CNMV
Comisión Nacional del Mercado de Valores

Financial Stability Note

No. 29, December 2025

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The Financial Stability Note is one of the CNMV's duties within the framework of its monitoring of financial stability conditions in the areas it supervises. In particular, the Note assesses the stress level of **domestic securities markets during the past half-year,** flags any changes in the level of various financial risks and identifies major sources of risk.

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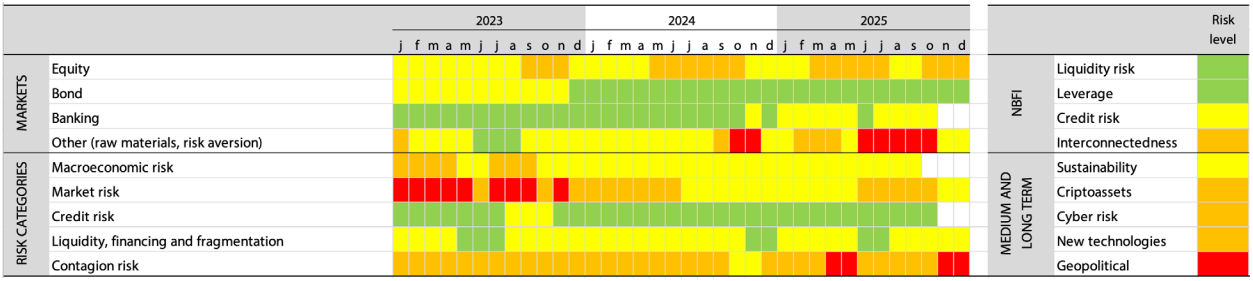
Executive summary

Heat map[1]

FIGURE 1



Source: CNMV. See Cambón, M.I. (2015). "Identification of vulnerabilities in the Spanish financial system: an application of heat maps". *CNMV Bulletin*, Quarter I, pp. 103–115.

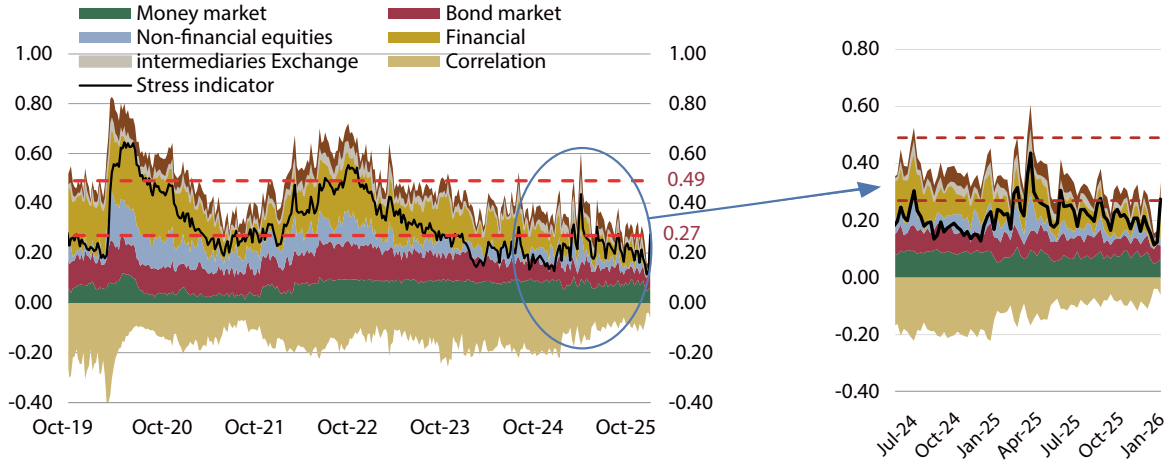
1 Data until 31 December. The colours of the risk levels on the right side of the map correspond to the current assessment of these risks. In the case of non-bank financial intermediation (NBFI), this assessment comes from the NBFI Monitor published by the CNMV.

Financial markets

The level of stress in Spanish financial markets, which remained low throughout the second half of 2025, picked up in the first few days of this year amid new geopolitical uncertainties.[1] The indicator ended last year at 0.12 (see Figure 2), the lowest of the entire year and well below the threshold separating low from medium stress (0.27). Overall, asset price growth in 2025, against a backdrop of reduced volatility, drove this decline in stress levels. However, in the first few days of 2026, the indicator has risen to 0.27, on the verge of medium risk, as events in Venezuela and other geopolitical uncertainties have driven up volatility across several asset classes, including oil and banking sector securities.

Stress indicator of the Spanish financial markets

FIGURE 2



Source: CNMV. For more detailed information on the changes in this indicator and its components, as well as its methodology, refer to the statistical series of the CNMV and the following documents: Cambón M.I. and Estévez, L. (2016). "A Spanish Financial Market Stress Index (FMSI)". *Spanish Review of Financial Economics*, Vol. 14, No. 1, pp. 23–41, CNMV Working Paper No. 60 and the annex to the Stability Note Dec-24.

1 The closing date of this Note is 31 December, except for the stress indicator, which is 9 January, and other specific data.

Equity markets closed the year with significant gains. The Ibex 35 rose by almost 50% to 17,300 points at the end of 2025, the highest level on record. This increase, far more pronounced than that of other benchmark indices, was largely driven by the performance of the banking sector. Despite prevailing uncertainties, equity markets proved highly resilient, with trading volumes up 40.4% against a backdrop of contained volatility and favourable liquidity conditions. Notable turbulence was only observed in April, coinciding with the peak of tariff-related uncertainty. Elsewhere, highlights in the Spanish markets included the launch of initiatives such as BME Easy Access, three IPOs during the year, and a recovery in capital increases (to €11,595 million, **46% more than in 2024**).

In **fixed income markets, yield curve normalisation continued,** with short-term debt yields declining in line with the European Central Bank's (ECB) decisions during the year, and slight increases at longer maturities, partly as a result of decisions that will drive public spending higher. The yield on 10-year Spanish sovereign bonds ended the year at 3.3% (23 basis points [bp] above the start of the year), while the risk premium over German bonds narrowed to 44 bp (down 27 bp). In primary markets, debt issuance on Spanish markets staged a notable recovery (up 31.3% to €89 billion), at the expense of issuance abroad (down 19.6% to almost €96 billion, data to November). This breaks the trend of recent years, though caution is warranted before concluding that a lasting shift has taken place.

Asset and investor management

In the area of collective investment, assets under management have once again reached historic highs, standing at €473 billion (Nov.-2025), driven by both unitholder inflows and market performance, which has boosted portfolio returns. Net inflows have continued to favour fixed income funds, which remain attractive thanks to the interest rate rises of **previous years**. While this appeal is not expected to grow further, ongoing market uncertainty may continue to drive demand for these products in the coming months. Among the risk factors relevant to collective investment schemes (CISs), of particular note is exposure to technology and artificial intelligence (AI) companies, some of which may be showing signs of overvaluation. At the end of this report, we present a quantification of this exposure, which between 2023 and 2025 averaged 9.6% of assets for technology companies, 5.7% for AI companies and 3.3% for those known as the "Magnificent Seven".

Retail investors ended the year with a further increase in their share of equity market activity. Data show that they accounted for 7.6% of buy transactions and 11.1% of sell transactions in Ibex 35 securities. Since the pandemic, these investors have become increasingly active in traditional financial markets and, in all likelihood, in other asset markets such as crypto-currencies. While the benefits of this greater participation – facilitated by new technologies – for market development are undeniable, it is equally important that these investors are fully aware of the characteristics of the products they acquire, their suitability for their investor profile and, above all, the risks they may face.

Risk assessment

1 Key uncertainty factors

The assessment of geopolitical risks remains at very high levels. Although trade-related uncertainties had tended to ease in recent months, new tensions have emerged as a result of events in Venezuela, as well as other decisions or potential intentions of the Trump administration (for example, with regard to Iran or Greenland). Concerns about the war between Russia and Ukraine also persist. Any developments in these areas could shift market expectations, triggering price corrections and negative spirals in financial markets.

2 Categories of financial risk

In the assessment of the most common financial risks (market, liquidity, credit and contagion), two are clearly more significant than the others: **market risk and contagion risk**. In the case of market risk, quantifying the extent to which certain financial assets may be overvalued is challenging. Nevertheless, several of the traditional indicators used to assess this risk (such as price/earnings [P/E] ratios) point to clearer signs of overvaluation in US markets – particularly in sectors such as technology and consumer goods – while similar dynamics are also beginning to emerge in other markets, including Europe. This risk heightens market participants' sensitivity to adverse news or to developments that abruptly alter their expectations.

As for contagion risk, **it stems from the growing interconnections between different parts of the financial system**, both internally and with other expanding segments such as crypto-assets. These interconnections – which have intensified markedly in recent months – arise from direct links between participants, from shared exposures to assets with certain vulnerabilities and even from similar behaviour patterns over time. This risk is particularly significant in periods of turbulence, as it can transmit negative effects rapidly across different asset classes, institutions, sectors and jurisdictions, with potentially adverse implications for financial stability.

3 Risks associated with Non-Bank Financial Intermediation (NBFI)

In the NBFI space, the usual analyses of investment funds – the most important entities in this area – continue to point to no significant vulnerabilities in terms of financial stability. This is borne out by **fund portfolio liquidity measures**, which place the proportion of highly liquid assets at fairly high levels (29.8% of assets), and by **leverage** ratios, which remain very low (13.2% on average).

4 Medium and long-term risks

Digital transformation has revolutionised the way companies operate, particularly financial institutions. Technologies such as mobile banking, digital payments and decentralised finance, combined with the development of AI, have expanded the range of operational possibilities and enabled the automation and digitisation of systems. Within decentralised finance, the crypto-currency market, after reaching historic highs in October in terms of capitalisation, experienced

a correction in the final months of the year. While all these advances represent improvements in accessibility and efficiency, they are not without risks. Cybersecurity has grown increasingly important, as the rise in digital operations has greatly increased institutions' exposure to cyberattacks, which have been growing in both number and sophistication in recent years.

1 Financial market developments

1.1 Market stress levels

- **The level of stress in Spanish financial markets, which remained low throughout the second half of 2025, picked up in the first few days of this year amid new geopolitical uncertainties.** The indicator ended last year at 0.12 (see Figure 2), the lowest of the entire year and well below the threshold separating low from medium stress (0.27). All segments showed reduced stress levels at year-end, with only the fixed income segments (money market and bond market) registering slightly higher levels. Overall, asset price growth in 2025, against a backdrop of reduced volatility, drove this decline in stress levels. However, in the first few days of 2026, the indicator has risen to 0.27, on the verge of medium risk, as events in Venezuela and other geopolitical uncertainties have driven up volatility across several asset classes, including oil and banking sector securities. The level of correlation between the segments making up the indicator stands at very high levels.

1.2 Equities

- **International equity markets extended their gains into the second half of the year, with most international indices closing 2025 at all-time highs.** This performance was driven by central bank decisions, strong corporate earnings, European defence and infrastructure investment plans, renewed momentum from AI and technology companies, and investor risk appetite. As shown in Table 1, after a weaker first half, US and Japanese indices took over from their European counterparts in terms of gains, driven by improved economic activity and, in the case of the United States, expectations of a more accommodative monetary policy. European stock markets also trended upward, albeit more moderately, with the exception of Spain and Italy, amid doubts over the outlook for certain European economies.

- **The 2025 full-year results show gains in US indices ranging from 13% for the Dow Jones to 20.4% for the Nasdaq.** The performance of the former, with its heavier weighting towards traditional economy companies (banks, oil and industrials), was more muted – as in recent years – while both the S&P 500[2] and the Nasdaq[3] continued to benefit from investor interest in AI and strong technology company earnings. **The main European stock markets posted stronger annual gains, though with greater dispersion (see Table 1).** Gains ranged from 10.4% for the French Cac 40 (weighed down largely by automotive sector firms) to 49.3% for the Spanish Ibex 35. Other indices recorded gains of approximately 20% to 30%. The best-performing sectors were defence, buoyed by plans for a sharp increase in public security spending, banks and insurance undertakings, energy companies and the technology sector.

[2] The S&P index, the most representative of the US economy, covers all sectors, including technology, financials, healthcare, and industry. Of the top ten companies by weighting in the index, eight are technology firms, making up more than 34% of the total.

[3] The major Nasdaq stocks accumulated significant gains in 2025, notably the so-called "Magnificent Seven" (Amazon, Apple, Alphabet [Google], Meta [Facebook], Microsoft, NVIDIA and Tesla), with gains ranging from 5.2% for Amazon to 65.4% for Google [38.9% for NVIDIA].

Performance of the main stock market indices[1]

TABLE 1

%

	2022	2023	2024	2025	Mar-25	Jun-25	Sep-25	Dec-25
World								
MSCI World	19.5	21.8	17.0	19.5	-2.1	11.0	7.0	2.9
Euro area								
Eurostoxx 50	-11.7	19.2	8.3	18.3	7.2	1.0	4.3	4.7
Euronext 100	-9.6	13.3	4.2	18.4	6.8	1.1	5.7	3.7
DAX 30	-12.3	20.3	18.8	23.0	11.3	7.9	-0.1	2.6
CAC 40	-9.5	16.5	-2.2	10.4	5.6	-1.6	3.0	3.2
FTSE Mib	-13.3	28.0	12.6	31.5	11.3	4.6	7.4	5.2
Ibex 35	-5.6	22.8	14.8	49.3	13.3	6.5	10.6	11.8
United Kingdom								
FTSE 100	0.9	3.8	5.7	21.5	5.0	2.1	6.7	6.2
United States								
Dow Jones	-8.8	13.7	12.9	13.0	-1.3	5.0	5.2	3.6
S&P 500	-19.4	24.2	23.3	16.4	-4.6	10.6	7.8	2.3
Nasdaq-Cpte	-33.1	43.4	28.6	20.4	-10.4	17.7	11.2	2.6
Japan								
Nikkei 225	-9.4	28.2	19.2	26.2	-10.7	13.7	11.0	12.0
Topix	-5.1	25.1	17.7	22.4	-4.5	7.3	10.0	8.6

Source: LSEG Datastream.

1 In local currency. Data until 31 December.

- **In Spain, the Ibex 35 – as already mentioned – posted a gain of 49.3% in 2025, the highest among the major international indices.** The index closed the year at 17,307 points, reaching a new all-time high since 2007.[4] This performance was driven by corporate earnings growth and the positive trajectory of the Spanish economy, but is also largely attributable to the sharp rise in the financial sector (114.1%)[5] and its heavy weighting in the index (close to 40%). This rally has enabled the Spanish blue-chip index to close the returns gap it had maintained with the major European indices since the start of the pandemic. The advance in share prices pushed the price-to-earnings (P/E) ratio to 13.3x at year-end, in line with its historical average and its highest level since 2021.

- **Most sectors posted significant gains in the second half of the year.** Over the full year, almost all sectors recorded notable gains, though these were highly uneven, led – as noted – by the financial sector and, to a lesser extent, the energy sector and industrial and construction companies. There were also declines, such as in technology and telecommunications, driven by the fall in Telefónica's share price. Small and mid-cap companies also underperformed their large-cap counterparts, with gains of 29% and 16.1%, respectively.

4 The Ibex 35 reached its previous all-time high of 15,945.7 points on 8 November 2007, just before the onset of the financial crisis.

5 Over the same period, the European Stoxx Europe 600 Banks index, which comprises the main financial institutions across European economies, rose by 67.3%.

- **The Ibex 35 liquidity indicator (measured by the bid-ask spread) remained at satisfactory levels in the second half of the year,** improving slightly on the previous half thanks to lower market volatility.

- **Average daily trading on the continuous market stood at €1.48 billion in the second half, slightly below the €1.51 billion recorded in the first half but 37.2% higher than in the same period of 2024.** Total trading in Spanish equities[6] reached €513.09 billion in the second half **(up 52.3% on the same period of 2024), bringing the annual total to €1.01 trillion (up 40.4% on 2024). Of this amount, €363.04 billion** was traded on BME.

