of the strongest interconnections.

18 The estimated densities for each of these groups are 1, 1, and 0.993.

Analysing the portfolios of these clusters helps identify the source of interconnection within each one, enabling us to pinpoint relevant risk sources. In group 1, the high degree of interconnection is primarily due to investments in private fixed income within the financial sector.[19] For group 2, the interconnection arises from significant investments in Italian public debt, which constitutes 72% of the investment portfolio. In group 3, it stems from investments in Spanish public debt.[20] This evidence ultimately helps us to identify the group of funds most exposed in the short term to potential shocks in any of these debt assets and their degree of spillover to the rest of the funds.

19 On average, 60% of the total portfolio is invested in private fixed income and 5.5% in public debt. Of the private debt assets, more than half is invested in financial fixed income, with the remainder spread across other sectors.

20 In these funds, the percentage invested in public debt is approximately 85%. The portion invested in Spanish sovereign debt varies significantly among the different funds, although it is their common denominator. In fact, on average, it accounts for 70% of the total portfolio.

3 Non-bank financial intermediation

The volume of assets representing non-bank financial intermediation in this monitor is calculated using a methodology developed by the FSB in 2013.[21, 22] This methodology classifies financial institutions into five functions based on a risk assessment generally derived from those associated with banking entities. This approach to non-bank financial intermediation can be considered somewhat restrictive and does not preclude more comprehensive risk analyses in the non-banking sector.

In 2023, the total assets across the five economic functions reached €515 billion, marking a 5.4% increase from 2022. As shown in Table 3, the most significant entities in Spain's NBFI, in quantitative terms, belong to the first function, which includes collective investment vehicles susceptible to runs. This function, encompassing all financial CISs except equity funds,[23] amassed €315.6 billion, a 13.1% rise from the previous year, accounting for 61.3% of the total assets across the five functions. Notably, the importance of this function has grown considerably in recent years, both in absolute terms and relative contribution. Since 2012, during the height of Spain's sovereign debt crisis, the assets in this function have increased by 130% (from €133 billion) and have risen from representing 25% to 61% of the total assets of the functions.

Following the entities in economic function 1 are those in function 5, which comprises entities engaged in credit intermediation through securitisation. In 2023, the assets in this function amounted to €140 billion, a decrease of 6.4% from the previous year, representing 27.2% of the total. Unlike the vehicles in the first function, those in this category have been on a downward trend recently. Financial institutions relied quite heavily on securitisation for several years (in 2010, the outstanding balance of securitisations was nearly €490 billion, almost 70% of this aggregate). However, the use of this instrument has significantly declined, and in the most recent period, it has been primarily associated with transactions involving the central bank.

21 "Policy Framework for Strengthening Oversight and Regulation of Shadow Banking Entities".

22 For further details, see the first article in this series: Ispierto, A. (2019). "Non-bank financial intermediation in Spain". *CNMV Bulletin*. Quarter I, pp. 77–118. Available at: https://www.cnmv.es/DocPortal/Publicaciones/Boletin/Boletin_I_2019_WEBen.PDF

23 Because they do not perform a relevant credit intermediation function.

The remaining economic functions constitute only 11.5% of total assets. Almost all of this portion belongs to entities in economic function 2, which are involved in providing loans reliant on short-term financing. In Spain, this activity, undertaken by finance companies, had assets amounting to €54.1 billion, a figure similar to the previous year, representing 10.5% of the total. Consequently, the assets of entities in the other functions, EF3 (broker-dealers) and EF4 (mutual guarantee companies), barely surpassed €5 billion, or 1% of the total.

Classification of NBFI by economic function TABLE 3

Economic functions	Definition	Member entities	Size in millions of euros, (% of total NBFI), % change 2023
EF1	Management of collective investment vehicles whose characteristics make them susceptible to massive redemptions	Money market funds, fixed-income funds, mixed funds,[1] hedge funds and SICAVs	315,584 (61.3%) 13.1%
EF2	Granting of loans dependent on short-term financing	Finance companies	54,131 (10.5%) 0.4%
EF3	Intermediation of market activities that is dependent on short-term funding or secured funding	Broker-dealers	3,487 (0.7%) -19.6%
EF4	Entities that facilitate credit creation	Mutual guarantee companies	1,566 (0.3%) 6.3%
EF5	Securitisation-based credit intermediation to finance financial entities	Structured finance vehicles (SFVs) whose object is the securitisation of assets	139,917 (27.2%) -6.4%
Total			**514,684 (100%) 5.4%**

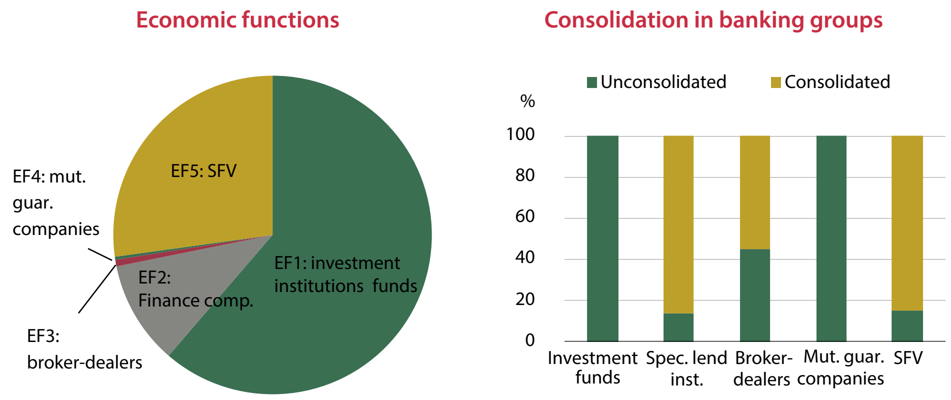
Source: CNMV and Bank of Spain.

1 According to the criterion established by the FSB, only mixed funds with less than 80% equities in the total portfolio are included in EF1. In Spain, under current legislation, the equity exposure of mixed funds is capped at 75% of the portfolio, so all such funds are classified as non-bank financial intermediaries.

The consolidation within banking groups impacts three of the five economic functions, being particularly significant for securitisations and finance companies. Consolidation percentages for entities in these two functions are around 90% (see the right panel of Figure 11), leading to a substantial reduction in their assets in the final assessment. This is especially important for securitisations, which, as noted earlier, were the second most significant. The consolidation percentage for broker-dealers is nearly 60%, but this has a minimal effect on the final assessment, due to the low asset volume in these entities. Overall, the assets deducted due to consolidation totalled €167 billion in 2023, slightly less than the €176.6 billion in 2022. Following this deduction, the significance of EF1 (CISs) assets increases to 90.8%, with the remaining assets spread across securitisations (EF5) at 6.2%, finance companies (EF2) at 2.2%, broker-dealers (EF3) at 0.4%, and mutual guarantee companies (EF4) also at 0.4%.[24]

24 The average weight of these functions in the FSB report's sample of countries indicates a lesser importance of investment funds and greater significance of the other functions (except for EF4, which remains minimal). EF1: 74.3%; EF2: 7.9%; EF3: 7.1%; EF4: 0.1%; EF5: 7.9%. The remaining percentage corresponds to assets that cannot be fitted into any given function.

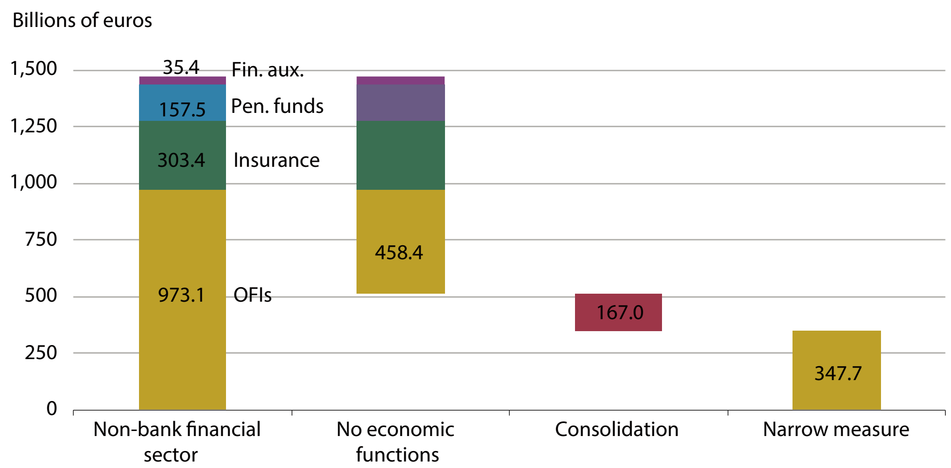
Distribution of non-bank financial intermediation. 2023 FIGURE 11



Source: CNMV and Bank of Spain.

The narrow measure of NBFI in Spain reached €347 billion in 2023, an 11.5% increase from the previous year and the highest level in absolute terms since 2007. This figure is derived from the non-banking aggregate, excluding the assets of insurance companies (€303 billion), pension funds (€157 billion), financial auxiliaries (€35.4 billion), OFI entities that do not perform any economic function[25] (€458 billion), and assets consolidated within banking groups[26] (€167 billion) (see Figure 12). The assets of entities that are not part of OFIs but are part of NBFI, such as mutual guarantee companies, are also included, although these entities are not very significant.

From the non-bank financial sector to the narrow measure of NBFI. 2023 FIGURE 12



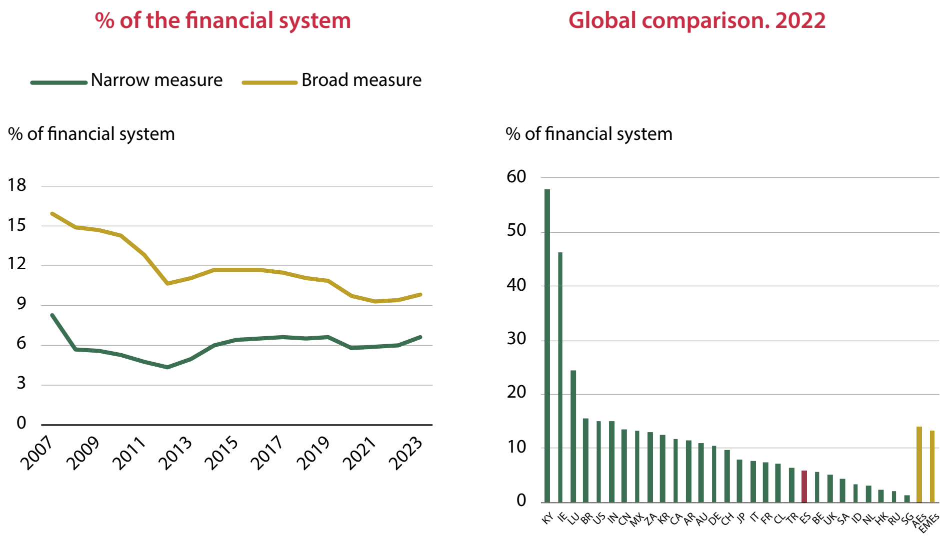
Source: CNMV and Bank of Spain.