- **Activity in the primary equity market (capital increases) recovered in the second half of the year, with issuance reaching €8.80 billion, more than double the figure for the same period of 2024.** This was driven in part by a capital increase by Iberdrola of over €5 billion. The IPO of Cirsa (€453.3 million) was also a highlight, the second such transaction after Hotelbeds joined the market in February, along with that of Izertis, which moved up from BME Growth. Total capital increases for the year came to close to €11.6 billion, 46% **more than in 2024**. Increases were also recorded in the BME Scaleup development company market and in Portfolio Stock Exchange, of 8.9% and 63% respectively, reaching €1,483.7 million and €861.8 million. By contrast, the alternative BME Growth market saw declines (€572.3 million, down 35.3%). Only one company joined the latter in 2025, Redegal (from BME Scaleup), while the former recorded significant issuance activity, mostly from listed real estate investment companies (SOCIMIs, the Spanish equivalent of REITs). As part of the measures adopted to revitalise the capital markets, the CNMV approved a new listing modality called BME Easy Access, which allows companies to list on regulated markets without initially having to meet the minimum distribution or free float requirement.

1.3 Fixed income

- **International debt markets showed mixed performance during the second half of 2025.** In Europe, the main countries recorded yield declines at the shorter end of the curve, while longer maturities rose, in some cases reaching March highs. This trend is helping to normalise the slope of the yield curve. The changes in 10-year sovereign bond yields ranged from a 2 bp decline in Italy – the only major country to record a fall – to a 49 bp increase in Germany. At year-end, yields on the lowest-yielding sovereigns stood at 2.85% in Germany, 2.97% in the Netherlands and 3.02% in Ireland. In Spain, Italy and France, yields stood at 3.29%, 3.51% and 3.56%, respectively.

  In the United States, sovereign debt yields fell across the entire curve, with declines of between 20 and 30 bp compared to the end of the first half. At the end of 2025, the 10-year sovereign bond yield stood at 4.16%, down 41 bp from the close of 2024.

- **Domestically, public debt interest rates rose slightly in the second half across all maturities, though the full-year balance shows declines at the short end and increases at the long end.** In December, average yields on 3-, 6- and 12-month Treasury bills stood at 1.96%, 1.96% and 2.01%,[7] respectively, representing increases of 9 bp,

6 Information calculated using data obtained from the financial information provider Bloomberg and BME data.

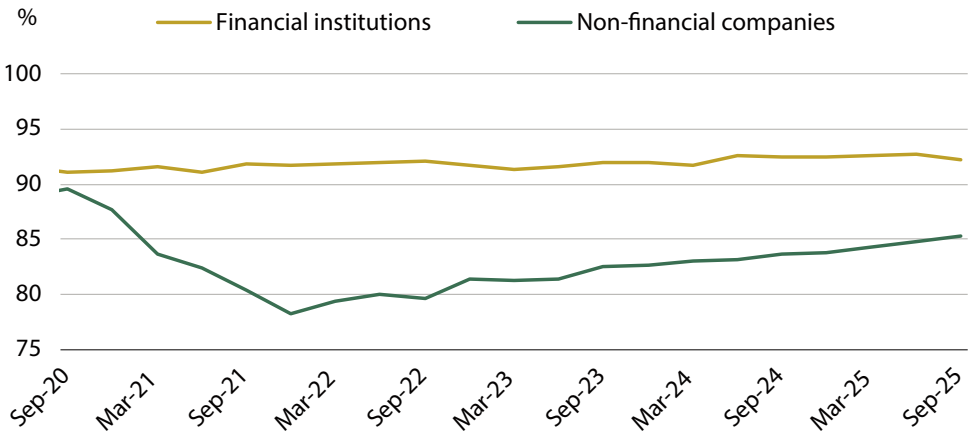
7 The December daily average yield on 3- and 5-year public debt was 2.37% and 2.65%, respectively.

8 bp and 9 bp compared with the June average, and declines of 61 bp, 56 bp and 18 bp relative to December 2024. The Spanish 10-year bond closed the year at 3.29%, 12 bp above the June average and 38 bp higher than in December 2024.[8] Corporate debt yields, which display greater dispersion owing to the heterogeneity of issuances in terms of maturity, rating and degree of subordination, recorded slight increases at shorter maturities and declines at longer tenors (between 13 bp and 49 bp)[9] during the second half of the year.

- **Risk premia on European sovereign debt generally followed a downward trend during the year, as noted in a previous section.** The largest declines were recorded in Italy and Spain (51 bp and 27 bp, respectively). **Spanish private sector risk premia also trended downwards in the second half of the year and, more broadly, throughout 2025.** This development extends the pattern observed in the previous year and was largely supported by the strong performance of the financial sector. At end-December, the average credit default swap (CDS) spread for the financial subsector stood at 42 bp, 12 bp below its level at end-2024, while the non-financial subsector stood at 48 bp, 3 bp lower.

- **The credit ratings of Spanish private issuers in the third quarter of 2025 remained at levels very similar to those observed at end-2024.** In September, 90.9% of Spanish private debt was classified as investment grade, the same proportion as at end-2024 (90.9%). The credit quality of financial sector debt continued to exceed that of non-financial corporations, although the latter has shown sustained improvement since 2022 (see Figure 3).[10]

Proportion of investment grade debt by sector FIGURE 3



Source: Bank of Spain, Bloomberg and CNMV.

- **In primary markets, debt issuance by Spanish private issuers in domestic and international markets amounted to €184.89 billion,[11] 1.2% less than in 2024.** Unlike previous periods, issuance activity increased significantly in domestic markets (to

8 The change in this yield between the last trading days of 2024 and 2025 was 23 bp.

9 The December average daily yield on 3- and 12-month commercial paper stood at 2.10% and 2.23%, respectively. For longer maturities (3, 5 and 10 years), the corresponding averages were 2.60%, 2.59% and 2.86%, respectively.

10 The improvement in the non-financial sector is largely driven by industrial and technology companies, which account for around 65% of the total.

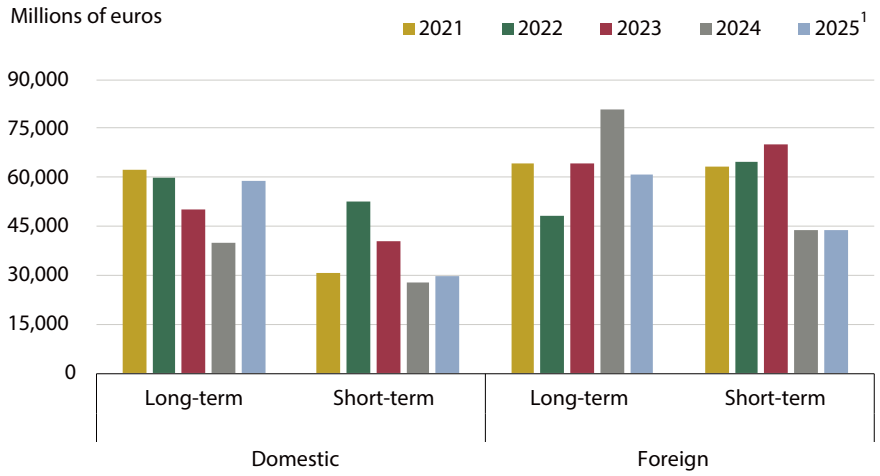
11 Issuance abroad covers data up to November.

€89.0 billion, up 31.3%) and declined abroad (€95.9 billion, down 19.6%). Issuance volumes in domestic markets were particularly low in 2024; further observation will therefore be needed to confirm whether this marks a sustained shift (see Figure 4).

- **A breakdown of private sector fixed income issuance in Spain shows that growth was much stronger at longer maturities, which reached €59.12 billion, marking a 47.3% increase.** Covered bond issuance was especially notable (€21.8 billion), more than double the volume recorded in 2024. Commercial paper issuance also increased, though more moderately (up 8.1%, to €29.8 billion). **Issuance abroad shows** a sharper contraction at longer maturities (€55.6 billion, down 25.6%) than at shorter maturities (€40.3 billion, down 5.7%).

Debt issuances (and admissions) by Spanish private issuers. Term and country of issuance

FIGURE 4



Source: Bank of Spain, Bloomberg and CNMV.

1 Data on issuance abroad in 2025 (available up to November) are presented on an annualised basis for comparative purposes.

2 Asset and investor management

- **After two years of sustained growth, the savings rate of Spanish households appears to have stabilised and even edged down slightly, standing at 12.3% of disposable income at the end of the third quarter** (four-quarter cumulative data), compared with 12.7% in September of the previous year. As a result, the differential with the euro area widened slightly, where the savings rate stood at 15.2% in June 2025. This modest decline was reflected in household financial asset acquisition, which fell by 0.1 percentage points compared with end-2024, to 5.8% in September 2025 (four-quarter cumulative data, net terms). In 2025, unlike in 2023 and 2024 – when rising interest rates led households to increase investment in term deposits and fixed income instruments – there was stronger growth in holdings of means of payment (cash and demand deposits), with inflows of almost €55 billion over 12 months[12] (3.3% of GDP). By contrast, households reduced their positions in term deposits and fixed income securities (-€15 billion, 0.9% of GDP). Investment in investment funds also remained high, in line with recent years (€53 billion, 3.2% of GDP), above the 2.9% recorded in 2024.

- **Strong net subscriptions and favourable market performance resulted in an increase of more than 12% in total assets under management of CISs (provisional data up to November), exceeding €473 billion.[13]** The breakdown of this change between net subscriptions and portfolio performance (available up to September) shows that net subscriptions exceeded €25 billion, while net returns amounted to almost €13.5 billion.[14] The number of unit-holder accounts reached 17.8 million, having increased by nearly 1.2 million since end-2024. These accounts corresponded to 5.75 million investors, compared with 5.3 million end-2024.[15]

- **With regard to fund subscriptions, inflows into fixed income funds were particularly notable.** Despite the slight downward trend in interest rates – which has already had a negative impact on investment in term deposits and fixed income securities, as noted above – fixed income funds continued to attract by far the highest net subscriptions, amounting to €28 billion over nine months. By contrast, passive funds and global funds recorded the largest net redemptions, totalling almost €1.9 billion and €1.7 billion, respectively.

- **Assets under management of foreign CISs marketed in Spain continued to grow in 2025,** at a faster pace than domestic CISs, **increasing by 16.1% between January and September 2025[16] to reach €322 billion.** As a result, foreign CISs now account for more than 40% of the total assets of CISs marketed in Spain.

- **Retail investor participation in Ibex 35 trading increased significantly in 2025 compared with the previous year, reflecting the growing weight of this investor segment in the markets (see Figure 5).** Retail investors accounted for 7.6% of total trading volume on the buy side and 11.9% on the sell side (6.3% and 8.0% in 2024, respectively).

12 Between September 2024 and September 2025.

13 Data include investment funds and open-ended collective investment companies (SICAVs).

14 In the third quarter alone, net subscriptions amounted to €7.8 billion and net returns to €8.6 billion.

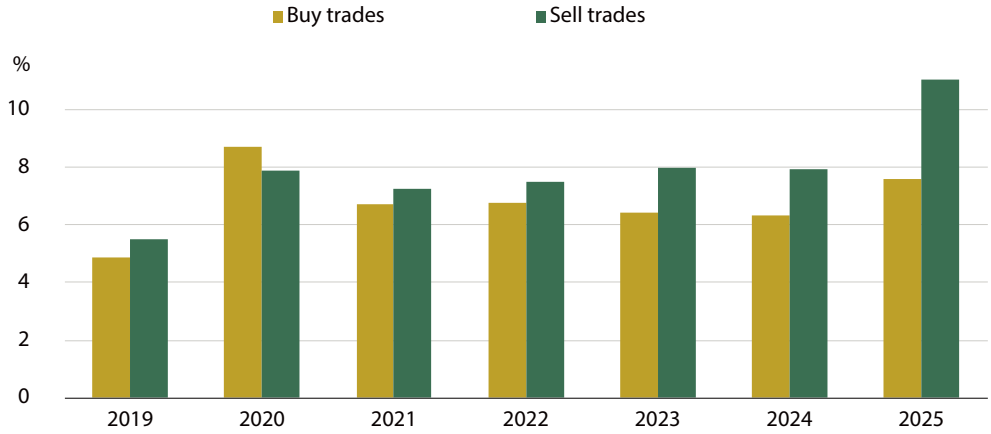
15 These figures may overstate the actual number of investors, as they add together the unitholders reported by each CIS management company. The same investor may therefore be counted more than once if they hold funds managed by different management companies.

16 Provisional data.

- **Given this increasing presence in equity markets, close monitoring of investor protection risks is essential.** The proliferation of messages on social media can influence retail investors, prompting them to make hasty decisions without adequately assessing the associated risks. Behavioural biases such as FOMO (fear of missing out) or the pursuit of viral trends may result in investment decisions that are not aligned with investors' risk profiles. At the same time, greater retail participation driven by the digitalisation of trading increases exposure to different forms of fraud. It is therefore important that investors are able to distinguish between legitimate platforms and unauthorised firms ("boiler rooms"). The CNMV regularly publishes on its website information on identified unauthorised firms in order to warn investors and plans to adopt additional measures to combat fraud and enhance public awareness.

Retail investor participation in trading of Ibex 35 securities

FIGURE 5



Source: CNMV.

3 Risk assessment

3.1 Key uncertainty factors

3.1.1 Geopolitical risks and other sources of political uncertainty: renewed rise at the start of the year

- **Geopolitical uncertainties remain elevated,** particularly following the US Military intervention in Venezuela in early January, which has introduced a new focal point of global instability. This development adds to the prolonged conflicts in Ukraine and the Gaza Strip, the intensification of tensions in the Middle East – especially involving Iran – and an international environment marked by commercial and strategic frictions among major powers. In the wake of events in Venezuela, the possibility of further US military actions – including in Greenland, a territory under Danish sovereignty, or in other countries – has been discussed. Such actions could heighten tensions between the United States and other major powers, notably Russia and China, and increase the risk of fragmentation among allied nations.

  These factors could not only intensify existing tariff policies but also complicate international coordination mechanisms. Beyond increasing overall uncertainty, these developments heighten the risk of adverse shocks to financial markets, with potential contagion effects and revisions to expectations regarding economic activity, inflation and asset valuations.

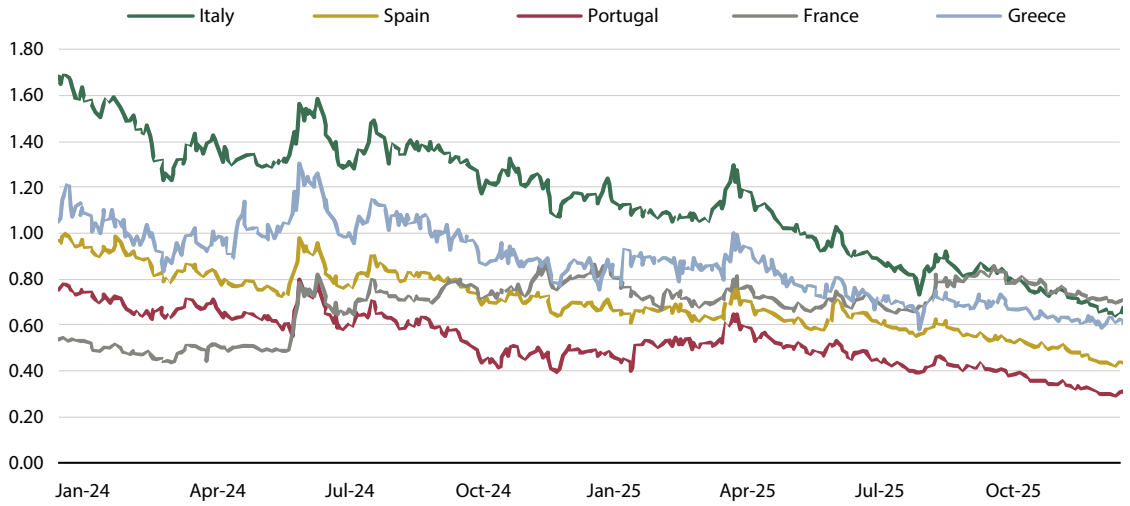
- **Political instability in Europe remains a significant risk, though its intensity appears to have moderated in recent months.** Sovereign debt market indicators show no signs of vulnerability in general terms, with risk premiums in the main European economies declining in the second half of the year. The most notable exception was France, where the risk premium rose between August and September amid doubts over the government's ability to implement credible fiscal reforms. This pushed the French risk premium above that of other European economies such as Italy and Greece (see Figure 6). The decline in sovereign risk premiums across European countries was largely due to the comparatively sharper rise in the yield on 10-year German sovereign bonds, which closed the year at 2.85%, up 50 bp from the start of the year. This increase was primarily driven by plans to raise public spending on defence and infrastructure.

- **Finally, on the domestic political front, the recent situation has been shaped by prolonged and growing tensions between political parties.** This environment continues to hamper decision-making in a context of high parliamentary fragmentation and increases the risk of episodes of instability and volatility.

Sovereign risk premiums (yield spread with the German a 10-year bond)

FIGURE 6

Percentage points



Source: Eikon Refinitiv.

3.1.2 Macroeconomic environment: strong performance of the Spanish economy, supported by domestic demand

- **In the third quarter of 2025, Spanish GDP grew by 0.6% (estimated data), bringing the year-on-year rate to 2.8%, 0.1 percentage points (pp) lower than in the previous quarter.** Despite this slight deceleration, Spain's growth continues to outpace that of the major economies,[17] with the euro area as a whole recording average year-on-year growth of 1.4% (see Figure A5). This moderation was reflected in the labour market, with the unemployment rate rising by 0.2 pp in the third quarter to 10.5% (0.1 pp lower than at the end of 2024). Available public finance data point to a slight improvement, with the general government deficit[18] reaching 0.61% of GDP at the end of October (0.96 % a year earlier).

- **The inflation rate stood at 2.9% year-on-year in December, edging down for the second consecutive month after having risen by more than 1 pp over five months.** Between May and October, inflation climbed from 2% to 3.1%, before easing to the aforementioned 2.9% at year-end. The core rate[19] held steady at 2.6%, following a 0.4 pp increase since May. At a disaggregated level, the largest price rises continued to be in fresh food (+6.2%), followed by services (+3.7%).[20] **The gap between Spain's CPI and that of the euro area has widened progressively since April, reaching 1 pp.**

- **The latest growth projections for 2025 and 2026 have been revised upward, with private consumption and investment as the main drivers of activity.** The Bank of

[17] For example, Germany's growth rate in the third quarter of 2025 stood at 0%, while Italy's was 0.1% and France's 0.5%. In year-on-year terms, the growth of these 3 economies was 0.3 %, 0.6 % and 0.9 %, respectively.

[18] Excluding local authorities.

[19] That is calculated by excluding the most volatile elements from the general index, specifically energy and fresh products.

[20] Energy prices, which had recorded the sharpest increases in September and October (6.5% year-on-year), moderated in November and December to close the year with a rise of 3.4%.

Spain estimates that Spain will grow by 2.9% in 2025 and 2.2% in 2026, 0.3 and 0.4 pp higher, respectively, than in previous estimates. Euro area growth forecasts, meanwhile, remain below those for the Spanish economy, at around 1.4% in 2025 and 1.2% in 2026. The improvement in growth forecasts has in turn led to lower deficit and public debt ratio estimates for both 2025 and 2026: these are projected at 2.5% and 100.6% of GDP respectively in 2025, falling to 2.1% and 99.1% this year.

- **No changes to ECB benchmark interest rates are expected in the coming months,** having remained unchanged since 5 June at 2.15%, 2.40% and 2.00% (for main refinancing operations, the marginal lending facility and the deposit facility, respectively). The ECB's inflation expectations, close to 2% for both this year and next, would support this outlook.

  By contrast, in other economies such as the United States and the United Kingdom, central banks have recently cut interest rates and may continue to do so in the near future, particularly in the United States. In the latter, where rates stand in the 3.50%–3.75% range, a key factor will be pressure on the central bank from the Trump administration, which is intent on continuing the rate-cutting cycle.

3.2 Categories of financial risk

3.2.1 Market risk: increasingly relevant in markets showing signs of overvaluation

- **Market risk remains the most significant in an uncertain environment that could lead to a correction in asset prices – and even negative contagion spirals – particularly for those assets where valuations are stretched and the perceived risk of overvaluation is greatest.** Some investors may be underpricing the risks in their portfolios, meaning that any shock—whether a lower-growth scenario, an inflation uptick, an escalation of military conflicts or trade tensions, or even a sudden spike in risk premiums in certain economies – could trigger valuation corrections, with the sharpest falls in those assets and markets with the most elevated valuations.

- **P/E ratios[21] have risen significantly over the past year across many markets, especially in Europe,[22] where they have moved above their historical averages. Risk premiums have fallen in tandem.** The Eurostoxx 50 P/E ended the year at around 16, above its historical average of 13.4, while the US& SP stood at 22.5, compared with its average of 16.8. For the Spanish index, the December P/E was broadly in line with its historical average (13.3). The increase in these standard valuation metrics has been uneven across companies and sectors,[23] with the highest readings concentrated in US markets and in sectors such as technology, AI (data centres) and consumer goods (see Figure 7).

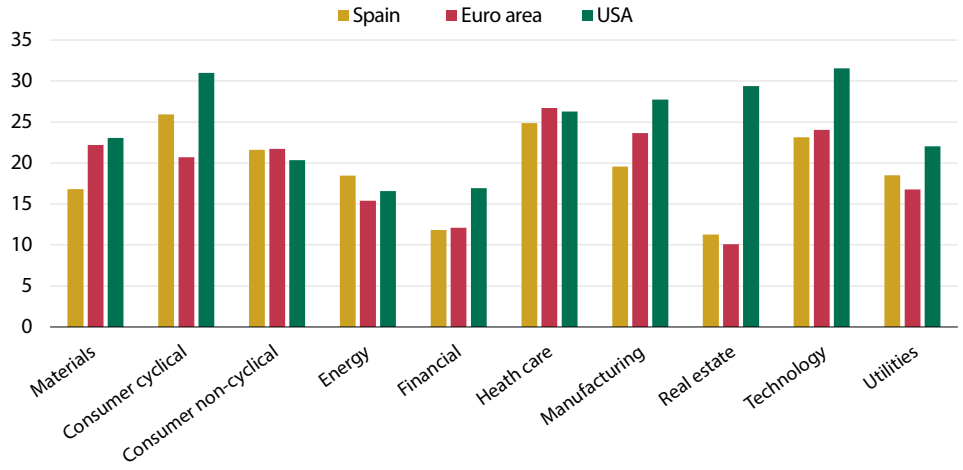
[21] The P/E ratio is a standard market indicator that relates a company's share price to its expected earnings (also per share). High values (or values above the historical average) are typically associated with overvaluation, and vice versa for low values.

[22] European markets have now joined US markets in standing above their historical averages.

[23] In fact, in the United States these ratios have remained at similar or even lower levels than at the start of 2025, whereas in both Spain and the euro area they have risen markedly in the financial, energy and industrial sectors and in utilities.

Sector P/E ratio by region

FIGURE 7



Source: Eikon Refinitiv.

- **In debt markets, asset market risk remains at contained levels, though it could increase – particularly at the longer end of the curve – as a result of plans to boost public spending in many economies.** A loss of confidence in the debt sustainability of certain economies, especially those with greater political instability or higher debt burdens, could give rise to transient episodes of volatility or contagion to higher-risk assets. Although risk premiums on high-yield corporate debt, subordinated debt and even lower-rated sovereign debt remain low, continued monitoring is essential.

- **Finally, within the scope of market risk, the crypto-asset sector warrants specific attention.** This is an area that requires ongoing monitoring, given its high volatility – borne out year after year – which in 2025 saw capitalisation reach new all-time highs and is becoming increasingly interconnected with the traditional financial system, as discussed below.

3.2.2 Credit risk: strong performance, but growing risk in private capital markets

- **Financial indicators and credit ratings for Spanish issuers remain broadly unchanged. However, certain circumstances could have medium-term implications.** The increase in debt issued by some governments could affect their credit ratings, while many financial and corporate issuers face significant short- and medium-term maturities, potentially giving rise to refinancing risk or heightening investors' perception of credit risk. Moreover, in the current context of strong private capital growth, any uncertainty or difficulty in the sector could become a source of contagion to the capital markets and affect credit risk assessments.

- **For the Spanish public sector, the vulnerability stemming from its high level of indebtedness persists, standing at 103.2% of GDP in the third quarter,[24] barely 1 pp lower than a year earlier.** Private sector debt levels are far lower: 43.1% of GDP for households and 61.4% for non-financial corporations, the lowest figures in 25 years. Within the private sector, the pick-up in household financing stands out, with growth exceeding 4% (particularly consumer-related lending: 12.6%).

[24] The European Union average stands at 81.9% of GDP.

3.2.3 Liquidity risk: remains at satisfactory levels

- **Market liquidity risk remains low,** with very narrow bid-ask spreads on the Ibex 35 and 10-year sovereign bonds. The picture is similar for private debt assets, with no significant tensions observed in the bid-ask spreads of a sample of bonds issued by Spanish companies (see Figure A23).

3.2.4 Contagion risk: rising correlation between financial sectors

- **In the closing months of last year, contagion risk rose to a high level, driven primarily by increased correlation between the financial sectors of the Spanish economy.** Two of the three indicators making up the assessment of this risk closed 2025 at a high-risk level, while the third stood at moderate risk. The latter, which captures the correlation between yields on different Spanish fixed income and equity asset classes, declined in the third quarter before rising in the fourth to a moderate risk level. Correlation levels between Spanish sovereign debt returns and those of the main European economies – already elevated – increased between June and December by an average of more than 10 pp (from 80% to 92%).

- **Correlation between the different financial sectors stood at a high-risk level throughout the second half, something not seen on such a sustained basis since 2009.** This correlation measure,[25] which tracks the performance of indicators across six sectors (money markets, bond markets, non-financial equities, financial intermediaries, exchange rates and derivatives markets), has typically spiked in the past during periods of financial turbulence or instability. At such times, stress can rise simultaneously across many or all segments of the financial system, driving up system-wide correlation. What is particularly striking at present is that very high correlation levels are being observed in conditions that cannot be described as turbulent (albeit marked by considerable uncertainty), meaning that an unexpected shift in any one segment could rapidly spread to the others.

- **The correlation between daily returns on different Spanish asset classes fell sharply in July, a decline that was partially reversed in subsequent months.** The average correlation, which had stood at 0.44 at the end of the first half, dropped to 0.07 at end-July before closing 2025 at 0.24. These movements were driven primarily by the divergent performance of utility stocks relative to other assets, particularly private fixed income, with correlations turning negative for two to three months before returning to positive territory at year-end, albeit at very low levels (between 0.05 and 0.12).

3.3 Risks related to NBFI

- **Investment fund liquidity and leverage indicators point to no significant vulnerabilities.** As noted in previous editions, collective investment vehicles account for by far the largest share of NBFI, well ahead of the other entities in this category.[26] These vehicles therefore receive the closest attention from a financial stability standpoint, with comprehensive and regular analyses of portfolio leverage and liquidity conditions. As set out below, no significant vulnerabilities have been identified.

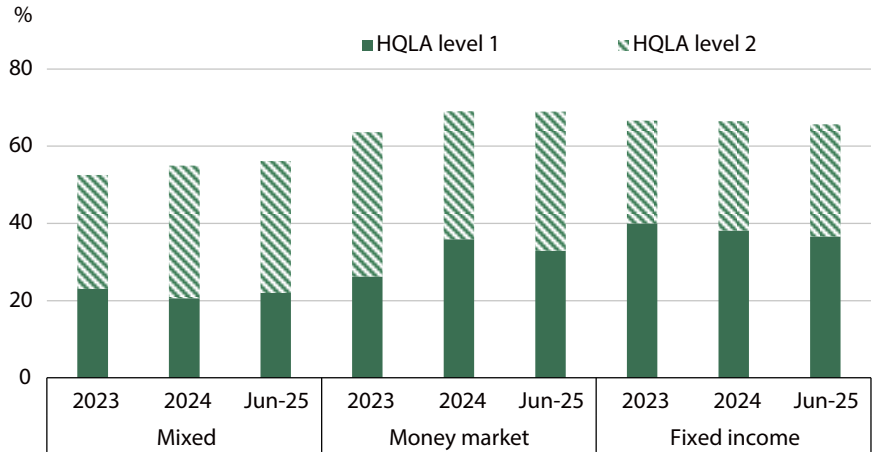
[25] Derived from the calculations underlying the Spanish financial market stress indicator.

[26] At the end of 2024, CISs forming part of the NBFI accounted for 92% of total assets comprising the narrow measure.

- **The liquidity conditions of Spanish investment funds remained satisfactory in June 2025, with portfolio liquid asset levels similar to those at the end of 2024.**[27] The ratio of assets classified as highly liquid (HQLA level 1: essentially cash, deposits and high credit quality sovereign debt[28] [AAA/AA]) stood at 29.8% for all NBFI funds at the end of the first half of last year (30.5% and 29.7% in December 2023 and 2024, respectively). By segment, it was 22.0% for mixed funds, 36.6% for fixed income funds and 32.9% for money market funds. The HQLA level 2 ratio, which adds other liquid assets to the above, stood at 61.6% (59.1% in 2023 and 61.2% in 2024), ranging from 56.1% for mixed funds to 68.9% for money market funds (see Figure 8).

Liquidity conditions of investment funds belonging to NBFI (HQLA)

FIGURE 8



Source: CNMV.

- **CIS[29] leverage levels at the end of June 2025 remained low, well below the legal maximums.** Specifically, gross exposure[30] through derivative instruments for CISs belonging to the NBFI stood at 13.2% of assets, below the 2024 figure (14.4%). Net exposure[31] reached just 7.6%,[32] confirming that no significant vulnerabilities are evident in any of the risks arising from derivatives activity.

[27] This is calculated using the HQLA (high quality liquid assets) ratio, which incorporates information on both the asset type and its credit ratings. Two liquidity level calculations have been performed using this methodology: a more restrictive one (level 1), which includes securities considered fully liquid, and a somewhat broader one, which also includes variable percentages of assets with a medium or high level of liquidity. For liquidity level 2, the liquidity of the CISs in which Spanish funds invest has also been quantified.

[28] This also includes Spanish sovereign debt.

[29] Leverage can be either financial (borrowing) or synthetic (through derivatives). In the case of financial leverage, Spanish law provides that UCITS (other than hedge funds) may only borrow to cover temporary liquidity needs, and even then the amount must not exceed 10% of assets. By contrast, these funds may take on leverage through derivatives, which can significantly amplify risks already present in these vehicles.

[30] Gross exposure is calculated using the methodology proposed by IOSCO (*Final Report on Recommendations for a Framework Assessing Leverage in Investment Funds*, December 2019). Under this methodology, gross exposure is measured as the sum of the nominal amounts of derivative contracts, with the possibility of a delta adjustment in the case of options. It does not include the estimation of leverage through investments in other CISs. If the latter were included, gross exposure would increase to 20.9%.

[31] Net exposure is derived from gross exposure after offsetting long and short positions, thereby neutralising all trades executive out for hedging the risks of the cash portfolio.

[32] This figure was calculated for all funds using the commitment methodology, which measures exposure by converting all derivative contracts into the equivalent investment in the underlying asset. The technical details of this method are set out in the *ESMA Guidelines on Risk Measurement and the Calculation of Global Exposure and Counterparty Risk for UCITS* (CESR/10- 788). These funds represented 94% of the total. Net exposure would rise to 16.0 % if indirect exposure through investments in other CIS were included.

- **Additionally, to thoroughly assess the resilience of investment funds to significant and unexpected increases in redemption volumes, the CNMV conducts half-yearly stress tests on these institutions.** These evaluate fund robustness in the face of a theoretical liquidity shock stemming from a sudden and significant surge in redemptions.[33] The latest analysis, based on June 2025 data and covering several redemption shock scenarios across different fund categories, continues to show that the investment fund industry is broadly resilient to the scenarios tested. The only category in which funds could encounter difficulties under any of the scenarios is high-yield corporate fixed income. Under the most extreme scenario, just two funds would face problems meeting redemptions, accounting for 1.5% of total funds in this category (in asset terms).