25 As noted in the previous section, OFIs that are not part of NBFI include captive financial institutions and money lenders, equity investment funds, REITs, central counterparties, and venture capital firms.

26 Banking consolidation mainly occurs for two reasons: either the entity is controlled by a bank, or its assets are included on the bank's balance sheet and therefore subject to banking regulation. The latter case would relate to securitisation vehicles, whose assets must remain on the bank's balance sheet if the associated risks and benefits have not been substantially transferred to third parties.

The growth in NBFI assets led to a slight increase in their significance within the overall financial system. However, their role remains limited both in absolute terms and compared to other benchmark countries. The combined assets of the five economic functions made up 9.8% of the financial system (up from 9.4% in 2022), while the narrow measure accounted for 6.6% (up from 6% in 2022). As shown in the left panel of Figure 12, these percentages are still below the levels seen before the 2007–2008 financial crisis and remain lower than those in most countries examined by the FSB in its annual report on NBFI. The average for the narrow measure was 14% in advanced economies and 13.2% in emerging ones (see the right panel of Figure 13).

Relative weight of NBFI FIGURE 13



Source: CNMV and Bank of Spain.

3.1 Risk assessment of non-bank financial intermediation

The annual evaluation of key indicators shows no significant change in the risks facing entities in any of the economic functions.[27] This section offers an annual assessment of the most common financial risks associated with NBFI, with a more detailed focus on EF1 entities due to their aggregate importance. Indicators for credit risk, liquidity, maturity transformation, and leverage have remained largely unchanged, so the risk levels depicted in Table 4 are similar to those of the previous year. The few changes noted generally indicate an improvement in the sector's risk profile. For instance, broker-dealers (EF3) show lower leverage than in previous years.

The risk analysis for investment funds (EF1) indicates a slight improvement across most metrics, though less pronounced than in the previous year. In the earlier financial year, the rise in yields on debt assets led investment funds to significantly boost their investment in public debt assets, positively affecting the portfolio's liquidity and credit risk conditions. This trend was less pronounced in 2023, but it persisted to some extent, particularly in fixed income funds, leading to

27 For further details of the thresholds defined for each risk and type of entity, see the article by Ispierto, A. (2019). "Non-bank financial intermediation in Spain". *CNMV Bulletin*. Quarter I, pp. 77–118.

minor increases in the proportion of liquid assets and enhancements in the credit ratings of portfolio holdings. The average duration of the funds, which had significantly decreased the year before, remained almost unchanged, thereby limiting interest rate risk for these institutions. Finally, it was once again noted that the leverage of investment funds (via derivatives) is very low and well below the regulatory maximums. Comparing some of these metrics with those available for European Union funds (not entirely consistent with the metrics in this report) suggests that Spanish funds are subject to a lower level of risk.

Degree of NBFI involvement in financial risks. 2023 TABLE 4

	Investment funds					
	Money market	Fixed income	Mixed	Finance companies	Broker-dealers	SFV securitisation
Credit risk	●	●	◌	●	●	●
Maturity transformation	○	◐	○	○	○	◌
Asset liquidity[1]	○	○	◐	●	●	●
Leverage[2]	○	○	○	◐	◌	●
Interconnectedness with the banking system	○	◐	◌	○	○	●
Relative importance[3, 4] (%)	2.0	25.1	30.3	10.5	0.7	27.2

Source: CNMV. The credit risk indicator is based on the proportion of credit assets (fixed income and loans) relative to total assets. Maturity transformation risk assesses the ratio of short-term liabilities to short-term assets, except for investment funds, where the focus is on the proportion of long-term assets to total equity. Liquidity risk examines the significance of liquid assets in the portfolio, while leverage considers the proportion of own funds in total liabilities.

For further details of the thresholds defined for each risk and type of entity, see the article by Ispierto, A. (2019). "Non-bank financial intermediation in Spain". *CNMV Bulletin*. Quarter I, pp. 77–118.

1 For investment funds, the risk levels, indicated by colours, are determined using the HQLA (High Quality Liquid Assets) methodology, which considers the asset type and its credit rating. In the NBFI monitor published in 2022 this assessment includes the portfolio assets relating to CIS investments in other CISs.

2 In the case of investment funds, the assessment of the leverage risk is made on the indirect leverage measurement, based on the position in derivatives.

3 The weights of each entity shown in this table do not add up to 100% because mutual guarantee companies and some fund categories, also part of NBFI, are not included.

4 These percentages are calculated based on the total size of the sector, without excluding entities consolidated into banking groups.

3.1.1 Economic function 1: *management of collective investment vehicles whose characteristics make them susceptible to runs*

CISs under economic function 1 (EF1) accounted for 91% of the total narrow measure of NBFI in Spain by the end of 2023. This proportion remained similar to the previous year despite a substantial increase in their assets. Taking into account the definition in the secion title, EF1 includes money market funds, fixed income funds, mixed funds,[28] hedge funds,[29] and open-ended investment companies

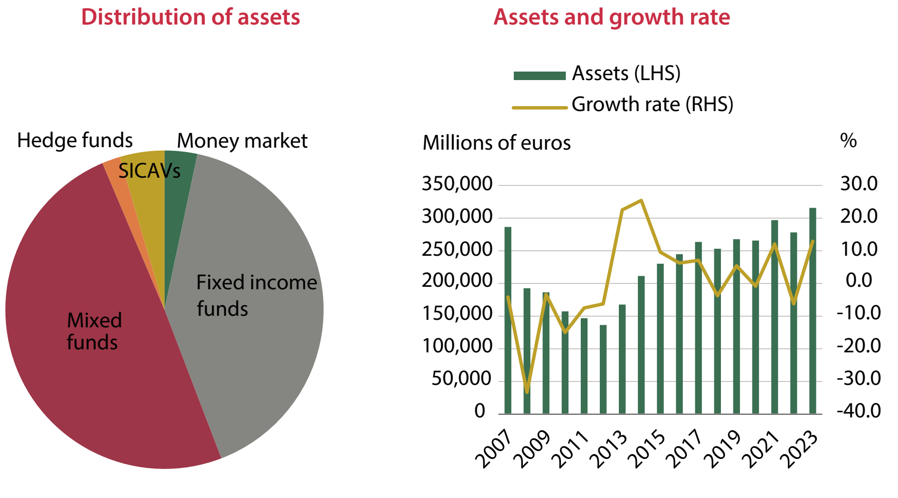
28 See footnote 1 of Table 3.

29 These institutions might face large-scale redemptions during their liquidity windows, if available. This category includes the four types of hedge investments found in Spain: vehicles that invest directly in financial assets (funds and companies) and vehicles that invest in other hedge funds (funds and companies).

(SICAVs) in Spain. As shown in the right panel of Figure 14, NBFI assets increased by 13.1% in 2023, driven by both the revaluation of these vehicles' portfolios and net subscriptions by investors.

Within EF1, the relative significance of fixed income vehicles rose sharply for the second year in a row. Mixed funds still held the largest share of assets in this function, at 49.4%,[30] but this was a 6-percentage point (pp) decrease from 2022. Meanwhile, fixed income funds increased their share from 35.4% to 40.9% (see the left panel of Figure 14). This shift was driven by substantial net subscriptions throughout 2023 into fixed income funds,[31] totalling over €28 billion, along with net redemptions in the primary categories that constitute mixed funds. For SICAVs, their relative share declined from 5.7% to 4.5%, as many companies continued to deregister. However, the number of deregistrations was much lower than in 2022, influenced by the implementation of Law 11/2021, of 9 July, aimed at preventing and combating tax fraud.[32] The proportion of money market funds, though still relatively small, increased notably from 1.6% to 3.3%, primarily due to growth in one particular fund's assets.[33] Hedge funds accounted for 1.8% at the end of 2023, a rise of 0.1% compared to 2022.

Distribution of investment funds belonging to NBFI FIGURE 14



Source: CNMV.

30 Among mixed funds, various categories exist, with global funds (38.1%) and mixed fixed income funds (22.0%) being notable, although both categories saw their shares decrease by around 3 pp. In contrast, passive management funds increased their relative importance to 17.0% from 10.3% in 2022.

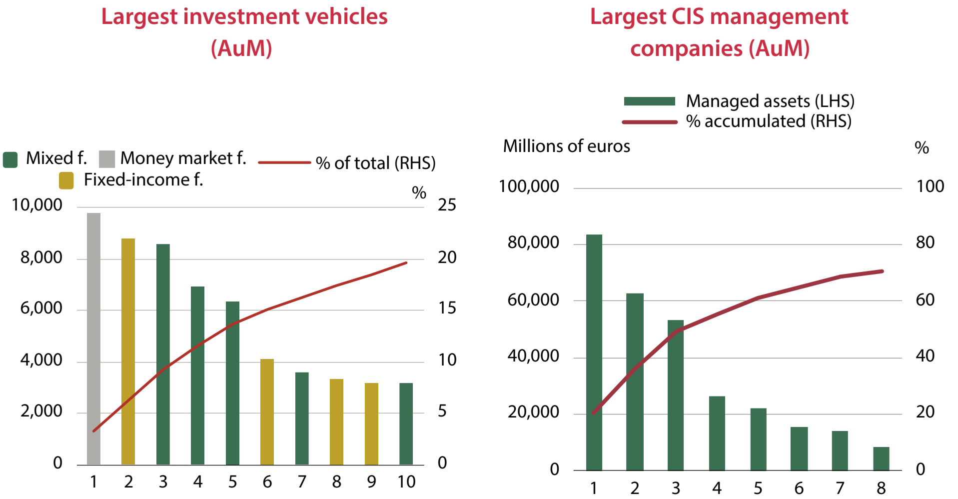
31 This trend continued into 2024, albeit at a slower pace, largely due to the increased attractiveness of fixed income assets following interest rate rises over the past two years.

32 Law 11/2021 amended the Spanish Corporate Enterprises Act (LIS) to impose stricter requirements on SICAVs to benefit from the 1% tax on profits. It mandated that, when determining the minimum of 100 shareholders, only those with a minimum investment of €2,500 (or €12,500 for SICAVs by sub-fund) be counted.

33 Although a new money market fund was launched in 2023, increasing the number from two to three, most of the growth resulted from a significant rise in the assets of an existing vehicle. The assets managed by this fund jumped from around €5 billion to nearly €10 billion. The other two money market funds collectively managed slightly over €700 million.

At the end of 2023, the number of active investment vehicles within EF1 was 1,870, which is 444 fewer than a year earlier. This significant decline, similar to 2022, was mainly due to the SICAV sub-segment, which saw over 500 deregistrations (compared to 1,300 in 2022). Conversely, the number of funds and hedge funds increased by 28 and 31 vehicles, respectively, during 2023. By the year's end, there were 1,287 investment funds,[34] 450 SICAVs, and 131 hedge funds. The main characteristics of the vehicles in this economic function remained largely similar to those in previous reports, with minimal changes from the prior year. Firstly, investment funds continued to be the largest investment vehicles: 69 investment funds managed assets over €1 billion each by the end of the year (up from 62 funds in 2022), a threshold exceeded by only two SICAVs (previously, none had surpassed this level). Secondly, the concentration within these institutions remained very high, with the three largest vehicles accounting for 9.2% of assets (see left panel of Figure 15), a figure comparable to 2022, and the top ten representing 19.6% (down from 20.9% in 2022). The concentration in the management of CISs also remained substantial and similar to the previous year: the three largest entities managed 49.2% of total assets, while the seven largest controlled nearly 70%, all affiliated with banking groups (see right panel of Figure 15).