3.4 Medium and long-term risks

3.4.1 Sustainability: risks remain relatively contained, but jurisdictional fragmentation and persistent climate threats are a concern

- The **most significant sustainability risks** relate to identifying and addressing the impacts of climate change, preventing greenwashing practices, and ensuring accurate asset valuations that adequately reflect environmental, social and governance (ESG) characteristics. While these risks remain relatively contained, institutions continue to show vulnerabilities in their transition towards more sustainable operations. ESMA, in its report on common supervisory action (CSA) on sustainability risks, concluded that although most entities include sustainability references in their policies, deficiencies persist in certain areas.[34]

- **The latest available data on sustainability-related investment vehicles in Spain show growth in CISs and a decline in fixed income issuance.** The number of CISs classified under Articles 8 and 9 of the Sustainable Finance Disclosure Regulation (SFDR) stood at 394 and 20 (Sep.-2025), respectively, with assets of €177 billion (37.7% of total CIS assets). ESG debt issuance by Spanish issuers in 2025 totalled €17.70 billion, down from €21.27 billion in 2024. Public sector issuance advanced, while financial and corporate issuance declined. By debt type, sustainable issuance rose (16.8%), while social and green issuance fell. Green bonds nonetheless remained the most significant category (67.9%, see Figure A33).

- **On the regulatory front, in 2025 the European Commission reformed sustainability regulations to simplify disclosure requirements and improve consistency with other frameworks such as the Corporate Sustainability Reporting Directive (CSRD).** The level of detail required under the European Sustainability Reporting Standards (ESRS) was reduced and more gradual implementation was permitted, while maintaining transparency. The Omnibus Package, presented at year-end, proposed a two-year delay to the phased entry into force for SMEs and a reduction in the reporting burden. These

[33] These stress tests are applied to UCITS and quasi-UCITS funds. They follow a methodology initially developed by ESMA (within the STRESSI framework) and later expanded by the CNMV (see Ojea Ferreiro, 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#page=25).

[34] For example, lack of detail, absence of documented non-compliance policies, and insufficient staff dedicated to sustainability.

measures aim to strike a balance between regulatory ambition and flexibility, giving companies more time and avoiding duplication. In Spain, the CNMV and the Spanish Accounting and Auditing Institute (ICAC) urged phase 1 companies (those with more than 500 employees) to apply the ESRS in their 2025 reports, even ahead of the formal transposition of the CSRD, recommending that they take advantage of the new flexibilities to ease adaptation.

3.4.2 New technologies, operational and cyber risks: increasingly important for institutions

- **The continuous advance of new technologies and the automation of production processes have made operational and cyber risks increasingly significant.** The current geopolitical context heightens these risks, with cyberattacks growing in both number and sophistication at a general level and particularly in the financial sector. This is one of the most attractive targets for malicious actors, as it is a critical part of the economy that can be disrupted through the interruption of essential services or large-scale fraud, seriously undermining confidence in the system. Reliance on a relatively small number of cloud providers has increased exposure to technological disruptions, with potential knock-on effects across multiple institutions.

- Although quantifying this risk is complex, the partial data available attest to its scale. According to ENISA (the European Union Agency for Cybersecurity), between July 2024 and June 2025 there were 4,785 incidents in Europe, 4.5% of which occurred in the financial sector. Its report[35] identifies Spain as one of the main hotspots for attacks on banking portals, alongside Italy and France. Indeed, according to the European Banking Authority (EBA), 82.4% of European banks rank cyber risk as the leading operational risk. Other studies seeking to quantify losses from cyber incidents point to significant growth in recent years.[36]

- **On the regulatory front,** since January 2025, the implementation of the DORA Regulation has driven financial institutions to shift from reactive management to proactive technological risk planning, structured around five key pillars and including the obligation to maintain a comprehensive information register on all information and communication technology (ICT) providers. In February, the EBA updated its guidelines to align them with DORA and avoid duplication, while in July ESMA published guidelines for monitoring the most critical technology providers, such as cloud platforms, requiring clearly defined contracts and documented plans to ensure operational resilience and the ability to replace providers if necessary.

3.4.3 Artificial intelligence: new possibilities for a growing sector, not without risks

- **In recent years, artificial intelligence has grown in importance, particularly generative AI, establishing itself as a key element in the digital transformation of economies.** What began as a tool for relatively simple services such as chatbot-based

[35] *ENISA Threat Landscape 2025* https://www.enisa.europa.eu/sites/default/files/2026-01/ENISA %20Threat %20Landscape %202025_v1.2.pdf

[36] A study by Howden, based on a 2025 survey of 1,248 ICT managers at corporate firms in France, Germany, Italy and Spain, estimates losses of around US$405 billion between 2020 and 2025 from cyberattacks, with nearly half of the companies surveyed reporting at least one incident during that period. Available at: howden-2025-cyber-report-reboo- ting-growth.pdf

customer support has now been integrated into critical processes within institutions, including risk management, operational process automation and pattern detection. These tools offer significant efficiency gains, but also carry risks, including those linked to high concentration given the small number of providers of such technological services, and cyber risks stemming from growing technology dependence. Potential correlations in the behaviour of both investors and institutions may also emerge, which could amplify the effects of financial disruptions and potentially pose a risk to the stability of the system.

- EU Regulation 2024/1689 (the AI Act), which has been gradually implemented throughout 2025, is particularly noteworthy, establishing prohibitions on unacceptable uses and specific obligations for general-purpose models. Requirements for high-risk systems, including those used for credit scoring, have begun to be applied.

3.4.4 Crypto-assets: high levels of volatility

- **The cryptocurrency market went through markedly different phases throughout 2025 in terms of both prices and trading, as is typically the case.** After several months of corrections, capitalisation reached an all-time high in October at US$4.38 trillion. Prices fell again in the final stretch of the year, shrinking the market to US$3.0 trillion, down 10.4% from the start of the year. Trading volumes were similarly erratic, peaking in February (US$441 billion per day).[37] Before falling to around US$100 billion per day by year-end. Among cryptocurrencies, stablecoins continued to grow in importance, accounting for 9.3% of capitalisation and between 40% and 60% (sometimes more) of daily trading at the end of 2025.

- **This market remained considerably more volatile than traditional financial assets.** Bitcoin volatility, buffeted by geopolitical developments and hacks on various platforms, ended the year at 44.2% (averaging 40.2% in 2025). While somewhat below the levels closer to 50% seen in previous years for this cryptocurrency, these figures remain significantly higher than those of traditional financial assets, even the most volatile such as equities, which only reach volatility levels of 40% or 50% during periods of market turbulence or stress.

- **Given the complexity and high volatility of these assets, it is advisable to monitor their risks closely.** The macroeconomic environment, regulatory developments and technological innovations all continuously affect price movements. The growing interconnections between the crypto-asset market and traditional markets also pose threats to financial stability, as they may amplify contagion risks in the event of financial shocks.

  Beyond the high correlation between different cryptocurrencies, a notable correlation with equity markets is also evident, particularly US equities and especially during periods of turbulence.

[37] Daily trading volumes. Estimated average daily equity trading across all global stock exchanges in 2025 is around 800 billion dollars (World Federation of Exchanges data), meaning that peak crypto-asset trading levels could represent just over 50% of stock exchange trading.

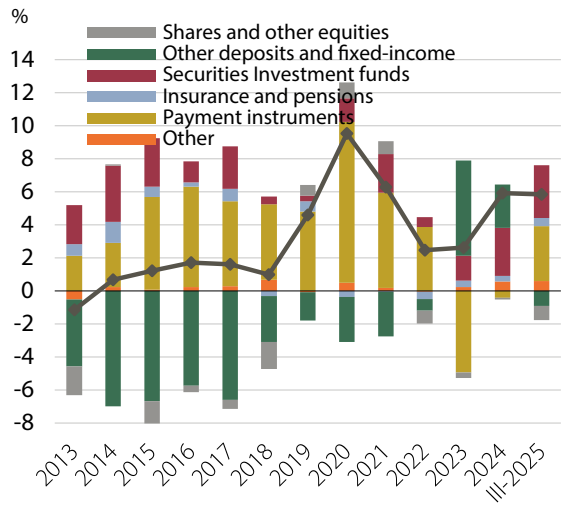
- **In Spain, the CNMV consolidated the application of the MiCA Regulation, which completed its first year of implementation in 2025, through Circular 2/2025,** published on 26 March, which amended previous circulars to bring crypto-asset service providers (CASPs) under direct supervision. By year-end, the CNMV had authorised a total of five such providers.

Annexes

Annex I. Figures

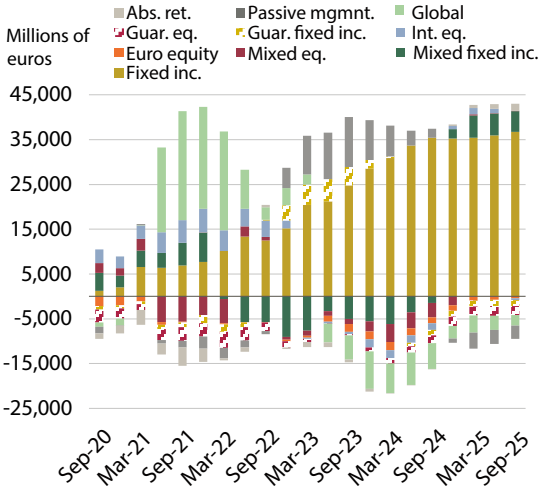
Investors

Figure A1: Households: net acquisition of financial assets (% GDP)



Cumulative data for four quarters.

Figure A2: Net subscriptions to investment funds



Cumulative data for four quarters.

Figure A3: Households: savings (% disposable income)

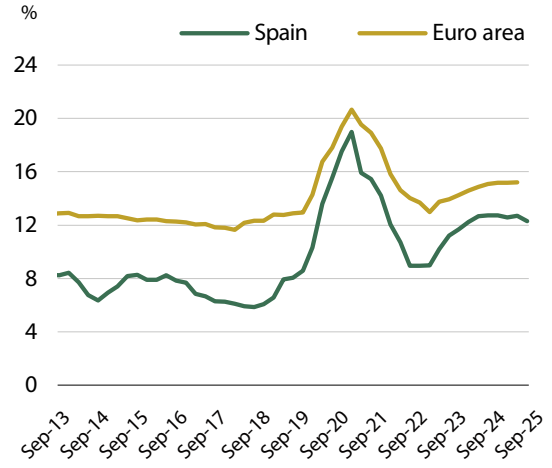
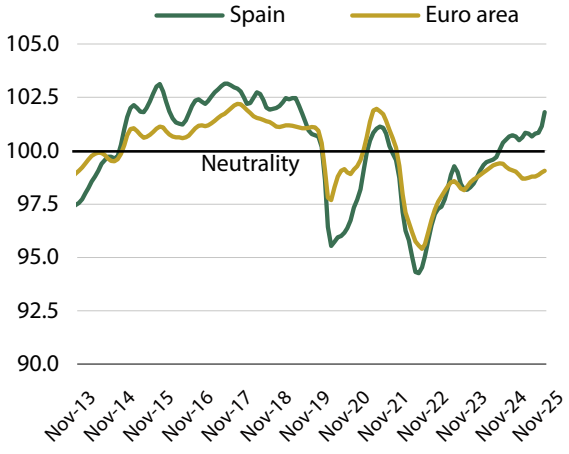


Figure A4: Consumer



Macroeconomic risk: yellow

Figure A5: GDP (year-on-year change)

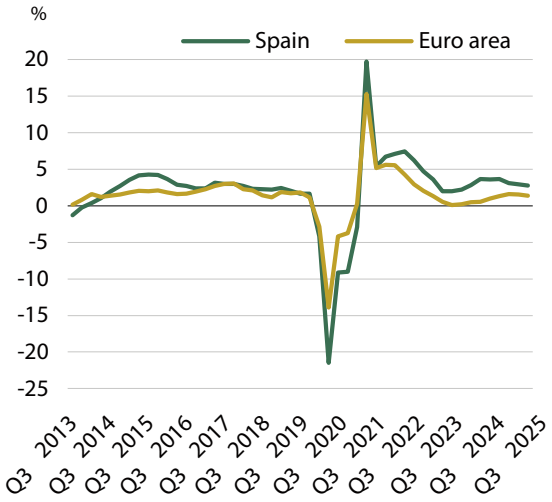


Figure A6: HCPI and core CPI (year-on-year change)

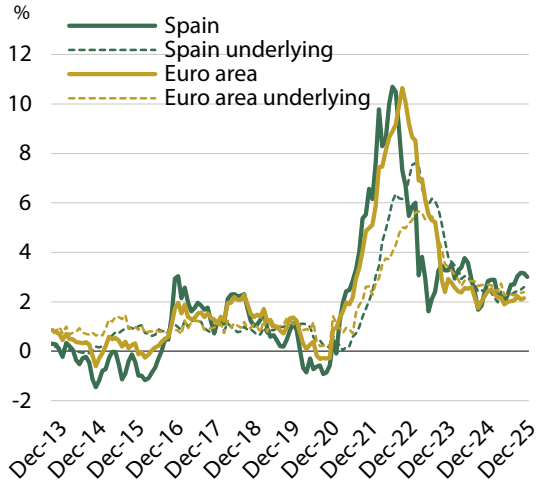


Figure A7: Employment (year-on-year change)

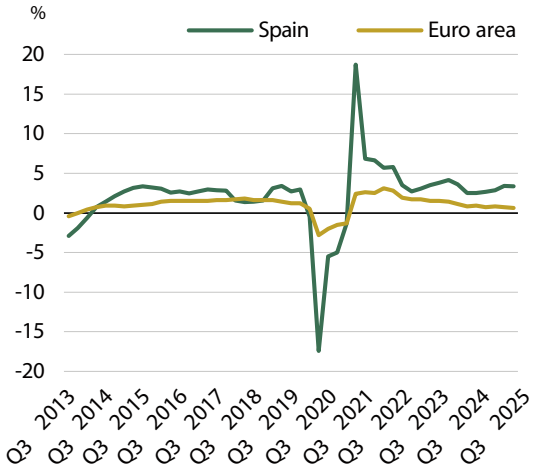
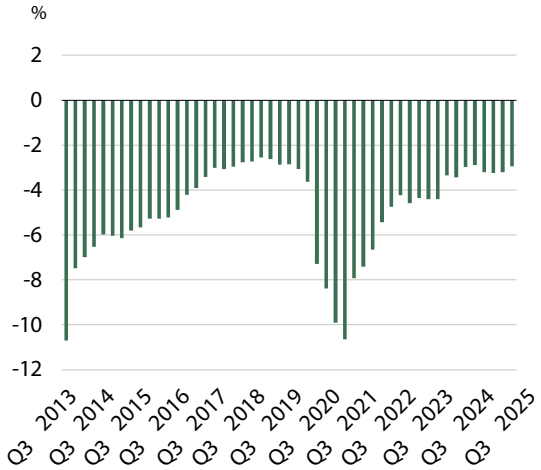


Figure A8: Public deficit (% GDP)



Cumulative data for four quarters.