Concentration in the collective investment sector FIGURE 15



Source: CNMV.

As in previous years, the analysis of the financial risks associated with NBFI investment funds indicates no significant vulnerabilities in terms of financial stability. Like past editions of this report, the analysis covers the funds' liquidity mismatch and leverage – key international concerns in the context of systemic risk – as well as their credit risk and maturity transformation. To more accurately evaluate these latter two risks, the report includes an assessment of the quality of the assets in the funds' fixed income portfolio, through an analysis of credit ratings and duration.

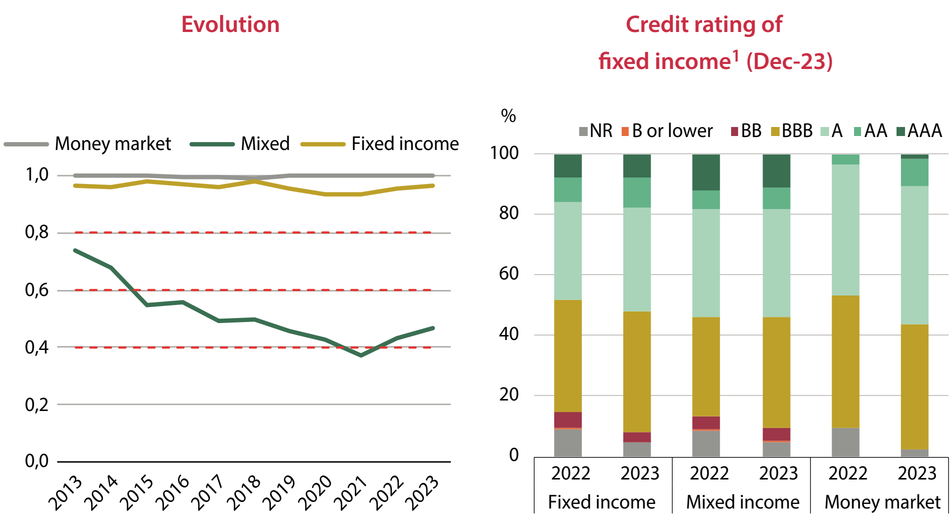
The assessment of credit risk, based on the proportion of credit assets within the fund portfolio, shows a slight upward trend, particularly in mixed funds. In these funds, which invest in both fixed income and equities, this percentage increased for the second consecutive year, reaching 46.7% at the end of 2023, up from 43.4%

34 1,719 sub-funds.

the previous year. This rise is almost entirely due to increased investments in public debt, which accounted for 35.0% of the total portfolio by year-end, over 12 pp more than in 2022. For fixed income funds, the proportion was 96.4% (up from 95.4% in 2022), while in money market funds, owing to their nature, it remained nearly 100% (see left panel of Figure 16).

The analysis of the credit ratings of the funds' fixed income portfolio, that provides an additional insight, shows that there was an increase in investments classed as high quality (or investment grade). It is estimated that the proportion of high-quality debt assets rose to 92.0% in fixed income funds, 90.5% in mixed funds, and 97.7% in money market funds. These figures represent an increase of 5 to 7 pp compared to 2022 (see right panel of Figure 16).[35] In addition, money market funds saw an improvement in the quality of the assets belonging to this group. The share of those rated BBB (the lowest in investment grade, just above high yield) decreased by more than 2 pp to 41.4% of the total, while assets rated AAA or AA increased significantly from 3.4% to 10.4%.

Credit risk in the different types of investment funds FIGURE 16



Source: CNMV.

1 Distribution of the fixed income portfolio of the three categories of NBFI funds (fixed income, mixed and monetary market) based on the credit ratings of their assets in the portfolio. NR: no rating.

To analyse the risk of maturity transformation in investment funds, the ratio of long-term assets to the assets under management is calculated.[36] In 2023, this ratio decreased for both fixed income and mixed funds.[37] As shown in the left-

35 According to the analysis published by the European Systemic Risk Board (ESRB), the credit rating of the debt within European Union funds' portfolio slightly improved in 2023. However, the average credit quality remains lower compared to Spanish funds, with around 50% of the debt being high-quality or investment grade, significantly less than the 90% observed in Spanish funds.

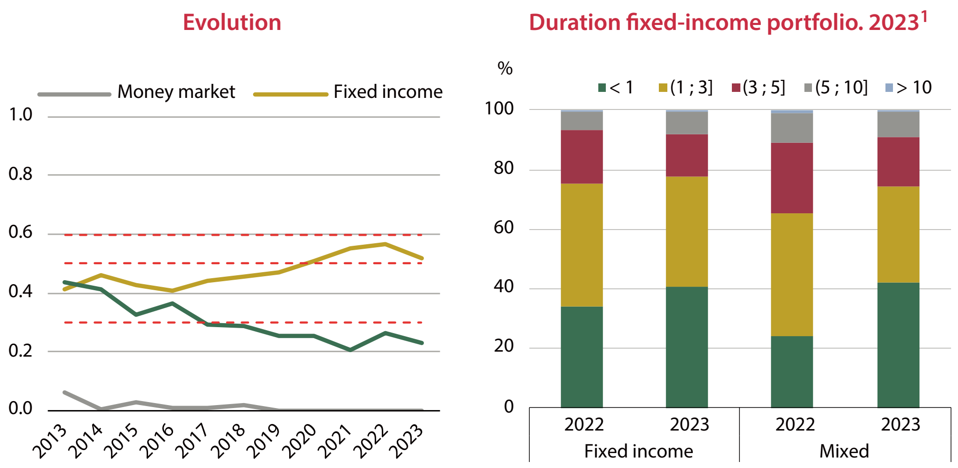
36 For investment funds, the ratio is calculated differently from other entities. Instead of assessing the ratio of short-term liabilities to assets, it measures the proportion of long-term assets relative to total assets. As mentioned in previous reports, this variation is due to the frequent, often daily, redemption of shares by unitholders in investment funds, which means short-term liabilities do not accurately represent all of the fund's potential obligations.

37 In the case of money market funds, long-term assets are nearly non-existent due to the constraints of their investment policies. The average portfolio duration must be 60 days or less, and the average

hand panel of Figure 17, the ratio remains relatively high only in fixed income funds, although it fell by almost 5 pp in 2023 to 51.8%, interrupting the upward trend that started in 2016. Mixed funds also experienced a decline in the ratio last year, down to 23.1% from 26.6% in 2022.

The analysis of the duration[38] of assets in the fixed income portfolio of these vehicles, using modified duration,[39] shows an average value of 2.0 for fixed income funds and 2.1 for mixed funds in 2023. For money market funds, unsurprisingly, the figure was much lower at 0.31.[40] These values are similar to those from the previous year for money market and fixed income funds. In 2022, they were significantly reduced as fund managers shortened the average maturity of the portfolios to mitigate losses from rising interest rates. For mixed funds, this figure decreased further in 2023, dropping from 2.6 to 2.1. Furthermore, as shown in the right-hand panel of Figure 17, more than 42% of the total fixed income portfolio in mixed funds had a modified duration of less than one year, nearly doubling the proportion from 2022. Meanwhile, only 0.5% had a duration longer than 10 years, down from 1.1% the previous year. In the case of fixed-income funds, these percentages were 40.5% and 0.8%, respectively.

Maturity transformation in the different types of investment funds FIGURE 17



Source: CNMV.

1 Money market funds are not included, since the total of their fixed-income portfolio has a duration of less than one year.

maturity cannot exceed 120 days.

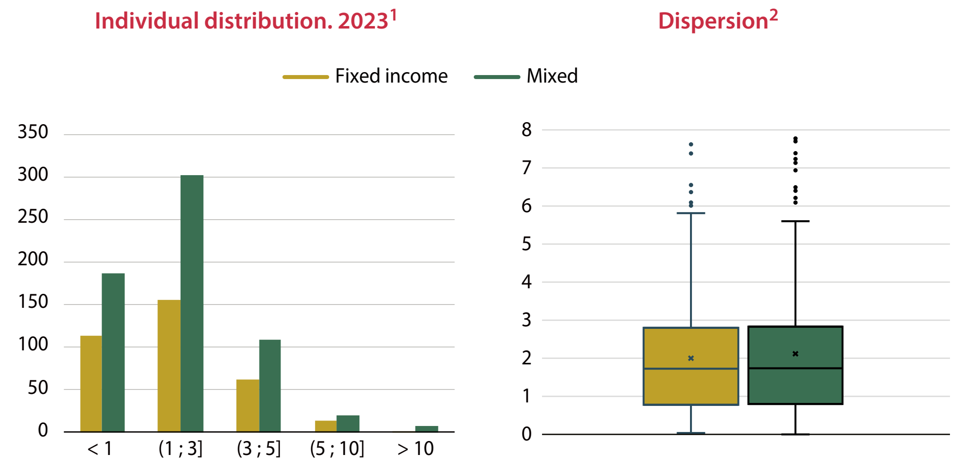
38 Duration is a measure of the effective term until an asset's maturity, taking into account all cash flows throughout the asset's life.

39 Modified duration measures the percentage change in the price of a financial asset in response to a 100-basis-point increase in interest rates.

40 While modified duration data is not available for European Union funds, information on duration is available, which stood at 6.7 (one-tenth lower than at the end of 2022). Although not perfectly comparable, this figure clearly indicates that sensitivity to interest rate increases in Spain is lower than the average across EU countries.

When examining the duration of individual funds, it becomes clear that most have an average modified duration of less than 5. This applies equally to fixed income and mixed funds, with 95.7% of each falling into this category.[41] The range of modified duration values across the fund portfolio is not very wide, and the distribution is quite similar between fixed income and mixed funds (as shown in the panels of Figure 18). For more than half of the funds, the modified duration at the end of last year ranged from 0.8 to 2.8, compared to a range of approximately 1 to 3.2 in 2022.

Average modified duration of the fixed-income portfolio of the different types of investment funds FIGURE 18



Source: CNMV.

1 Distribution of the number of funds according to their modified duration.

2 The figure represents, for each type of fund, the minimum, maximum, mean (x), median and percentiles 0.25 and 0.75 of the duration of the funds. In the case of the minimum and maximum, outliers (values that are below [above] the first [third] quartile whose distance from it is greater than 1.5 times the interquartile range [P75-P25]) have been excluded.

The liquidity conditions of the funds' portfolios are assessed using the HQLA ratio, which includes information on both asset types and their credit ratings. To ensure the most accurate metric possible, the liquidity level of the CISs in which Spanish funds invest in has also been assessed. This calculation is performed in the same way, using HQLA as a measure of liquidity, and incorporating the type of asset and the credit ratings of the assets within the portfolios of those CISs in which Spanish funds invest.[42] The results of this metric are shown in Figure 19.