Figure A9: Exchange rates

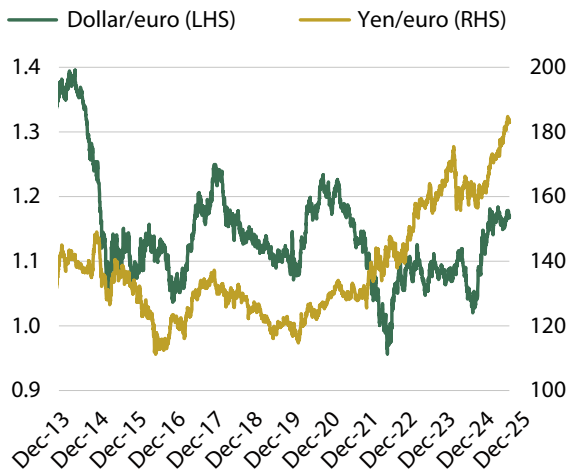
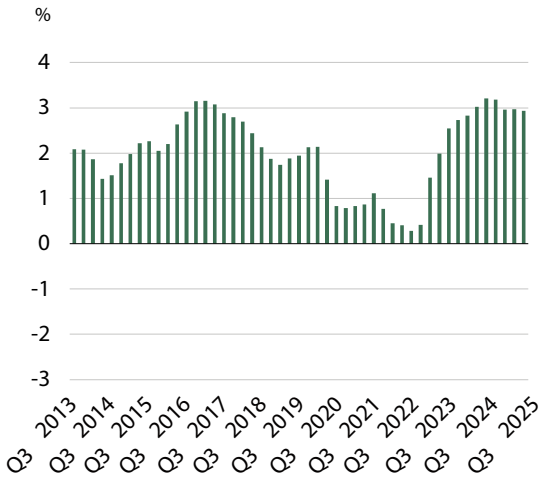


Figure A10: Current account balance (% GDP)



Market risk: yellow

Figure A11: Stock market prices

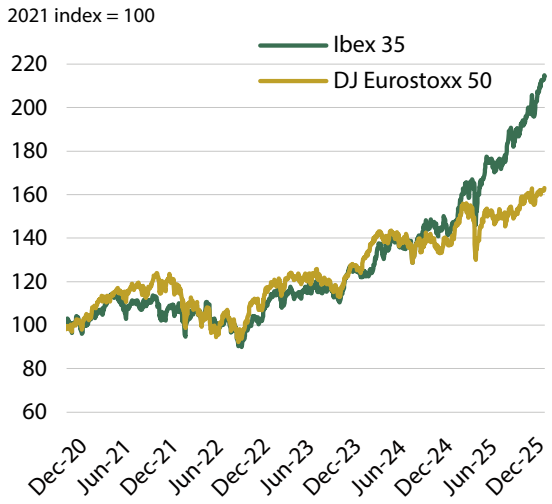
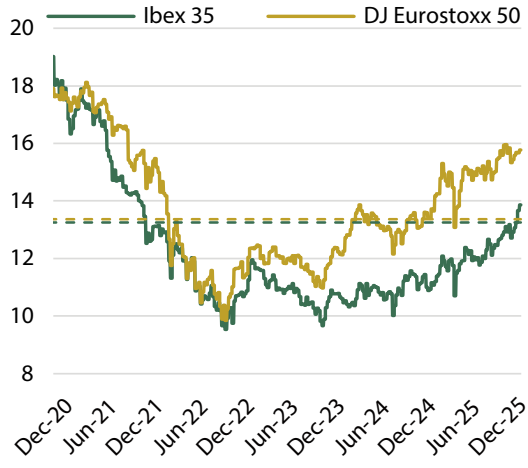


Figure A12: Price-earnings ratio (P/E)



The dashed lines correspond to the average P/E ratio calculated since 2000.

Figure A13: Short-term interest rates (3 months)

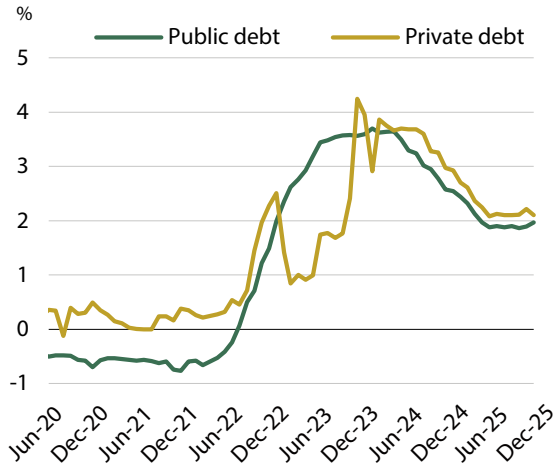


Figure A14: Long-term interest rates (10 years)

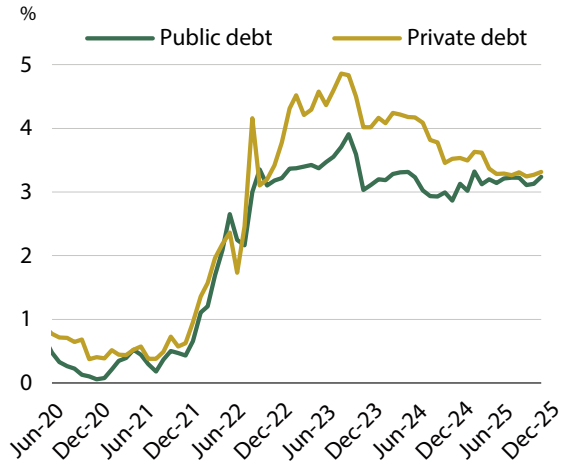
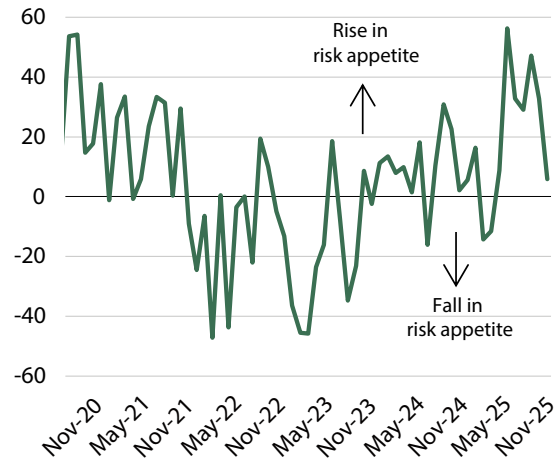


Figure A15: Oil price

Figure A16: Risk appetite (State Street)



Credit risk: green

Figure A17: Non-financial sector financing

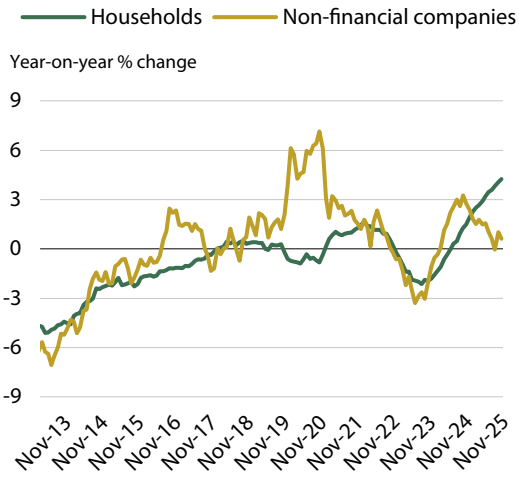


Figure A18: NPL ratio and unemployment rate

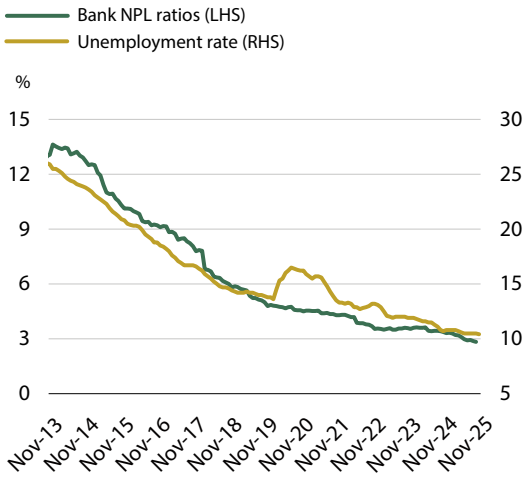


Figure A19: 10-year public debt risk premium (rate spread with Germany)

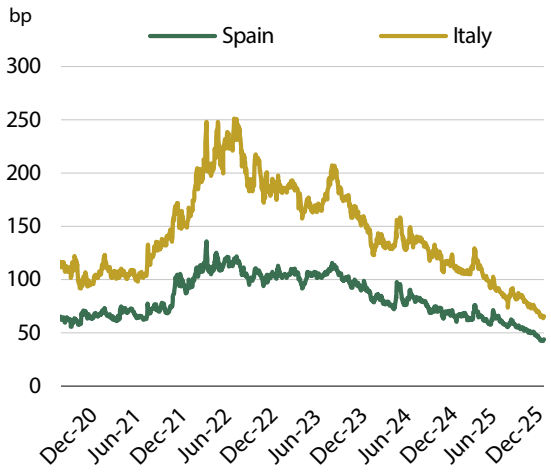


Figure A20: Private debt risk premium (5-year CDS)

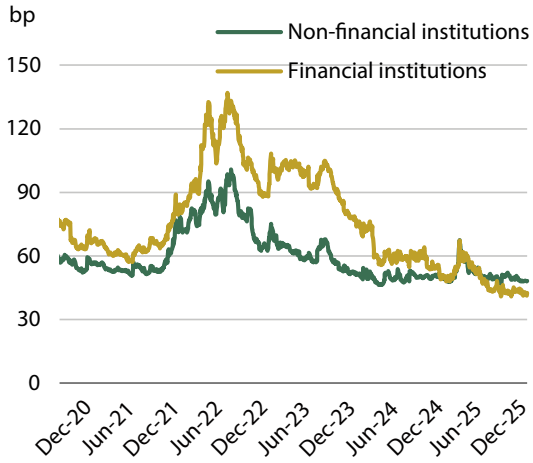
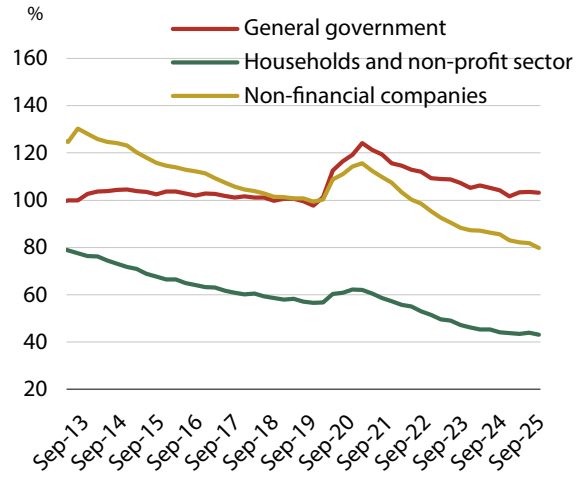


Figure A21: Housing prices (year-on-year change)

Figure A22: Indebtedness (% GDP)



Liquidity, financing and fragmentation risk: yellow

Figure A23: Liquidity debt (bid-ask spread)

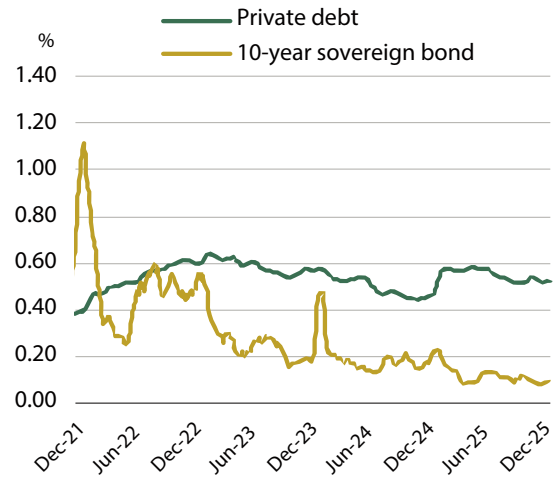


Figure A24: Volatility (1-month moving average)

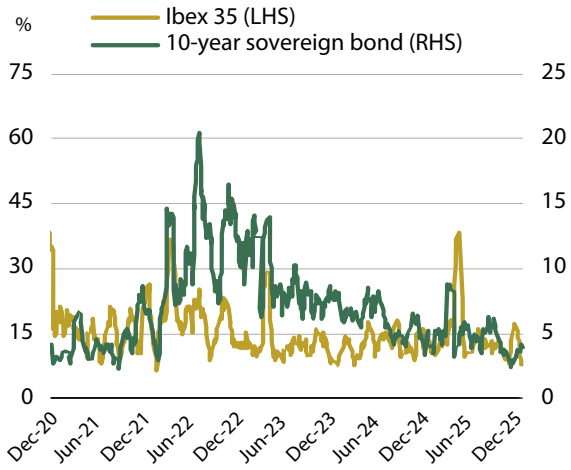


Figure A25: SIBE trading (1-month moving average)

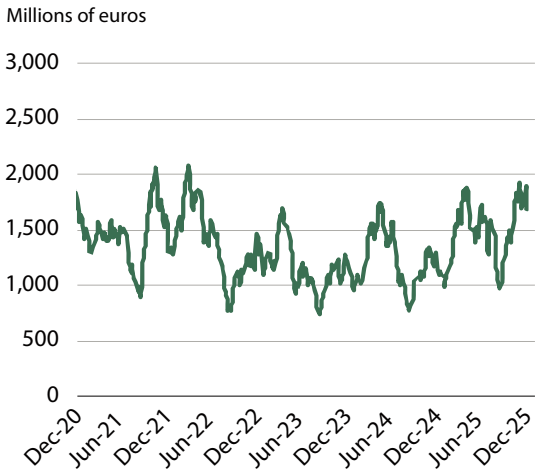


Figure A26: Interbank spread (LIBOR-OIS)

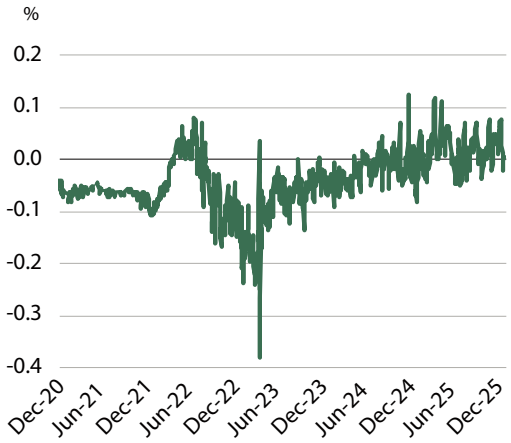


Figure A27: Spread (Spain-EMU) on corporate lending rates

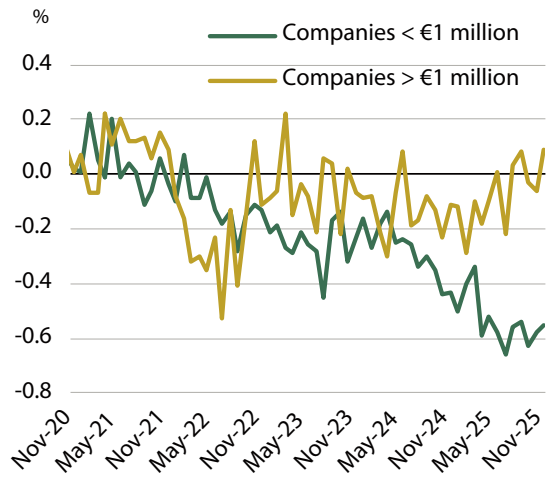
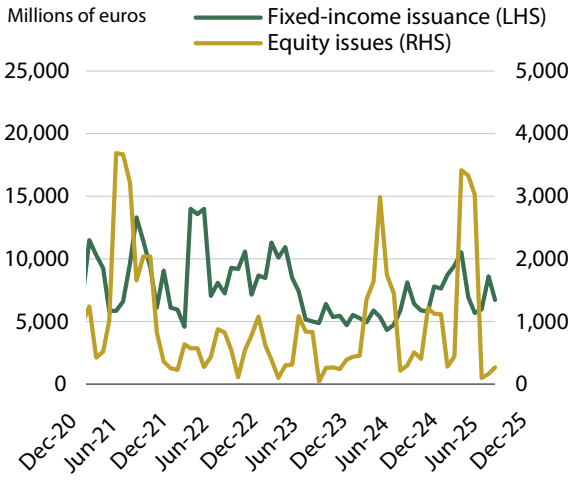


Figure A28: Issues (3-month moving average)



Contagion risk: red

Figure A29: Correlations among asset classes

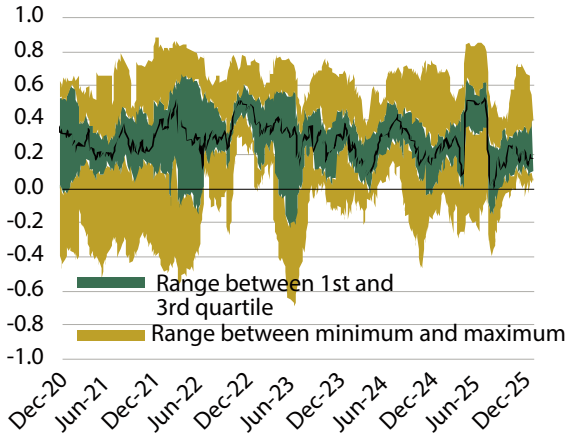
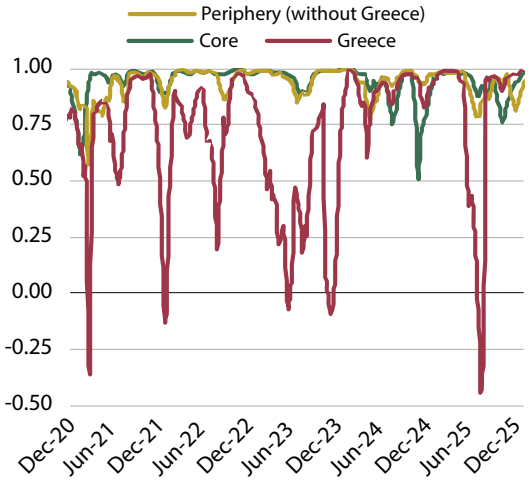
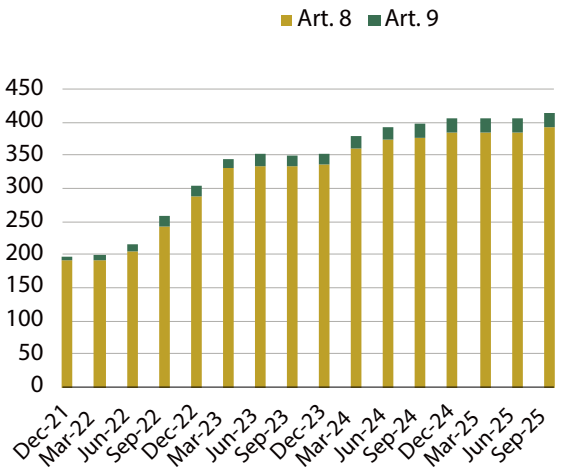


Figure A30: Correlation between the yield on the 10-year Spanish bond and other European bonds



Sustainable finance

Figure A31: CIS articles 8 and 9 (numbers)



According to the SFDR Regulation.