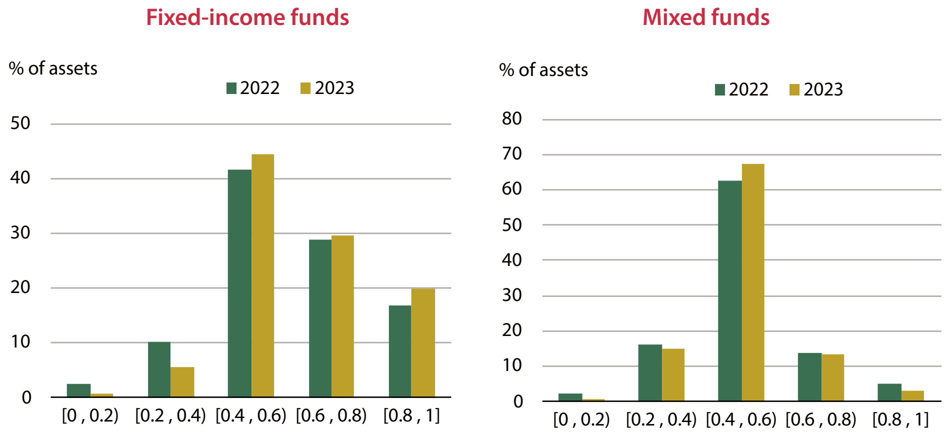
The HQLA ratio saw a slight increase in 2023 for both fixed income and mixed funds, rising from 60.2% to 61.7% for fixed income funds and from 49.7% to 49.9% for mixed funds. As shown in the left-hand panel of Figure 19, fixed income funds with a high percentage of liquid assets (over 60% of assets) increased their representation from 45.8% to 49.3% of the total assets. This rise, similar to the

41 Only eight funds (four more than in 2022) were identified as having a fixed income portfolio with an average modified duration greater than ten at the end of 2023. Of these, seven were mixed funds and one was a fixed income fund.

42 In previous editions, it was assumed that 100% of fund investments in other CISs had reduced liquidity, or their liquidity level was assessed solely based on the type of asset they invested in. Cash, deposits, and public debt were regarded as fully liquid, whereas private debt was considered illiquid. For equities, 50% of the portfolio's value was deemed liquid.

larger increase seen in 2022, was driven by a shift in the investment portfolio towards public debt, which climbed from 43.4% to 48.1% in a year, at the expense of private debt. In mixed funds, the improvement in liquidity conditions in 2023 was minimal, although there was some internal redistribution. Investment in equities and deposits decreased, while investment in both public and private fixed income assets rose.[43] Regarding individual distribution, there was a slight shift towards medium liquidity levels (between 40% and 60%), which rose from 62.4% of funds (by assets) to 67.4% by the end of 2023. Meanwhile, the percentage of funds with extreme liquidity levels (either very low or very high) decreased: those with very low liquidity dropped to 0.9% (from 2.3% in 2022), and those with very high liquidity fell to 3.3% (from 5.0% a year earlier).

Liquidity risk of investment funds: distribution of HQLA assets.[1] 2023 FIGURE 19



Source: CNMV.

1 High-Quality Liquid Assets (HQLAs) are considered to include cash and deposits in their entirety, 50% of the value of equities, and varying percentages of public debt, private fixed income, and securitisations, depending on their credit rating. The percentage of public debt considered liquid can range from 0 to 100%, private fixed income from 0 to 85%, and securitisations from 0 to 65%.

Finally, regarding the leverage levels of CISs, we can consider both financial leverage (debt) and synthetic leverage (through derivatives). According to Spanish regulations, CISs – except for hedge funds – can only incur debt to address temporary liquidity issues,[44] and they must not exceed 10% of their assets in doing so.[45] Nevertheless, these institutions are allowed to leverage through derivatives, a practice that can substantially heighten other pre-existing risks within these vehicles. It is therefore crucial to conduct regular monitoring, using the methodology proposed by the International Organization of Securities Commissions (IOSCO).[46]

43 Investment in equities went from 7.5% to 4.9% and investment in public and private debt went from 20.6% to 24.9% and from 15.2% to 16.4%, respectively.

44 Royal Decree 1082/2012, of 13 July, approving the implementing Regulations of the Collective Investment Schemes Act of 35/2003, of 4 November.

45 SICAVs can exceptionally reach 15% when they resort to financing for the purchase of properties necessary for their activity. At the end of 2023, the average financial indebtedness of the investment funds and SICAVs included in NBFI was 0.04%.

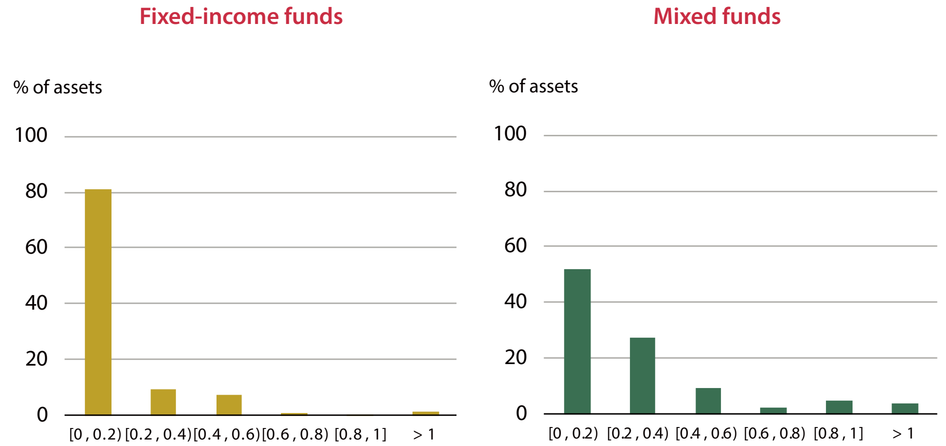
46 IOSCO (2019). *Final Report on Recommendations for a Framework Assessing Leverage in Investment Funds*, December.

This methodology involves measuring gross exposure by summing the nominal amounts of derivative contracts, with adjustments for the delta in the case of options. Net exposure is determined from gross exposure, after accounting for certain offsets between long and short positions, effectively neutralising any strategies intended to hedge spot portfolio risks. European regulations have developed a specific method for calculating net exposure, known as the commitment method, which includes detailed rules for offsetting long and short positions. Leverage, in this context, is defined as the ratio of exposure (either gross or net) to the institution's assets.

At the end of 2023, investment funds and SICAVs included in NBFI had an average gross exposure through derivatives that represented 19% of total assets. According to information available from the CNMV, there are still no significant vulnerabilities related to the potential risks of this operation, such as counterparty, market, and contagion risks. In contrast, net exposure averaged 9% of assets at the end of 2023, based on calculations for 95% of investment funds and SICAVs. It is worth noting that there is a group of funds, representing 5% of the total assets, that are not required to calculate net leverage.[47] A key limitation of these leverage measures is that they do not account for possible indirect exposures resulting from investments in other leveraged CISs.

When examining the distribution of gross leverage among individual funds within the fixed income and mixed fund subcategories, it becomes evident that a significant proportion of these funds either do not engage in derivative trading or do so only minimally.[48] Market risk exposure was below 40% for over 90% of fixed income funds and nearly 80% of mixed funds, measured in terms of assets. Among the funds with high exposure to this risk, only 1.5% of fixed income funds had leverage exceeding 80%, while this figure rose to 9.0% for mixed funds.

Gross leverage in different types of investment fund FIGURE 20



Source: CNMV.

47 Most of these are investment funds that use the VaR (value at risk) methodology to calculate leverage risk. This group also includes some funds with a specific return target.

48 Overall, for fixed income funds employing the commitment methodology, the level of leverage was 12.5%, while it was 31.8% for mixed funds.

Evidence suggests that hedge funds, despite having a more flexible regulatory framework allowing for greater leverage, generally maintain low leverage levels, with an average gross exposure of 27.6%.[49] Only a few isolated funds make more intensive use of leverage. For CISs that invest in other hedge funds (funds of hedge funds),[50] leverage is typically assumed indirectly through these investments, and the direct utilisation of derivatives is minimal. Only two institutions reported commitments to short sales.[51]

Counterparty risk – the risk that financial difficulties in one entity could affect its counterparties or lenders – is minimal in Spanish investment funds, despite being amplified by high leverage. By the end of 2023, the combined debit balance from unrealised capital gains in derivative transactions for investment funds and SICAVs within NBFI was 0.15% of total equity, down from 0.39% in 2022. After accounting for the value of collateral received by CISs to cover potential counterparty defaults, which was 0.13% of their assets, the net counterparty risk was a mere 0.02% of assets. In hedge funds, this percentage was slightly higher, at 0.9% in gross terms and 0.6% after deducting collateral received.

3.1.2 Economic function 2: *loan provision dependent on short-term financing*

In Spain, economic function 2, which involves granting loans dependent on short-term financing, is carried out by finance companies and plays a minor role in NBFI. Nevertheless, a wide variety of entities can perform this function, and regulatory frameworks differ by jurisdiction. As noted in an earlier section of this report, at the end of 2023, finance companies in Spain held a significant amount of assets, over €54 billion, representing 10.5% of the assets across the five functions. However, because a large portion of these assets (86%) is consolidated annually into banks, the significance of this function within the narrower measure of NBFI remains low, at just 2.2% in 2023, down 0.2 pp from 2022.

The assessment of typical risks for entities in this function shows little change from previous reports, with credit and liquidity risks being particularly notable due to their business model. As indicated in the panels of Figure 21, the four assessed risk dimensions demonstrate significant temporal stability. The higher risk scores are understandable, given that these entities primarily focus on granting credit, which naturally results in high credit and liquidity risks. To make a more precise evaluation of these risks, more detailed information about the types of credit granted and the characteristics of the recipients would be necessary. It is also important to consider that the impact of these entities' activities on financial stability is very limited, as previously mentioned, due to their relatively small size.

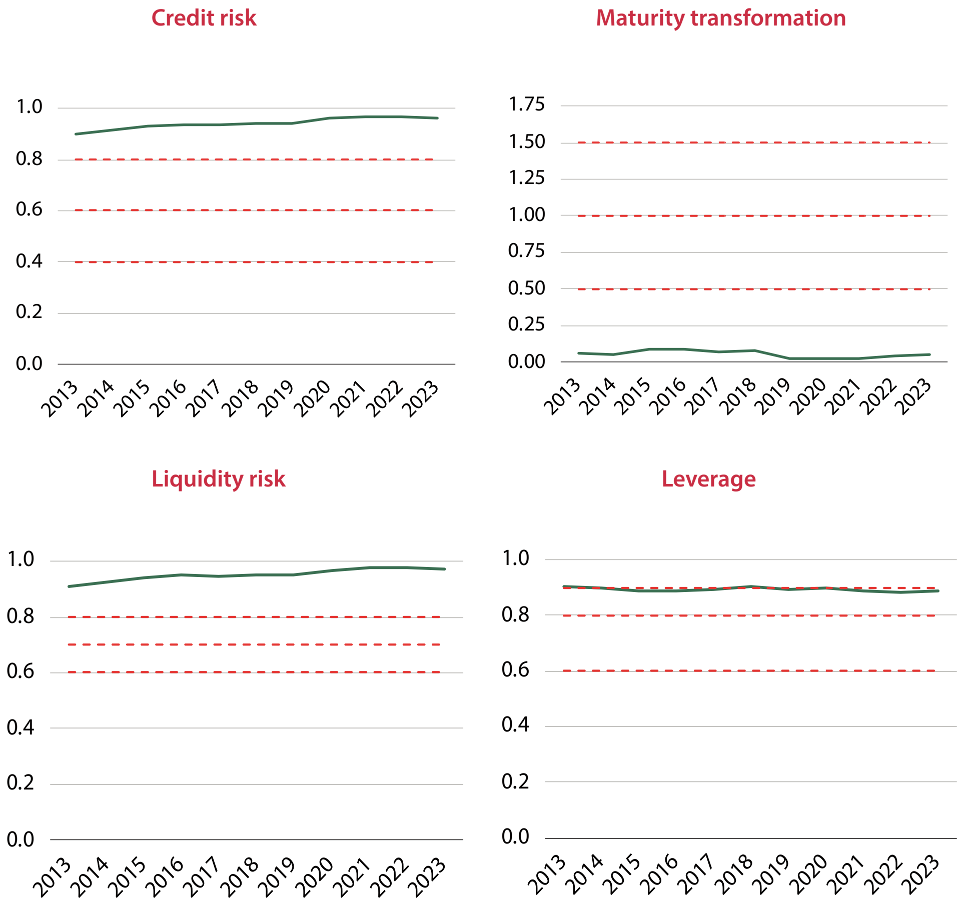
---

49 Calculated from the sum of the nominal amounts of derivatives contracts, without making any delta adjustment in the case of options.

50 Funds and companies that invest in other hedge funds.

51 Possibly for hedging purposes.

Risk trends for finance companies FIGURE 21



Source: CNMV.

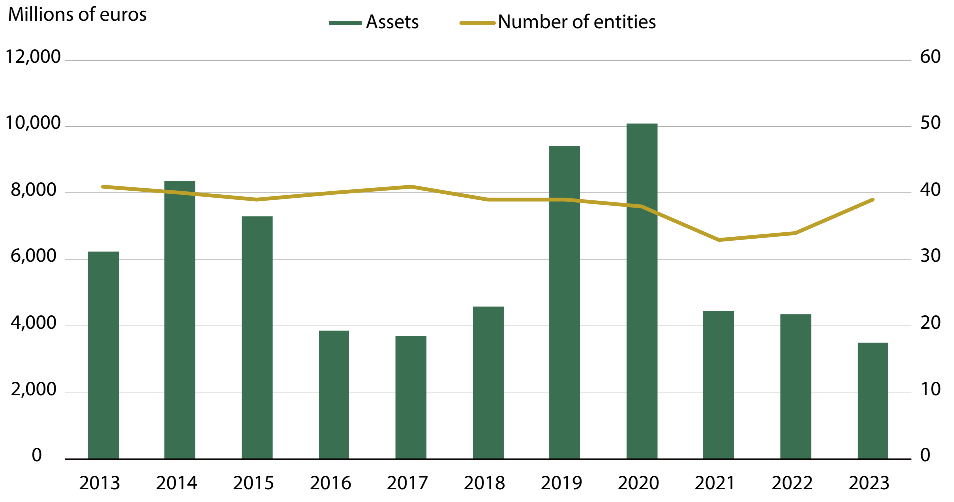
3.1.3 Economic function 3: *intermediation in market activities dependent on short-term financing or secured funding*

In Spain, the category includes broker-dealers, with their number rising to 39 by the end of 2023, up from 34 in 2022. However, their total financial assets dropped to €3.49 billion, a decrease of 19.6% compared to 2022. This reflects an expansion in the number of entities to levels similar to those of the past decade, but a decline in sector assets to a historic low (see Figure 22). As noted in previous editions of this publication, the broker-dealer sector – and investment firms generally – remains very small compared to those in similar jurisdictions since credit institutions primarily provide investment services. In 2023, credit institutions accounted for 87% of income generated in this area, with the remaining 13% obtained by other entities, including broker-dealers, as well as brokers and financial advisory firms.[52]

52 An alternative analysis conducted annually by the CNMV, which considers the business model of financial institutions beyond their legal form, shows that 67% of the business involving investment services in Spain (including the management of CISs, as measured by fees received) was accounted for by traditional commercial banks or entities within their groups. For further details, refer to chapter I.3 of the *CNMV Annual Report*.

Despite the decline in asset volume, broker-dealers' income statements showed a 14% increase in pre-tax profits in 2023. This growth was driven by strong performance in both revenues traditionally significant for these entities, such as order processing and execution, and those that have become more important over time, like the distribution of CISs, portfolio management, and financial advisory services.

Assets of broker-dealers and number of entities FIGURE 22



Source: CNMV.

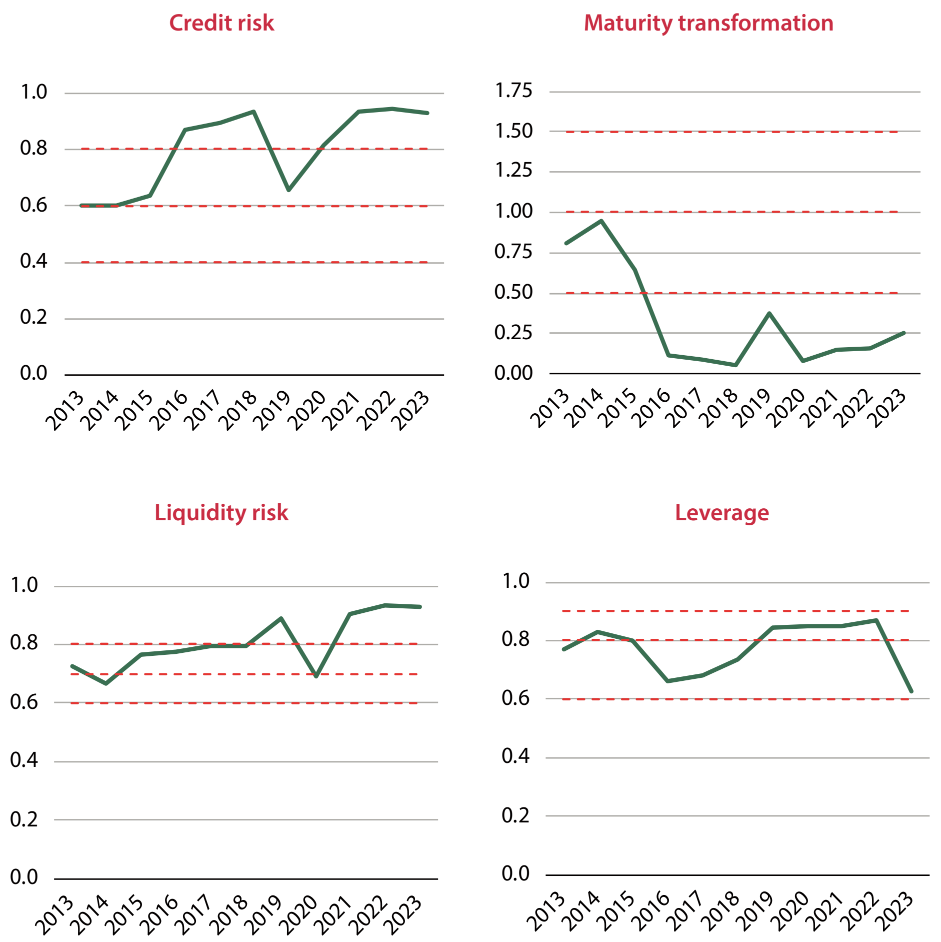
The significance of broker-dealers within the five economic functions is less than 1%, which suggests that, in principle, the risk to financial stability from their activities is very low. However, to illustrate, Figure 23 displays the risk indicators calculated for these entities. The panels indicate that the most significant risks for broker-dealers remain credit and liquidity risks, while the risk related to leverage was significantly reduced in 2023.[53] In terms of liquidity risk, information provided by Spanish entities to the CNMV shows that all broker-dealers comfortably met the minimum requirements set by Regulation (EU) No. 2033/2019.[54, 55]

53 The decrease is primarily attributed to changes in one large entity within the sector (Altura Markets, SV).

54 Regulation (EU) No. 2033/2019 of the European Parliament and of the Council, of 27 November 2019, on the prudential requirements of investment firms and amending Regulations (EU) No. 1093/2010, (EU) No. 575/2013, (EU) No. 600/2014, and (EU) No. 806/2014.

55 The minimum liquidity requirement is at least one-third of the requirement based on fixed overheads, which is set at 25% of the fixed overheads from the previous financial year.

Risk trends for broker-dealers FIGURE 23



Source: CNMV.

3.1.4 Economic function 4: *facilitating credit creation*

This economic function includes mutual guarantee companies, whose assets, slightly over €1.5 billion, represent just 0.3% of the assets across the five economic functions. The main aim of these companies is to enable SMEs to access credit and generally improve their financing conditions by providing guarantees to banks, public administrations, customers, and suppliers. Their relative size is still below the required minimum (0.5%) needed for a more detailed assessment of their financial risks.

While crowdfunding platforms are not currently classified under the NBFI category, it is important to monitor them, as they seemingly fit into this economic function. These platforms act as intermediaries connecting investors with entities seeking funding. In recent years, this sub-sector has expanded significantly in Spain. The following exhibit outlines the key aspects of the entities registered in Spain.

Crowdfunding platforms in Spain

EXHIBIT 1

Crowdfunding is a way of raising funds by receiving money, typically in small amounts, from many individuals to finance projects or businesses. This is generally done through online platforms. In Spain, regulations for crowdfunding platforms were introduced in 2015 with Law 5/2015, of 27 April, on the promotion of business financing, which implemented measures to make it easier and more flexible for SMEs to access bank financing. In 2020, European-level regulations were harmonised to support the development of cross-border platforms and ensure adequate investor protection. As a result, Regulation (EU) 2020/1503 of the European Parliament and of the Council, of 7 October 2020, became the key legislation for governing European crowdfunding service providers for businesses and is mandatory for all Member States.

This Regulation allowed a transition period until November 2023 for crowdfunding platforms to align with European standards. Out of all the entities previously registered with the CNMV, four completed their adaptation in 2022, while another 16 did so in 2023. After this period ended, the CNMV removed the old register of crowdfunding platforms and restricted the operations of those that had not made the necessary changes, totalling four platforms. By the end of 2023, there were 21 entities in the new register of crowdfunding service providers – 20 resulting from the conversion of existing platforms and one newly established.