Figure A32: CIS articles 8 and 9 (assets)

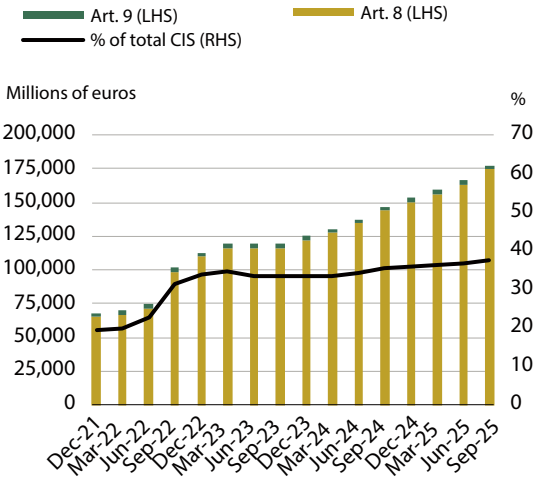


Figure A33: ESG debt issues of Spanish issuers (type)

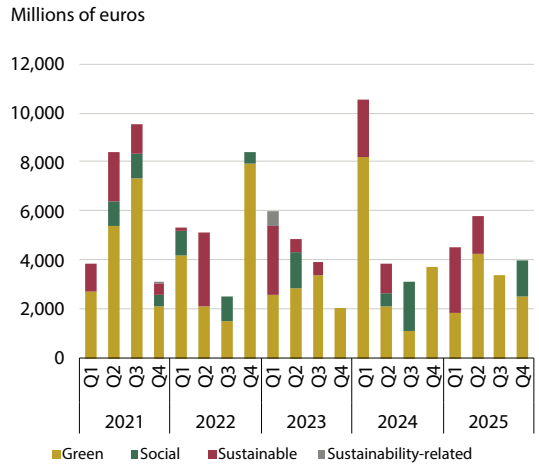


Figure A34: ESG debt issues of Spanish issuers (sector)

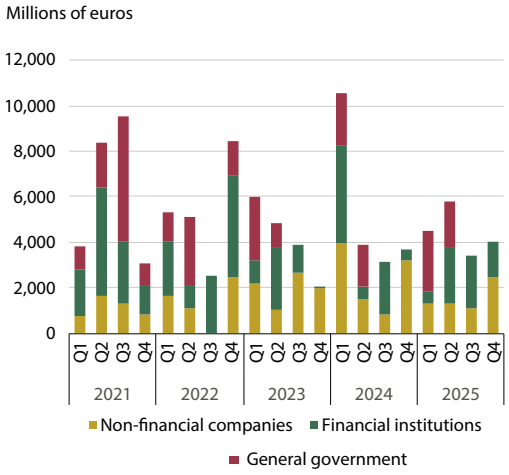


Figure A35: Coal price (EUR/tonne)

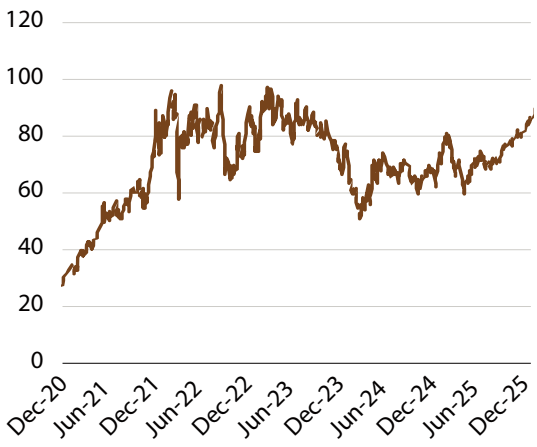
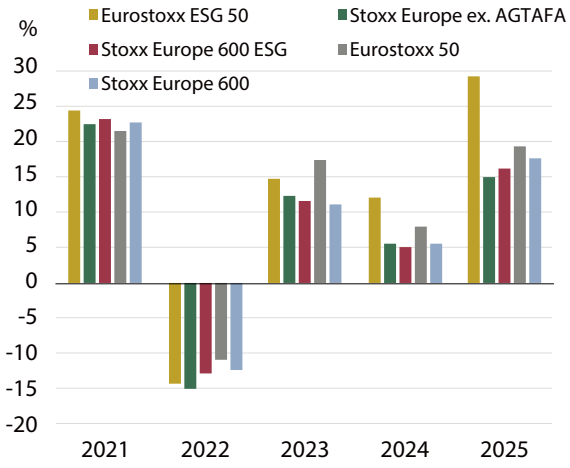
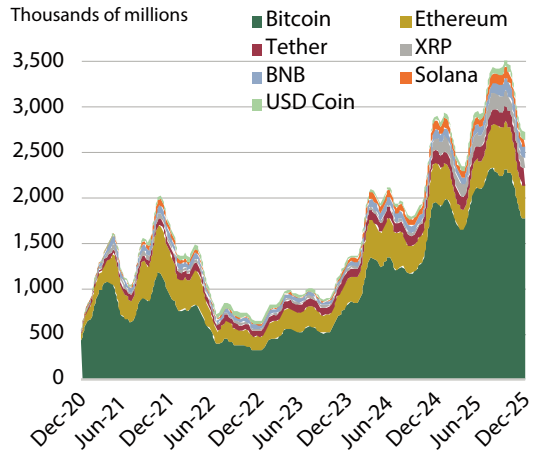


Figure A36: Yield of European ESG equity indices



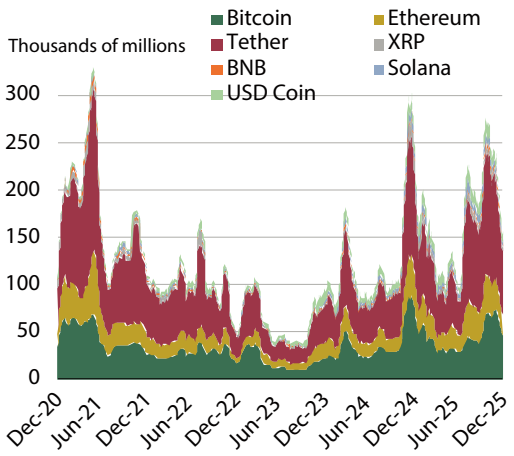
Cryptoassets

Figure A37: Crypto market capitalisation (1-month moving average, US$)



Tether and USD Coin are stablecoins.

Figure A38: Crypto trading (1-month moving average, US$)



Tether and USD Coin are stablecoins.

Figure A39: Non-stable crypto prices (US$)

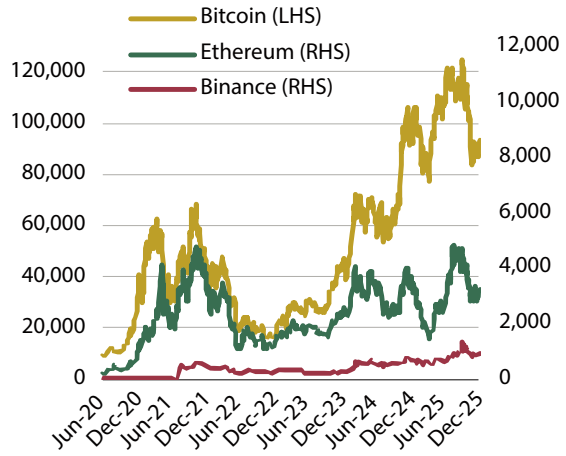


Figure A40: Bitcoin volatility

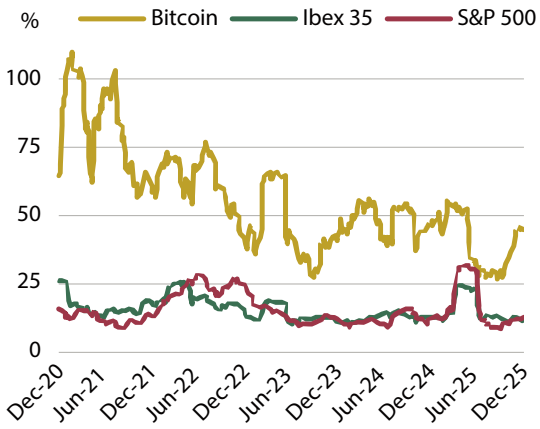
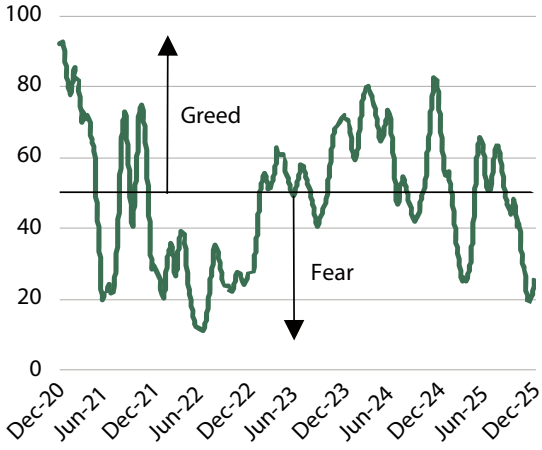
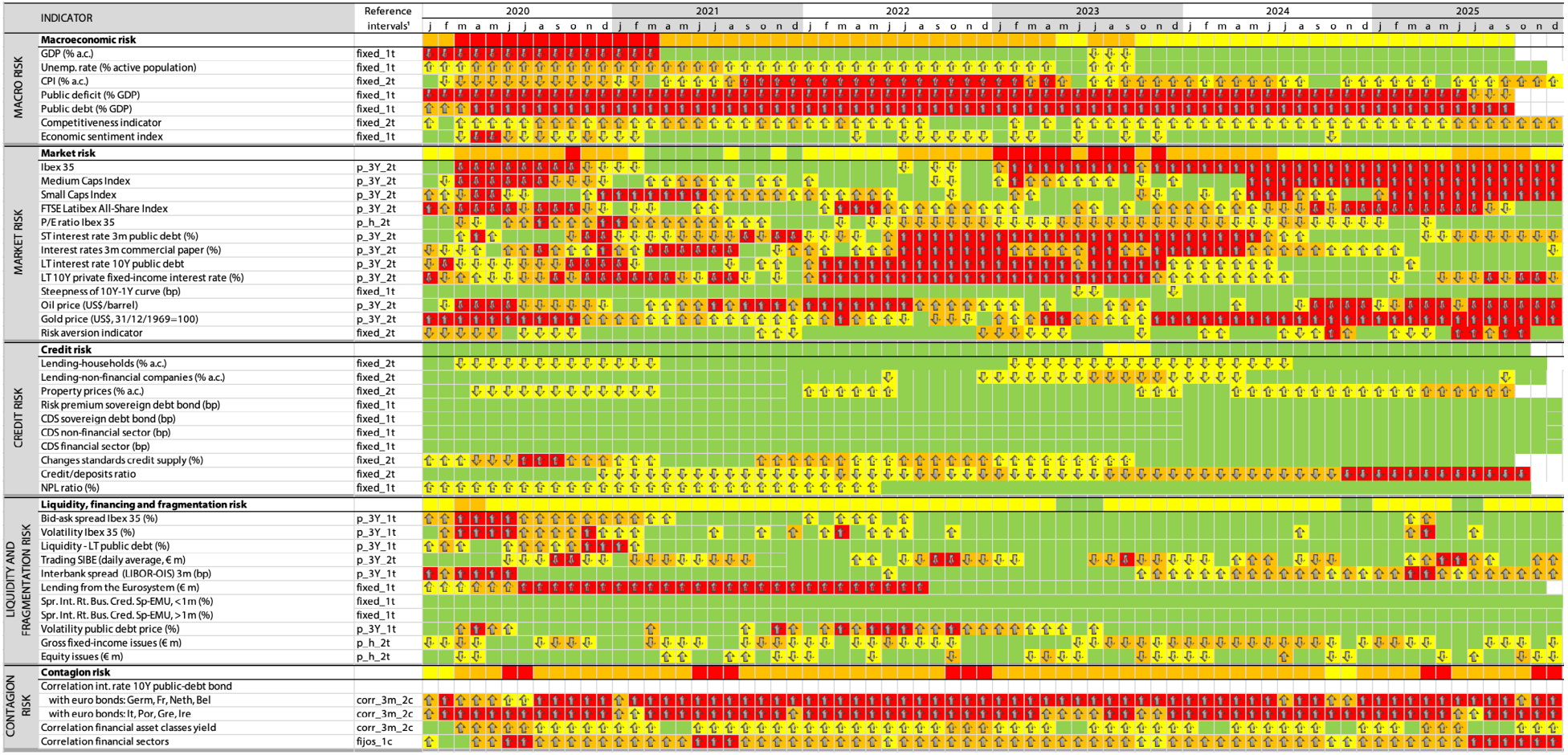


Figure A41: Crypto greed and fear sentiment index (1-month moving)



Annex II. Heat map



Source: CNMV and Refinitiv Datastream.

1 The reference intervals may be: i) fixed: specific numerical limits, one tail (1c) or two tails (2c); ii) corr_3m: correlation coefficients calculated over 3-month windows; iii) p_3A: percentiles calculated in rolling 3-year distributions, one tail (1c) or two tails (2c);, or iv) p_h: percentiles calculated on the distribution of the historical series.

2 Data until 6 October.

Annex III. Explanatory notes

Sources of information

Most of the quantitative information used to compile the indicators shown in the figures and heat maps in this note comes from Refinitiv Datastream and Bloomberg. The following exceptions stand out: i) CIS data is obtained from the information available at the CNMV; ii) ESG issuance data is obtained from information from the Bank of Spain, the CNMV and Dealogic; iii) cryptocurrency capitalisation and trading indicators come from CoinMarketCap; and iv) the bitcoin sentiment indicator is obtained from Kaggle.

Spanish financial market stress index (Figure 1): The stress index provides a real-time measurement of the systemic risk facing the Spanish financial system, ranging from zero to one. To this end, stress is evaluated in six segments of the financial system (equities, fixed income, financial intermediaries, the money market, derivatives and the exchange markets) which are then aggregated to obtain a single figure. The stress for each segment is evaluated by means of cumulative distribution functions, with the subsequent aggregation taking into account the correlation between segments. In this way, the index places greater emphasis on stress situations in which correlations are very high. In general terms, the stress variables chosen for each segment correspond to volatilities, risk premiums, liquidity indicators and sudden loss of value. Econometric estimates indicate that index values below 0.27 correspond to periods of low stress in the financial system, while values between 0.27 and 0.49 correspond to periods of medium stress, and values above 0.49 indicate periods of high stress. The methodology of this index follows the work of Holló, Kremer and Lo Duca in 2012, who proposed a similar index for the euro area. For further details on recent movements in this index and its components, see the CNMV's statistical series ("Market stress indicators"), available at http://www. cnmv.es/portal/Menu/Publicaciones-Estadisticas-Investigacion.aspx. For further information on the methodology of this indicator, see Cambón, M.I. and Estévez, L. (2016). "A Spanish Financial Market Stress Index (FMSI)". *Spanish Review of Financial Economics*, Vol. 14, No. 1, pp. 23–41, or as CNMV Working Document No. 60 available at: http://www.cnmv.es/ DocPortal/Publicaciones/MONOGRAFIAS/Monografia_60_en.pdf.