Number of non-harmonised crowdfunding platforms and registered crowdfunding service providers

TABLE E1.1

Platform type	Securities	Loans	Mixed	Total
Crowdfunding services providers	5	4	12	21
Non-harmonised crowdfunding platforms[1]	0	0	0	0
Total accumulated amount	5	4	12	21

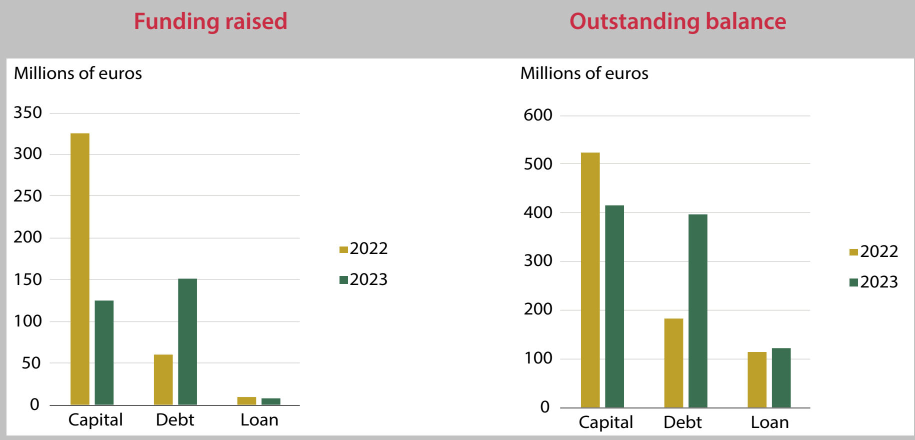
Source: CNMV.

1 The Spanish regulator created this figure for crowdfunding platforms that were outside the scope of the European regulation, which are consumer and project platforms with a high volume (between €5 and €8 million). At the end of 2023, there were no non-harmonised crowdfunding platforms.

In Spain, crowdfunding platforms have seen gradual growth since they began, although they remain relatively small in scale. Oversight involves reviewing the audited financial statements and, if applicable, the auditor's special report, as well as examining the annual activity and financial reports that the platforms submit to the CNMV.

In 2023, funding raised through equity and loans decreased compared to 2022, while funding through debt instruments saw a notable surge. Equity financing amounted to €125 million (a 61.5% drop from 2022) and loans totalled €8 million (a 20% decrease), whereas debt rose to €152 million (a 153% increase). In 2023, the real estate sector was the main recipient of raised funds, accounting for 72.2% of the total investment.[1] This was followed by the sectors of "Programming, consultancy and other IT-related activities", which received 3.7%, and "Research and development", which received 2.6%. In terms of outstanding amounts, 2023 saw €415 million in equity (-20.7%), €396 million in debt (+116.4%), and €122 million in loans (+7.0%).

Funding raised and outstanding balance on crowdfunding platforms FIGURE E1.1



Source: CNMV.

In 2023, 14.5% of the funding was sourced from professional investors, 48.5% from experienced investors, and the remaining 37.0% from retail investors.[2] Regulation (EU) 2020/1503 classifies investors into three categories: professional, experienced, and retail. Professional investors are authorised entities or large companies operating in financial markets. Experienced investors are those who understand the risks of investing in capital markets and have the resources to bear them without facing excessive financial consequences. This category has criteria that non-professional investors must meet to join.[3] Retail investors are those who do not fit into the previous two categories. As for the investors' country of tax residence, 90.0% of the funding was provided by investors residing in Spain, followed by France, Italy, and the Netherlands, contributing 3.2%, 1.6%, and 1.0%, respectively.

---

1 65.6% of the investment went to "Building construction", while 6.6% was directed towards "Real estate activities".

2 There were 50,681 investors in total, with 17% classified as experienced investors.

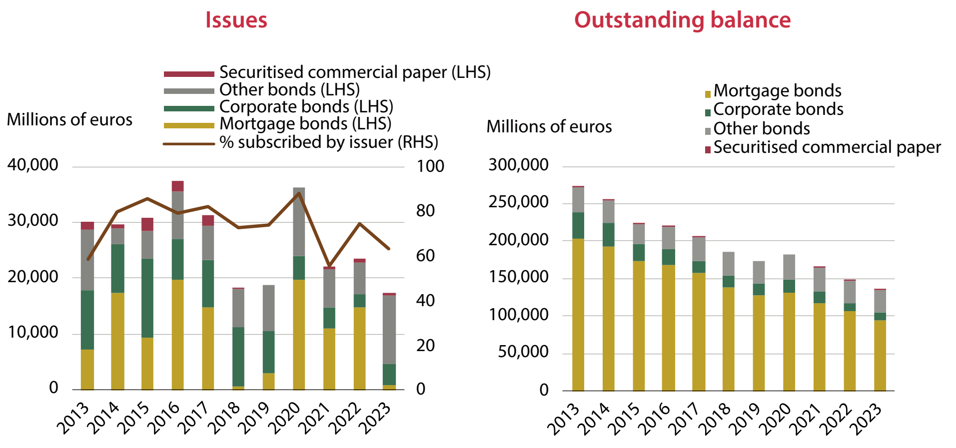
3 Legal entities qualify if they meet at least one of the following criteria: i) have equity of at least €100,000; ii) a net turnover of at least €2 million; or iii) a balance sheet total of at least €1 million. Individuals, however, must satisfy at least two of the following conditions: i) have a personal gross income of at least €60,000 per fiscal year, or a portfolio of financial instruments, which includes cash deposits and financial assets, exceeding €100,000; ii) have worked in the financial sector for at least one year in a professional role that demands an understanding of the operations or services involved, or have held an executive position for at least 12 months in a legal entity as previously defined; or iii) have executed significant volume transactions in capital markets with an average of 10 per quarter over the last four quarters.

3.1.5 *Economic function 5: credit intermediation based on securitisation for financing financial institutions*

This category includes structured finance vehicles (SFVs), designed specifically for the securitisation of assets. They offer resources to the originators of securitisations, mainly banks, regardless of whether there is an actual transfer of assets or risks, making them a potential key component of credit intermediation chains. Therefore, they should be considered when assessing risks linked to NBFI, especially concerning maturity transformation risk.[56]

In Spain, while securitisation remains the second most significant sector within NBFI, its importance has been waning. As mentioned earlier, the financial assets of SFVs amounted to nearly €140 billion at the end of 2023, accounting for 27.2% of the aggregate assets of the five economic functions, down from 30.6% in 2022. The right panel of Figure 24 shows a steady and marked decline in the assets of these vehicles since the financial crisis, which appeared to stabilise in 2019–2020, but the downward trend has continued, with an 8.4% drop in the outstanding balance in 2023. Like finance companies, a substantial proportion of securitisation vehicles are consolidated within banking groups.[57] Consequently, when adjusting for assets already on a bank's balance sheet, their relative significance within the NBFI sector drops to 6.2% (from 7.4% in 2022), a figure that has been notably decreasing in recent years.

Evolution of securitisation bonds and commercial paper by asset type FIGURE 24



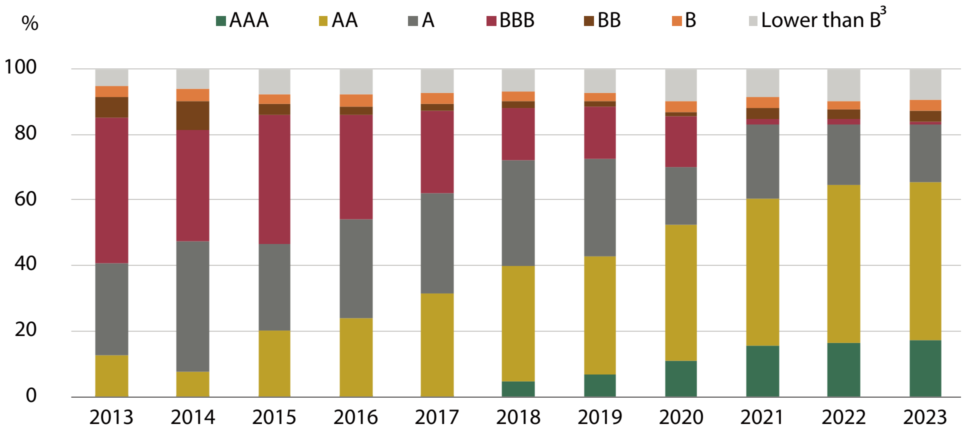
Source: CNMV.

56 As noted in previous editions of this report, securitisation in Spain is generally structured so that payments are covered by the amortisation of asset pools, making this issue relatively minor. Moreover, securitisation in Spain has typically served more as a financing tool than a means of risk transfer, which stands in contrast to other economies where it was a key issue during the 2008 financial crisis.

57 The reason this occurs in Spain is that, in most cases, the transferor entity retains control in line with Bank of Spain Circular 4/2017 and IFRS 10 (Consolidated Financial Statements). This is mainly because the entity remains exposed to the variable returns of the funds and securitised assets, either through credit enhancements or a swap where it receives returns from the securitised portfolio while paying the bond coupons. Under current accounting standards, in such cases, the vehicle must stay on the balance sheet of the issuing banks and, consequently, is subject to traditional banking regulation.

Securitisation bond issuances totalled €16.8 billion in 2023, marking a 26% decline compared to the previous year (see the left panel of Figure 24). The percentage of issues subscribed by the issuer or transferor itself also decreased, falling to 63.0% from 74.6% in 2022. By asset type, the issuance of mortgage bonds dropped significantly from 63.0% of the total in 2022 to just 4.8% a year later, while bonds backed by consumer loans (classified under "Other bonds") saw a substantial rise, making up 34.6% of the total (up from just over 3% in 2022). Meanwhile, credit ratings for securitisation vehicles appear to be stabilising after showing a steady and clear improvement since 2014 (see Figure 25). By the end of 2023, 17.4% of the total outstanding balance of securitisation bonds and commercial paper were rated AAA (up from 16.2% in 2022), while only 17.0% were rated BBB or lower, the same as in 2022.

Outstanding balance of securitisation bonds and commercial paper by credit rating[1, 2] FIGURE 25



Source: CNMV.

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

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

3 Includes unrated issues.

Simple, transparent, and standardised (STS) securitisation bond issuances surpassed €6.7 billion in 2023, making up 38.5% of total issues, up from 26.1% the previous year. These assets are regulated by Regulation (EU) 2017/2402,[58] which establishes a general framework for securitisation and creates another specific framework for STS securitisation.[59] The outstanding balance of these instruments also rose by nearly 4 pp to account for 23.3% of the total.