Heat map: summary by market and risk category (Figure 2 and final annex): The heat maps provided in this Note show the monthly trend of the most important indicators in the Spanish financial system in recent years. They contain information on domestic securities markets, the banking sector and also certain macro-economic variables. The main purpose behind the production of these maps is to provide an idea of the position of the reference indicators in relation to their recent history (in most cases three years) or with certain predetermined limits, by associating this position with a certain colour. When an indicator changes from green to a warmer colour (orange or red), it does not necessarily mean the existence of risk. Instead, it indicates a movement towards an extreme value (very high or very low) over the period or within the range of values used as a reference. If an indicator remains at extreme values for a prolonged period, it may suggest the need for a more detailed analysis; that is to say, it may be interpreted as an alarm signal. The most comprehensive heat map includes 43 indicators,[38] five of which are prepared by the CNMV. The large number of indicators taken into consideration allows us to make an analysis of vulnerabilities for each segment of the financial markets (equity income, fixed income, banking sector, etc.) or for different risk categories (macro, market, liquidity, credit, etc.), as shown in Figure 2. The colours of these aggregates

[38] Since June 2017, the heat map includes an additional indicator: the bid-ask spread of the 10-year sovereign debt bond.

(markets or risk categories) are assigned by calculating a weighted average of the values of the individual indicators they comprise. In each aggregate, one of the individual indicators determines the generation of the overall colour: for example, in macro-economic risk, the indicator used to calculate the aggregate is GDP. For more detail on the methodology and analysis of these maps, see Cambón, M.I. (2015). "Identification of vulnerabilities in the Spanish financial system: an application of heat maps". *CNMV Bulletin*, Quarter I, pp. 103–115.

Contagion risk: The indicators that make up this block are somewhat more complex. We set out the most important of these indicators below:

- **Correlation between asset classes (Figure A27).** The correlation pairs are calculated using daily data in three-month windows. There are six asset classes: sovereign debt, private fixed income from financial institutions, fixed income from non-financial firms and Ibex 35, unlocking, financial companies, utilities and other sectors. A high correlation between the different classes of Spanish assets would indicate the possible existence of herding by investors. This situation could lead to high volatility in periods of stress. Meanwhile, diversification would- zero fewer advantages since in this context it would be more difficult to avoid exposure to sources of systemic risk.
- **Correlation between the yield on the 10-year Spanish bond and other European bonds (Figure A26).** The correlation is calculated using daily data in three-month windows. The countries of the core group are Germany, France, the Netherlands and Belgium, and the peripheral countries are Portugal, Italy, Greece and Ireland.

Investors

- **Consumer confidence index (CCI) (Figure A30):** The Index is an indicator of household consumption and savings prospects resulting from their answers to questions related to their expected financial situation, their feelings about the overall economic situation, unemployment and savings capacity. A value above 100 indicates an increase in consumer confidence in relation to the future economic situation, due to which they are less likely to save and, consequently, more likely to increase their expenditure in the following 12 months. Values below 100 denote a pessimistic attitude towards the economic situation, which leads consumers to save more and consume less.

Sustainable finance

- **Yield of European ESG equity indices (Figure A36):** ESG equity indices include Eurostoxx 50 ESG and Stoxx Europe Sustainability ex AGTAFA. The first is based on the Eurostoxx 50 index, based on which certain exclusion criteria are applied and, additionally, 10% of the companies with the worst ESG rating is excluded and replaced by companies with a higher ESG rating and in the same sector. The excluded companies are, for example, those that do not fulfil the United Nations Global Compact Principles, those that are involved in arms disputes or tobacco producers. The second index related to ESG criteria contains information of a variable number of companies from 17 European countries that explicitly exclude those that obtain income from alcohol (A), gambling (G), tobacco (T), armament (A), firearms (F) and adult entertainment (A)

Crypto-assets

- **Bitcoin historical volatility (Figure A40):** Annualised standard deviation of daily price variations in 90-day windows.
- **Bitcoin sentiment indicator (greed and fear index)[39] (Figure A41):** This Index is a metric that assesses the prevailing market sentiment. It is based on different factors such as volatility, transaction volume, partners media sentiment and surveys. It is measured on a scale of 0 to 100, in which the low values are interpreted as excessively negative market perceptions (fear) and the high values are understood as excessively optimistic perceptions (greed).

[39] Kaggle. "Bitcoin & Fear and Greed".

Exposure of Spanish CISs to technology and artificial intelligence companies in 2023, 2024 and June 2025

Carmen López (*)

* Carmen López belongs to the Research and Statistics Department of the CNMV.

Contents

Abstract

This study assesses the exposure of Spanish collective investment scheme (CIS) portfolios to financial assets issued by technology and artificial intelligence (AI) companies, with a particular focus on the so-called "Magnificent Seven" (M7): Apple, Microsoft, Amazon, Alphabet, Meta, NVIDIA and Tesla. Their leadership in technological development and their sheer size in terms of capitalisation warrant specific analysis. The sharp appreciation of many technology companies in recent years, underpinned by strong earnings, together with concerns over possible share price corrections, are the motivation for this analysis, since gauging CIS exposure to these companies can shed light on the potential market risk they face.

CIS portfolio data have been analysed at three points in time: December 2023 and 2024, and June 2025. Both direct exposure – through investment in equities and debt instruments issued by these companies – and indirect exposure through the portfolios of other CISs in which they invest have been assessed, drawing on data from the CNMV, Thomson Refinitiv and Lipper. One of the key contributions of this study is precisely the assessment of indirect exposure, which has entailed examining the portfolios of those other CISs in which the Spanish CISs invest. The analysis covers all funds, broken down by category (equity, fixed income, money market and mixed funds) and by the five largest management companies in the Spanish market: Banco Santander, BBVA, CaixaBank, Ibercaja and Kutxabank. CIS exposure to these companies has also been assessed at an individual fund level within each category.

The overall results reveal that average CIS exposure to technology companies stands at 9.6% of assets, 5.7% for AI companies and 3.3% for the M7. The analysis shows that exposure grew between 2023 and 2024, while in 2025 it declined slightly. Just over half of this exposure stems from the purchase of equities issued by these companies, with the remainder split between fixed income assets (16.4%) – also issued by them – and investments in other CISs (almost 30%) that in turn hold technology company positions.

Of the four categories analysed, equity funds have the highest exposure, with an average of 29.2% of assets invested in technology companies (19.8% in AI and 12% in the M7), followed by mixed funds at 10%. Fixed income and money market funds, by contrast, have very limited or negligible exposure to these companies. At an individual level, a relatively small group of funds with very high exposures has been identified, though these are small in size relative to the industry as a whole. The analysis of exposure across the five largest Spanish management companies reveals positions systematically above or below the sector average, some increasing over time, but generally with only small deviations from the overall picture.

1 Introduction

The large-scale emergence of AI has brought about a significant shift in the socio-economic model, marked by early improvements in the efficiency and productivity of processes and decision-making. Since 2023 in particular, interest in AI has grown steadily, both in terms of financial investment and public awareness. Expectations have risen as tools such as ChatGPT have gained widespread popularity, underpinned by training models robust enough to deliver meaningful responses to user queries. This growth has occurred despite warnings from institutions such as the International Monetary Fund (IMF) that the global economy has yet to see AI penetration translate into demonstrable productivity gains (Saiz, 2025).

Rising expectations around the development of AI and technology companies more broadly have fuelled sharp gains in the sector. The Nasdaq 100, a predominantly technology-focused index, appreciated by 188.3% between January 2020 and December 2025, driven by the performance of the so-called "Magnificent Seven"[1] (M7). These companies posted gains ranging from 141.4% for Amazon to 2,956.3% for NVIDIA over the same period. In the case of NVIDIA and Microsoft, market capitalisation surpassed US$5 trillion and US$4 trillion, respectively, in 2025.

Until recently, the sector's expansion in capitalisation terms appeared justified, broadly in line with corporate earnings, and did not fully mirror the patterns seen in previous bubbles such as the dot-com era. However, concerns over potential overvaluation of technology stocks are mounting, with a degree of market complacency evident as prices appear to be decoupling from companies' growth prospects and fundamentals.

Several events in 2025 underscored the sensitivity of technology stock prices to adverse news. One came on 27 January 2025, when the emergence of low-cost Chinese competitor DeepSeek[2] triggered widespread sell-offs. Another flashpoint was 6 August 2025, when President Trump announced 100% tariffs on semiconductors. Cybersecurity is a further factor to consider. AI companies are vulnerable to share price setbacks caused by cybersecurity failures, which can ultimately undermine their credibility.

It is therefore particularly important to monitor market participants' exposure to these companies, given the potential market risk should a severe price correction occur and the consequent negative contagion spirals across financial markets. From the CNMV's perspective, this monitoring is especially relevant for CISs. An adverse episode could generate significant losses for unitholders and trigger a surge in redemptions that managers would need to address, drawing where appropriate on the available liquidity management tools.

The aim of this study is to quantify the exposure of Spanish CISs to assets issued by technology, AI and M7 companies. A direct precedent is the study published by ESMA in February 2025, entitled *Portfolio investment in AI by EU funds*, which analyses European equity fund exposure to AI companies, focusing on seven specialised indices and classifying as AI companies those appearing in two or more of them. 75% of the AI companies considered are US-based, while 10 are domiciled in East Asia, six in the European Union and four in Israel. The report highlights the sharp growth in exposure to AI companies, which in actively managed funds has risen from 9% of assets in 2021 and 2022 to 14% in June 2024, and in passively managed funds from 9%

[1] The companies classified as the M7 are: Apple, Microsoft, Amazon, Alphabet, Meta Platforms, NVIDIA and Tesla.

[2] This event caused NVIDIA to fall 16.7% in a single day, wiping out over $500 billion in capitalisation – a loss that took almost five months to recover.

to 12%. This increase is partly attributable to M7 stocks, whose weight in active funds doubled in a single year (Bagattini & Piazza, 2025).

The ESMA study observes that the rise in European fund investment in AI companies has kept pace with the increase in their capitalisation, meaning that fund participation in these companies has remained relatively stable, just above 2% of their capitalisation.

This study assesses the exposure of Spanish CISs not only to AI companies and the M7, but also to technology companies more broadly, at three points in time: December 2023, December 2024 and June 2025. Portfolio analysis covers both direct exposure to equity and fixed income assets issued by these companies, and indirect exposure through investments in other CISs. The analysis is conducted at an aggregate level, by category, by sub-fund and by the five management companies with the largest market share in the institutional investment segment.

2 Data

The analysis draws on CIS portfolio data at sub-fund level for December 2023 and 2024, and June 2025. For ease of reading, the analysis refers to investment funds rather than sub-funds.[3] This information is sourced from the confidential returns periodically submitted to the CNMV. Data on CIS investments in other CISs have been obtained from the Lipper Refinitiv database. Thomson Refinitiv data have also been used to identify the sector classification of portfolio companies, along with other characteristics required for the analysis.

CIS sub-funds and assets[1]

TABLE 1

Year	No. of sub-funds	Investment funds (IFs)	Open-ended collective investment companies (SICAVs)	Total assets (millions of euros)
2023	2,162	1,715 (79.32%)	447 (20.68%)	365,992
2024	2,142	1,714 (80.02%)	428 (19.98%)	420,496
Jun.-2025	2,126	1,706 (80.24%)	420 (19.76%)	442,339

Source: CNMV.

1 In December 2023, there were 1,548 IFs in Spain, of which only 35 had more than one sub-fund, and 447 SICAVs. In December 2024, there were 1,553 IFs, of which 35 had more than one sub-fund, and 428 SICAVs. In June 2025, there were 1,468 IFs, of which 48 had more than one sub-fund, and 420 SICAVs.

The analysis also required classifying sub-funds into the main categories: fixed income, equity, mixed and money market, since exposure to the technology sector can vary significantly by category. As Figure 1 shows, the relative weight of the different categories in terms of assets has shifted over the analysis period: mixed CISs fell from 46% in December 2023 to 42% in December 2024 and 40% in June 2025. The equity category remained very stable at 16% in December 2023 and 2024, and 15% in June 2025. Fixed income, by contrast, grew in importance on the back of the interest rate rises of recent years, from 35% in December 2023 to 37% a year later and 40% in June 2025. Money market funds also saw their share of assets rise, from 3% to 5% and 6%, respectively.

The universe of technology companies used to calculate CIS exposure comprises 810 companies: 790 identified in the Thomson Refinitiv database, plus a further 20 added on the basis of belonging to at least two of the seven AI indices considered in the ESMA study (listed below). Table 2 shows the distribution of AI companies by the number of indices to which they belong. The AI company universe for this study totals 84 companies, determined following the ESMA methodology, i.e. selecting those appearing in two or more of the following AI-focused equity indices:

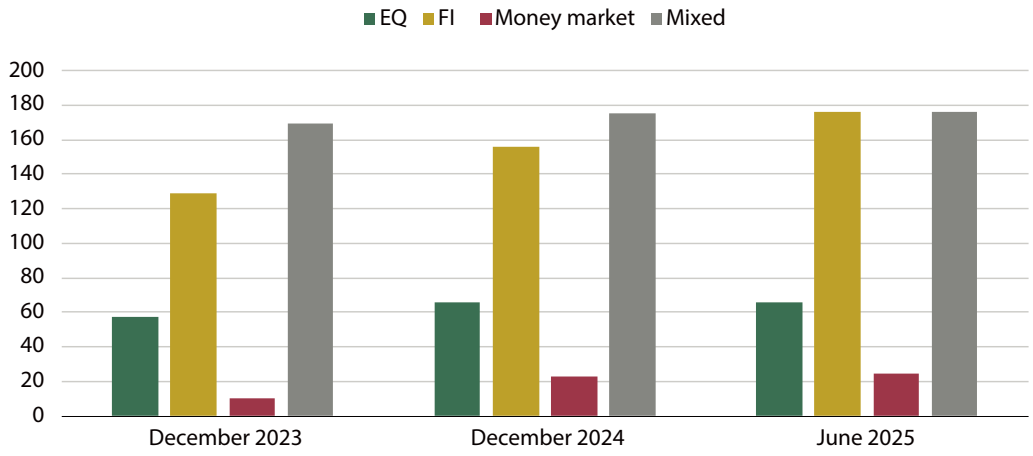
- Nasdaq CTA AI Index
- WisdomTree´s AI & Innovation Index
- ROBO Global´s AI Index
- Solactive´s Generative AI Index

3 See explanatory note to Table 1.

- Morningstar´s Global Next Generation AI Index
- Indxx´s AI
- S&P Kensho Global AI Enablers Index

Asset distribution of CISs by category[1]

FIGURE 1



Source: Own calculations. CNMV.