When evaluating the risks associated with these entities, maturity transformation risk is undoubtedly the most significant, with liquidity risk also playing a role. Conversely, for SFVs, assessing credit and leverage risks is, by definition, not

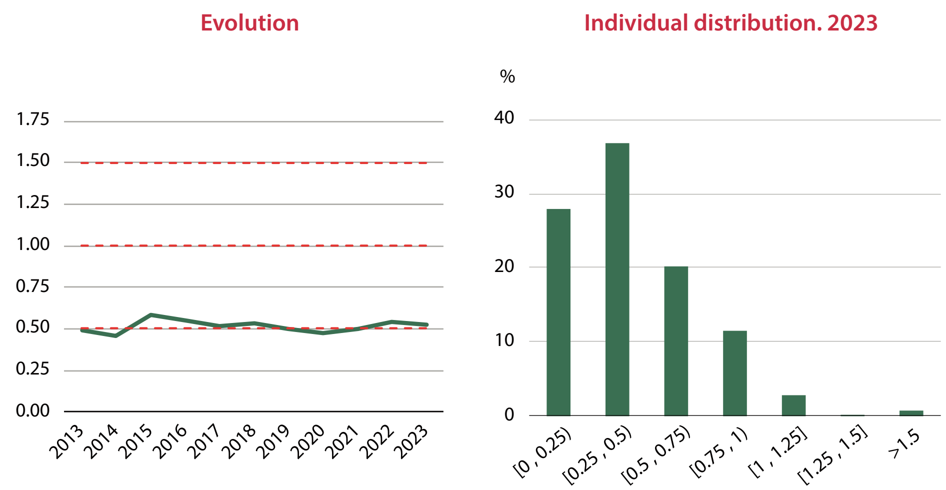
58 Amended by Regulation (EU) 2021/557 (SECR).

59 For a securitisation to qualify as STS, it must satisfy specific criteria: simplicity (the credit exposures being securitised must be transferred through a true sale to the securitisation vehicle), transparency (prospective investors must be provided with information on historical defaults and losses), and standardisation (adherence to risk retention requirements and a ban on trading derivatives unless used for hedging purposes). The aim of establishing this concept is to make it easier to market these securitisations to investors compared to more complex ones and to allow more favourable capital and retention requirements for the originator.

particularly relevant, at least in Spain.[60] In 2023, the proportion of liquid assets for these entities remained at 92.9%, a level that has stayed around 93% in recent years, as the assets primarily consist of transferred loans, resulting in very few liquid assets. At an individual level, nearly 85% of securitisation funds, in terms of total assets, had liquid assets below 10%, while fewer than 5% had liquid assets exceeding 40%.

The risk indicator associated with maturity transformation stood at 52.6% in 2023, nearly 2 pp lower than in 2022 (see the left panel of Figure 26). This places it in the moderate risk category, although it remains close to the threshold separating it from low risk. There are significant differences among various vehicles. Nonetheless, the majority, accounting for nearly 65% in terms of assets, recorded values below 50% (low risk). Conversely, only 3.6% of vehicles had values above 100% (medium or high risk), a figure which, although higher than the 1.9% recorded in 2022, remains quite low (see the right panel of Figure 26). It is important to note that in Spain, most securitised assets come from long-term loans or credits, mainly mortgages, with the same applying to the issued securities (liabilities). By the end of 2023, short-term assets and liabilities of Spanish securitisation funds represented only 21.1% and 13.7% of the balance sheet, respectively. However, these percentages have slightly increased in recent years due to the rise in securitisations backed by consumer or auto loans.

Maturity transformation risk in securitisation funds FIGURE 26



Source: CNMV.

3.2 Use of macroprudential tools

This section focuses exclusively on the tools available and utilised in the area of collective investment (EF1), particularly liquidity management tools. It also includes the results of periodic stress tests on investment funds, which serve as a means to identify in advance the institutions most vulnerable to unexpected and significant redemption shocks. In this edition of the publication, there is a specific

60 Credit risk is inherently almost 100% because all assets of the SFV consist of loans transferred by the originator or assignor. Similarly, leverage is always at a ratio of one, as securitisation funds lack their own capital.

section concerning a consultation by the European Commission this year on macroprudential policy in the non-banking sector, outlining the CNMV's stance on the most pertinent issues.

Liquidity management tools[61] (LMTs) aim to mitigate the risk arising from liquidity mismatches. This refers to the temporary gap between the time an investor can liquidate their holdings and the period required for the orderly sale of the fund's underlying assets. These tools are highly diverse in nature, including anti-dilutive tools,[62] those offering flexibility in the settlement of redemptions, and tools that impose restrictions or limits on redemptions. They also vary in terms of activation, which can be initiated[63] by either the manager or supervisor. The availability of these tools differs across European jurisdictions, with Spain notable for having a comparatively high number of them.[64] The recent reforms of the UCITS and AIFMD Directives, along with the ongoing Level 2 work, could help standardise these tools and encourage their use across the European Union.

In December 2023, two sets of Recommendations and Guidelines, promoted by the FSB and IOSCO respectively, were published in coordination to encourage open-ended investment funds to use liquidity management tools on a global scale. The FSB Recommendations[65] particularly highlight the importance of using anti-dilution tools, while the IOSCO Guidelines[66] offer advice on how to apply these tools effectively and consistently. Anti-dilution tools aim to ensure that the price received by investors redeeming units in an investment fund fairly matches the price the fund will achieve from selling the underlying assets required to fulfil the redemption. This value depends on the market price of the assets in which the fund invests and the transaction costs associated with their sale.

The changes outlined in the previous documents prompted a revision of IOSCO's 2018 Recommendations on liquidity risk management in the CIS sector, along with the accompanying Good Practices. Following these efforts, in November 2024, IOSCO opened a consultation on a draft document revising these Recommendations, along with a Guide to facilitate their effective application.[67]

---

61 The key tools available to undertakings for collective investment in transferable securities (UCITS) include suspending redemptions, side pockets, partial redemptions, advance notice for redemptions, in-kind redemptions, redemption fees benefiting the fund, swing pricing, and minimum liquidity ratios. In the context of hedge funds, gates are added to these tools.

62 These mechanisms aim to pass the transaction costs incurred by the fund when selling assets onto redeeming investors (with purchase costs passed to subscribers).

63 Typically, management companies activate these tools, but the CNMV can also activate some of them under certain circumstances, such as suspending redemptions or reinforcing liquid assets. The most recent tool, introduced during the COVID crisis in March 2020, allows for the establishment of notice periods for redemptions. This can be done without adhering to the usual requirements regarding term, minimum amount, and prior inclusion in management rules. Both the manager and the CNMV can set these deadlines.

64 For more detailed information, see Exhibit 2 of the NBFI monitor published in 2020.

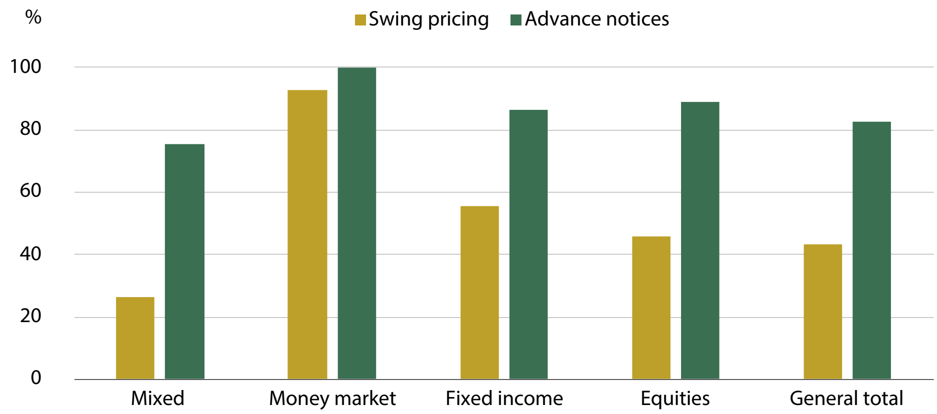
65 FSB (2023). *Revised Policy Recommendations to Address Structural Vulnerabilities from Liquidity Mismatch in Open-Ended Funds*, 20 December. Available at: https://www.fsb.org/uploads/P201223-1.pdf

66 IOSCO (2023). *Anti-dilution Liquidity Management Tools – Guidance for Effective Implementation of the Recommendations for Liquidity Risk Management for Collective Investment Schemes. Final Report*, 20 December. Available at: https://www.iosco.org/library/pubdocs/pdf/IOSCOPD756.pdf

67 IOSCO (2024). *Revised Recommendations for Liquidity Risk Management for Collective Investment Schemes and Guidance for Open-ended Funds, for Effective implementation of the Recommendations for Liquidity Risk*

The latest data from the CNMV indicates that Spanish fund managers have a high level of access to liquidity management tools. By the end of September 2024, it is estimated that 83% of investment funds (in terms of assets) had provisions in their prospectuses allowing for up to 10 business days' notice when redemptions exceed €300,000, down slightly from 84% the previous year. Additionally, 43% of funds, in terms of assets, have either included in their prospectus or announced via a significant event notice the option to use a swing pricing mechanism or other anti-dilutive tools, an increase from 41% a year earlier. As shown in Figure 27, money market and fixed income funds are the most frequent users of this mechanism, with 93% of money market funds and 56% of fixed income funds ready to use it. Redemption notice periods and anti-dilution mechanisms are liquidity risk management strategies employed under normal market conditions. Currently, there is no data available on how often these measures are used, only that they can be employed under conditions outlined in the fund's prospectus or the management company's internal procedures.

Availability of liquidity management tools in IFs FIGURE 27



Source: CNMV.

Spanish CISs can employ additional tools in exceptional circumstances, such as partial subscriptions and redemptions. This mechanism is utilised when some securities in which the CIS invests encounter trading suspensions or events that temporarily render them illiquid, hindering the calculation of their fair value. When partial subscriptions and redemptions are triggered, the weight of these investments in the CIS's equity before the suspension is assessed. Based on this proportion, some units will remain to be allocated (in subscriptions), or an amount will remain unpaid (in redemptions). Once the extraordinary circumstances prompting these partial subscriptions and redemptions are resolved, the fund will allocate the remaining units and settle the outstanding redemption amounts, according to the new market value of the affected assets. This mechanism was employed by five institutions (investment funds and SICAVs) at the start of 2022, around the onset of the Russia-Ukraine war, which led to trading suspensions of securities on those countries' stock exchanges. In 2023, another five institutions used this mechanism due to the suspension of trading in some securities within their portfolios or the suspension of calculating the net asset value of units in other

Management, Consultation report, November. Available at: https://www.iosco.org/library/pubdocs/pdf/IOSCOPD771.pdf

CISs they had invested in. The highest percentage of assets affected by the suspension was 15%. All situations were resolved during 2023, with three being regularised within just a few days after activation.

3.2.1 Stress tests

Stress tests are tools used by supervisors to evaluate how resilient their supervised entities are under a highly adverse theoretical scenario. For investment funds, the stress tests discussed in this report are designed to evaluate how well these institutions can handle a surge in redemptions. However, there are also other stress tests, such as those focused on climate change.[68] For the exercise outlined in this monitor, the resilience of the funds depends on the size of the estimated redemption shock and the liquidity conditions of the assets in their portfolios This involves evaluating the risk of liquidity mismatch in investment funds, which is crucial for their financial stability. This risk arises when the redemption profile is not adequately aligned with the liquidity of the fund's portfolio. Below is a summary of the key results from such an exercise applied to Spanish securities investment funds, conducted half-yearly using a methodology initially developed by the European Securities and Markets Authority (ESMA) (STRESI framework [ESMA (2019)])[69] and later expanded by the CNMV (see Ojea, 2020).[70]

Using the methodology developed by the CNMV, a stress test has been conducted for investment funds, using data from June 2009 to June 2024. This exercise yielded several results, with two being particularly significant: i) measuring the proportion of liquid assets in investment fund portfolios and ii) identifying funds that might face challenges in meeting redemptions under various adverse scenarios.

According to the HQLA[71] methodology, the weighted average of liquid assets in the funds ranged from 40% to 74% of assets in June, varying by category. Typically, high-yield corporate bonds have the lowest average liquidity ratios and a higher percentage of funds with significantly lower liquidity compared to their category and other categories. Conversely, sovereign bonds exhibit the highest proportions of liquid assets.

---

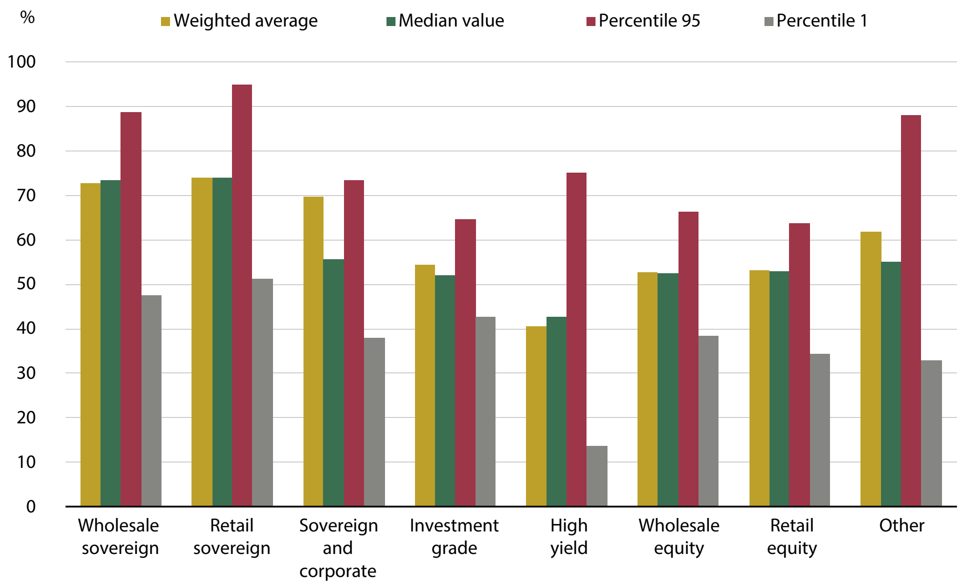
68 See CNMV Working Paper No. 81 by Ricardo Crisóstomo entitled *Measuring transition risk in investment funds* (available at: https://www.cnmv.es/DocPortal/Publicaciones/MONOGRAFIAS/DT_81_Measuring_Transition_Risken.pdf) and an extension of said document, to be published soon, prepared by Diana Mykhalyuk.

69 ESMA (2019). *Stress simulation for Investment funds.* ESMA Economic Report.

70 Ojea, J. (2020). "Quantifying uncertainty in adverse liquidity scenarios for investment funds". *CNMV Bulletin*, Quarter II, pp. 23–44. Available at: https://www.cnmv.es/DocPortal/Publicaciones/Boletin/Boletin_II_2020_ENen.PDF

71 The HQLA approach assesses the liquidity of a fund's portfolio using an index that assigns a liquidity degree (a weight ranging from 0 to 100) to each asset class based on its characteristics: $HQLA_i = \sum_{k=1}^{n}(w_{i,k} * s_{i,k}) * 100$. Where $w_{i,k}$ is the weight (liquidity degree) of asset *k* in fund *i* and $s_{i,k}$ represents the proportion of that asset in the fund's portfolio. Essentially, the HQLA index is a weighted average of the liquidity of the assets within the fund's portfolio. The weights, $w_{i,k}$, align with those applied in Basel III.

Proportion of HQLA of investment funds by category FIGURE 28



Source: CNMV.

The number of funds that might encounter issues varies from none in the second most severe scenario to eight in the most severe scenario, all within the high-yield corporate fixed income category. A total of five theoretical redemption scenarios of varying severity have been estimated. One scenario was proposed by ESMA in its 2019 exercise, while the others were developed by the CNMV. Notably, the most severe scenario[72] ($CoES(\alpha = \beta = \sqrt{(0.4\%)})$) is up to 19 times harsher than the worst week during the COVID-19 crisis. To pinpoint funds at risk, the estimated liquid assets of each fund were compared to the calculated redemption shock.

The results of this exercise continue to demonstrate a high degree of resilience in the investment fund market against the proposed scenarios. As shown in Table 7, which displays the percentage of funds (and assets) in each category that might face challenges in meeting redemptions under different scenarios, only one category – high-yield corporate fixed income – could encounter issues in any of the scenarios considered. Funds in this category account for 17.4% of the funds analysed and 7.1% of the assets in the sample. Other categories do not include any funds with such difficulties.

72 *CoES* is formally defined as: $CoES_{i|j}(\alpha,\beta) = \int_0^u F_i^{-1}(v)dv$, where $u = F_i^{-1}(CoVaR_{i|j}(\alpha,\beta))$ and F_i^{-1} is the inverse distribution function of variable *i*. Meanwhile, *CoVaR* represents the value at which: $Pr(\text{Net flow }\%_i < CoVaR_{i|j})(\alpha,\beta) \mid \text{Net flow }\%_j < VaR_j(\alpha)) = \beta$, where $VaR_j(\alpha)$ where $VaR_j(\alpha)$ is the percentile α of net flows *j* that determines the severity of conditional redemptions, while β is the percentile that determines the severity of redemptions conditional on the prior scenario. For instance, in calculating the *CoES* ($\alpha = \beta = \sqrt{5\,\%}$) to determine the redemption shock for funds in each category, data from the top 22,36% ($\sqrt{5\,\%}$) of redemptions in each category – taken during periods where the highest 22.36% of redemptions occurred across the whole fund sector – has been considered.

Results of the stress tests (aggregate flows) TABLE 5

%

Percentage of funds with RCR[1] < 1 in each style/Total funds in each style (in %)

Scenarios	Wholesale sovereign	Retail sovereign	Sovereign and corporate	Corporate investment grade	Corporate high yield	Wholesale equity	Retail equity	Other
ES ($\alpha = 3\%$)[2]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CoES ($\alpha = \beta = \sqrt{5\%}$)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CoES ($\alpha = \beta = \sqrt{3\%}$)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CoES ($\alpha = \beta = \sqrt{2\%}$)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CoES ($\alpha = \beta = \sqrt{0.4\%}$)[3]	0.0	0.0	0.0	0.0	17.4	0.0	0.0	0.0

%

Assets of funds with RCR[1] < 1 in each style / Total funds in each style (in %)

Scenarios	Wholesale sovereign	Retail sovereign	Sovereign and corporate	Corporate investment grade	Corporate high yield	Wholesale equity	Retail equity	Other
ES ($\alpha = 3\%$)[2]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CoES ($\alpha = \beta = \sqrt{5\%}$)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CoES ($\alpha = \beta = \sqrt{3\%}$)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CoES ($\alpha = \beta = \sqrt{2\%}$)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CoES ($\alpha = \beta = \sqrt{0.4\%}$)[3]	0.0	0.0	0.0	0.0	7.1	0.0	0.0	0.0

Source: CNMV.

1 RCR: The redemption coverage ratio is defined as the ratio between a fund's liquid assets and the size of the redemption. Funds with an RCR < 1 are identified as those likely to face direct liquidity issues.

2 This represents the baseline scenario in the stress test conducted by ESMA (2019). *ES* (Expected Shortfall) is a risk measure that, in this context, assesses expected redemptions by focusing exclusively on the largest potential redemptions. Here, the top 3% of redemptions are considered.

3 There are eight funds that could face liquidity problems, all of which are in the high-yield fixed income category.

3.2.2 European Commission consultation on macroprudential policy for non-bank financial intermediation (NBFI) institutions

On 22 May 2024, the European Commission launched a public consultation on macroprudential policy concerning NBFI institutions, aiming to gather feedback from European authorities and the industry on the current regulatory framework and to identify areas for improvement. The European Commission has identified several key vulnerabilities: i) liquidity mismatches, ii) excessive leverage, and iii) interconnections both among NBFI entities and between NBFI entities and the banking sector.

The consultation suggests potential measures to mitigate risks in money market funds (MMFs), other open-ended investment funds (OEFs), and other NBFI entities, including insurance companies, pension funds, investment firms, and key market infrastructures. Additionally, it explores ways to enhance coordination and cooperation among European authorities regarding the supervision of these entities and the implementation of macroprudential tools.

Before the launch of the European consultation, the CNMV, along with the French (AMF), Italian (CONSOB), and Austrian (FMA) authorities, released a joint position[73] identifying four key priorities for enhancing the macroprudential framework in investment management: i) ensuring broad availability – and use – of liquidity management tools by open-ended investment funds, ii) banning the use of amortised cost as an asset valuation method by money market funds, which allows for a constant net asset value, iii) adopting a coordinated supervisory approach at the European level for large management groups operating cross-border, and iv) establishing a shared European data centre among stock market supervisors and central banks, to facilitate stress testing of the entire financial system as well as specific entities.

Finally, the CNMV has individually responded to the European consultation, highlighting both the points mentioned in the joint position and other aspects deemed important for developing an effective macroprudential policy in the context of CISs. The CNMV's perspective is informed by its supervisory experience, which has helped identify key elements for mitigating risks arising from investment fund activities. These include:

– **Ensuring continuous and comprehensive information on the activities of investment funds,** allowing for ongoing monitoring of liquidity and leverage risks. The CNMV receives monthly data, based on its proprietary reporting model developed over 30 years ago, which forms a crucial part of its supervision and risk analysis activities. Currently, this level of harmonised information is lacking at the European level.

– **Establishing a shared data centre within the European Union** to enable supervisors to access data on any CIS domiciled in the Union. This access would enhance the supervision of cross-border activities, for instance, when a CIS domiciled in one jurisdiction invests in a CIS domiciled in another, or when a CIS is domiciled in one jurisdiction but marketed in others.

– **Incorporating the criteria from the recently revised FSB Recommendations on liquidity mismatch risk into EU regulations**, focusing on aligning the redemption frequency of CISs with the liquidity level of the assets they invest in, and on the widespread use of liquidity management tools. While these criteria are already part of Spain's regulatory framework, they are not yet included in a harmonised framework across the European Union.

– **Promoting harmonised regulations regarding the valuation of CIS assets**, as well as the calculation of equity and net asset value, to ensure that the price per unit an investor pays or receives during the subscription or redemption of units matches the market value of the underlying assets in which the fund invests. Disparities between these values can lead to redemption spirals when investors perceive an advantage in selling units compared to the market value.

– **Enhancing the use of standardised leverage metrics across all CISs**, enabling the consistent and comparable measurement of these risks. The information authorities receive should align with these metrics (or sets of metrics) to adequately monitor this source of risk.

---

73 AMF, CNMV, CONSOB and FMA (n.d.). "Un enfoque macroprudencial en la gestión de activos". Available at: https://www.cnmv.es/Portal/verDoc.axd?t=%7b920a5366-d967-45be-95e1-2a2ba36839c6%7d