1 Data in billions of euros.

Distribution of companies in the different AI indices[1]

TABLE 2

No. of indices they belong to	AI companies
2	Accenture, Advantech, Akamai Technologies, Alchip Technologies, ASML Holding NV, Astera Labs, Baidu, Beijing Fourth Paradigm Technology, CCC Intelligent Solutions Holdings, CrowdStrike Holdings, Dassault Systems, Deere & Co, Digitalocean Holdings, Dynatrace, Elastic NV, Epam Systems, Global Unichip, Hewlett Packard Enterprise Company, Hubspot, Infineon Technologies AG, IT, JD.com, JFROG, Latex Semiconductor, Naver, NXP Semiconductors N.V., Open Text NPV, Palo Alto Networks, Pegasystems, PTC, Pure Storage, Recursion Pharmaceuticals, Samsara, SAP SE NPV, Seagate Technology Holdings, Shopify, Siemens AG, Soundhound AI, Symbotic, Tempus AI, Teradata, Vertiv Holdings, Workday.
3	Apple, Arista Networks, Autodesk, Cadence Design Systems, Cloudflare, Datadog, MongoDB, Nice, Okta, Samsung Electronics, SentinelOne, Tencent Holdings, Teradyne, Zscaler
4	IBM, Marvell Technology, Micron Technology, Qualcomm, Salesforce, ServiceNow, SK Hynix, Super Micro Computer, Synopsys, Tesla
5	Adobe, Ambarella, C3.ai, Intel, Oracle, TSMC (Taiwan Semiconductor Manufacturing Co), UiPath
6	Advanced Micro Devices, Alibaba Group Holding, Amazon.com, Broadcom, Meta Platforms, Palantir Technologies, Snowflake
7	Alphabet, Microsoft, NVIDIA

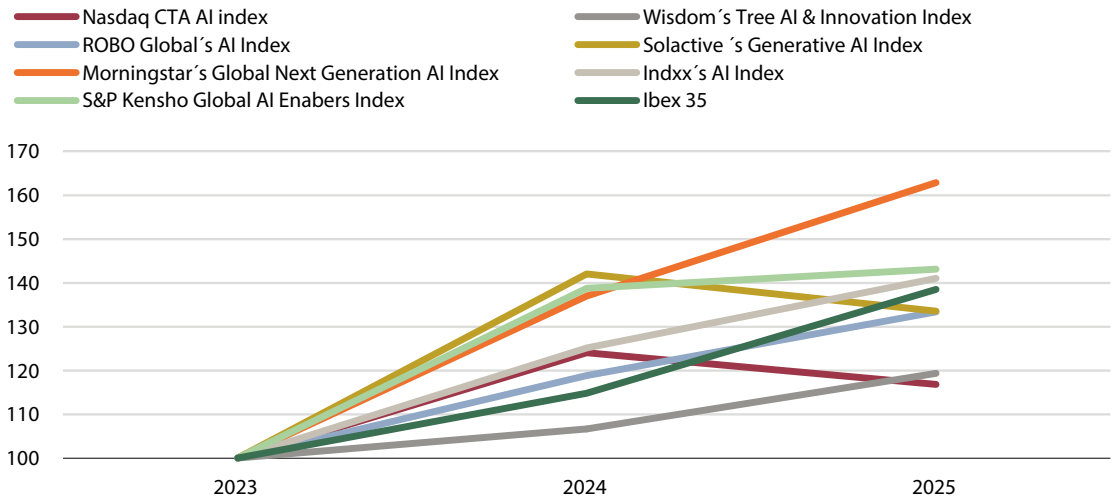
Source: Own calculations based on the composition of the different indices.

1 Composition of the different AI indices as at June 2025.

Inclusion in two or more indices is significant not only because of these companies' capitalisation, but also because of the diversity of companies selected by the indices to represent the sector. This study therefore analyses exposure across three dimensions: i) CIS exposure to the technology sector as a whole, ii) to the subset of AI companies (identified as described above), and iii) to the large companies leading the AI sector, classified as the M7.

Figure 2 shows the performance of the seven AI indices mentioned above since 2023. While all have posted significant gains over this period, there is considerable disparity between them, with divergent performance in 2024 (broadly positive) and 2025 (with some declines). In 2024, the weakest-performing index relative to 2023 was WisdomTree's AI & Innovation Index at 6.7%, while the strongest was Solactive's Generative AI Index at 42%. The Ibex 35 gained 14.8% that year, placing it in the middle of the range. Between December 2024 and June 2025, however, results were highly mixed: the Nasdaq CTA AI Index and Solactive's Generative AI Index fell by 5.8% and 5.9%, respectively, while the S&P Kensho Global AI Enablers Index rose 3.2% and Morningstar's Global Next Generation AI Index rose 18.9%. This only serves to confirm the heterogeneity within this group of companies.

Performance of the seven AI indices and the Ibex 35 (2023–2025) FIGURE 2



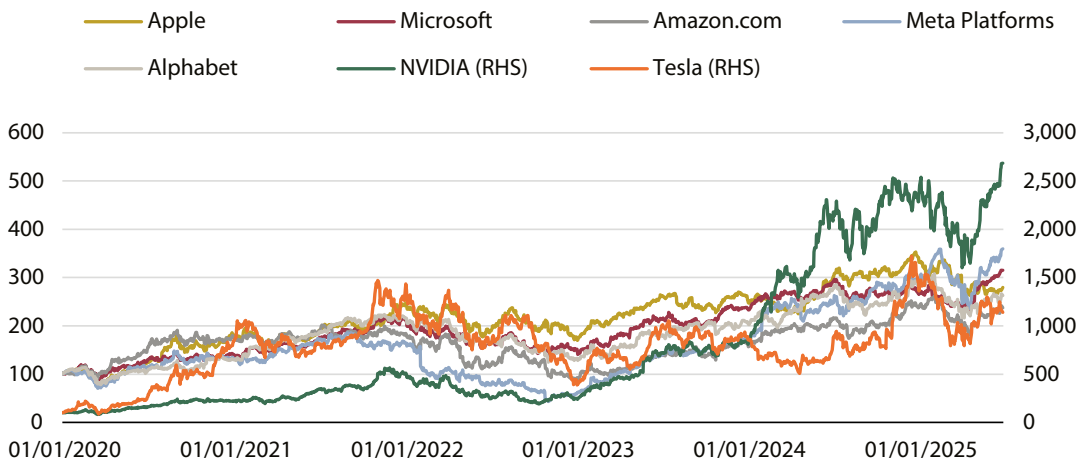
Source: CNMV calculations based on prices published on company websites. Ibex 35 prices obtained from Thomson Refinitiv. 2023 = 100.

Figure 3 shows the performance of the M7 from January 2020 to June 2025, with substantial share price gains across the board. The figure also highlights the heterogeneity within this group, though a common thread is the notable expansion in 2023. In 2024, growth continued at varying intensities, while in 2025 – as with the indices – some companies saw share price declines in the first half, while others continued to advance.

In 2024, the weakest-performing index relative to 2023 was WisdomTree's AI & Innovation Index at 12.1%, while the strongest was Solactive's Generative AI Index at 171.2%. Between December 2024 and June 2025, however, results diverged sharply: Apple, Alphabet and Tesla fell by 18.1%, 6.9% and 21.3%, respectively, while gains were more modest than in 2023 and 2024-flat for Amazon and 26.1% for Meta Platforms.

Performance of the Magnificent 7 (2020–2025)

FIGURE 3



Source: Own calculations based on prices taken from Thomson Refinitiv. 1 January 2020 = 100.

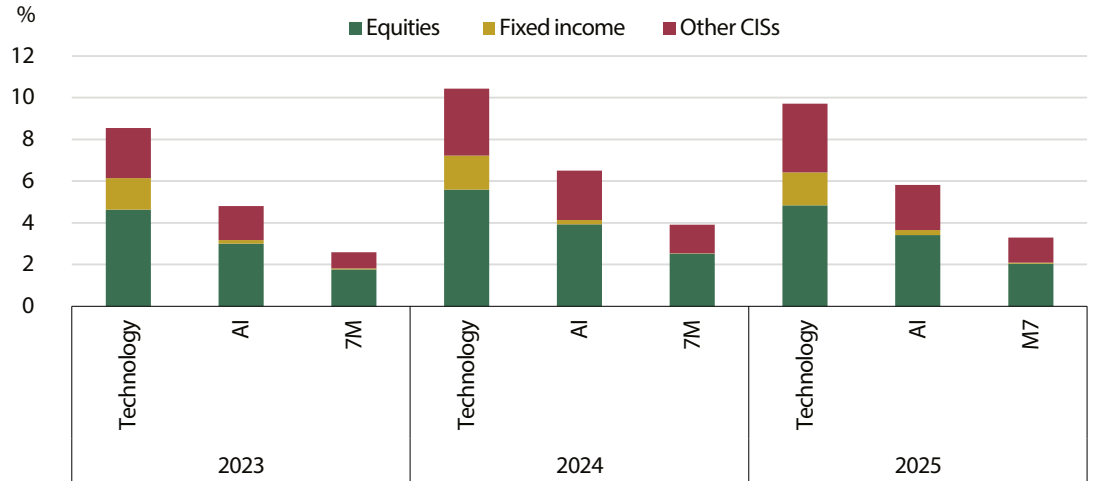
3 Study results

3.1 Total average exposure

The analysis of investment fund portfolios reveals high exposure to technology companies, averaging 9.6% of assets between December 2023 and June 2025. Within this, AI companies account for 5.7% and the M7 for 3.3%. As shown in Figure 4, the average across all three exposure measures grew between December 2023 and December 2024, before declining in the first half of 2025. Exposure to technology companies rose from 8.6% of assets in 2023 to 10.4% in 2024, easing slightly to 9.7% in June 2025. Exposure to AI companies went from 4.8% of assets in 2023 to 6.5% in 2024, ending at 5.8% in 2025. M7 exposure stood at 2.6%, 3.9% and 3.3% over the same periods.

Figure 4 also shows that roughly half of total technology company exposure stems from direct equity investment (averaging 5% of assets), with the remainder split between fixed income assets issued by technology companies (1.6% of assets on average) and investments in other CISs that in turn hold positions in these companies (3% of assets on average). Direct equity and fixed income investment in technology companies rose in 2024 and retreated slightly in the first half of 2025, whereas indirect exposure via other CISs has increased steadily, from 2.4% to 3.3% of assets over the analysis period.

Average exposure to technology companies, AI and M7[1] (% of assets) FIGURE 4



Source: Own calculations. Data as at June 2025.

1 Average direct exposure (fixed income and equity) and indirect exposure (through investments in other CISs).

For AI companies, average exposure followed the same trend as for technology companies overall: it rose between 2023 and 2024, from 4.8% to 6.5% of assets, before falling to 5.8% in June 2025. Equity investments are the primary channel, accounting for over 60% of total exposure, followed by investments through other CISs at 37%, with the remainder – a very small proportion – through fixed income instruments.

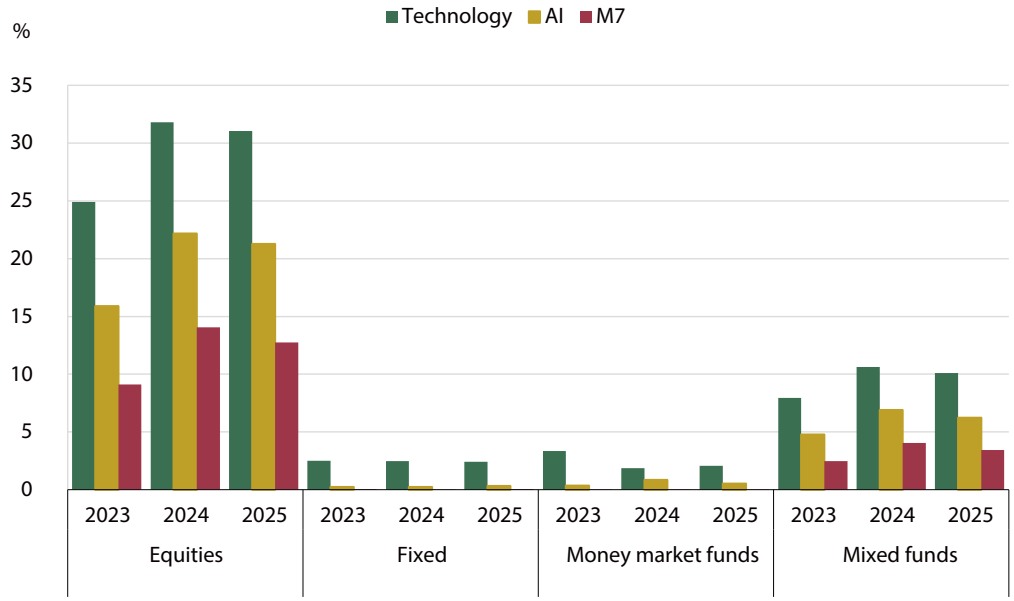
For the M7, average exposure stood at 3.3% of assets, peaking at 4% in 2024. Equity holdings accounted for two thirds of total exposure, with investments in other CISs making up the remaining third.

3.2 Exposure by category

The following section presents the exposure analysis for the four main fund categories: equity, fixed income, money market and mixed funds. As Figure 5 shows, given that exposure to technology companies is predominantly through equity holdings, the key finding is that equity funds have far higher technology sector exposure than other categories, with over 30% of assets invested in such companies. Mixed funds follow at around 10% of assets, while fixed income and money market funds stand at much lower levels (between 2% and 3%). The details are outlined below:

CIS exposure by category[1]

FIGURE 5



Source: Own calculations based on Lipper and CNMV data.

1 Total exposure to technology, AI and M7 companies, through equity, fixed income and other CIS investments, calculated as a percentage of each category's assets. December 2023 and 2024, and June 2025.

3.2.1 Equities

As Figure 5 shows, equity fund exposure to technology companies is considerable, and far higher than for other categories. In June 2025, technology company exposure stood at around 31% of assets, with AI companies at approximately 21% and the M7 at 13%.

A disaggregated analysis reveals that direct exposure through technology company equity holdings rose from 20.7% of assets in December 2023 to 24.2% in June 2025, an increase of 3.4 percentage points (pp). Exposure through investments in other CISs, nearly four times lower, also grew significantly, from 4.1% to 6.9% of assets over the same period.

For AI companies, direct equity exposure is again the most significant exposure: it rose from 13.2% of assets in 2023 to 16.9% in June 2025, an advance of 3.8 pp. Indirect exposure was lower but also rose notably, from 2.7% in 2023 to 4.3% in 2024 and 4.4% in June 2025, an increase of 1.6 pp.

Comparing these findings with the ESMA study's estimates of European equity fund exposure to AI companies, Spanish CIS exposure appears somewhat higher: European fund investment rose from 9% to 14% of assets between 2021 and June 2024,[4] while Spanish fund exposure went from 13.2% to 16.9% between 2023 and June 2025.[5] Two qualifications limit this comparison, however: i) the time periods do not overlap (the ESMA analysis is earlier, ending roughly where the present study begins, so the differences may in fact be smaller), and ii) equity funds carry far greater weight in the European industry – close to 30% of assets – than in Spain, where they represent 15%. The risk implications are therefore also different.

For M7 exposure, equity investment grew from 7.9% in December 2023 to 10.4% in June 2025, an increase of 2.5 pp. Indirect exposure rose from 1.2% of assets in 2023 to 2.3% in June 2025 – small levels, but nearly doubling in 18 months.

3.2.2 Fixed income

Fixed income funds have shown small and stable exposure to technology companies, barely fluctuating between 2.4% and 2.5% of assets over the analysis period (see Figure 5). Although investment in these companies grew significantly in absolute terms, it did so at a broadly similar pace to the category's overall asset growth. Estimated exposure to AI companies ranged between 0.2% and 0.34% of assets, while M7 exposure stood at between 0.03% and 0.05% – very low levels in both cases.

3.2.3 Money market funds

As with fixed income funds, money market fund exposure to technology companies is modest and has been falling, from 3.4% of assets in December 2023 to 2.1% in June 2025 (see Figure 5). Exposure to AI companies was far lower still (rising from 0.35% to 0.54%), while M7 exposure was virtually negligible (0.02–0.03%).

3.2.4 Mixed funds

Mixed funds have the second-highest exposure to technology companies after equity funds. This exposure grew over the analysis period, reaching 10.1% of assets in June 2025, broken down as follows: 3.1% in direct equity investment, 5.7% in indirect investment through other CISs, and the remainder in fixed income. Unlike equity funds, therefore, this category's technology company exposure is channelled primarily through investments in other CISs.

[4] These percentages refer to active funds. For passive funds, exposure grew from 9% to 12% over this period.

[5] These data refer only to direct equity exposure to AI companies in Spanish CISs, for comparability with the ESMA study, which focuses on European fund investment in AI equities.

Exposure to AI companies reached 6.2% of assets in June 2025. Here too, indirect exposure exceeded direct equity exposure, at 3.8% and 2.2% of assets, respectively. M7 exposure stood at 3.4% of assets in June 2025 (up from 2.5% in 2023), with almost two thirds attributable to indirect investments.

3.3 Exposure at individual level

3.3.1 Equity funds

Analysis at the most disaggregated level is particularly important for equity funds, given that – as described in the previous section – they have the highest technology sector exposure. This analysis reveals how fund exposure is dispersed around the mean (or median) and whether individual exposures cluster closely around it or whether some funds have very high exposures, placing them in a position of greater potential vulnerability.

Figure 6, which presents box plots for the three exposure types calculated (technology sector, AI companies and M7), reveals several noteworthy trends:

i) Average fund exposure grew throughout the period under review, meaning that the decline in the asset-weighted average discussed in the previous section can be attributed to moderating exposure among the largest funds.

ii) The dispersion of fund exposure has widened over time. In 2023, for technology sector exposure, 50% of funds with intermediate exposures[6] (interquartile range) had exposures ranging from 8.1% to 26.5% (a spread of 18.4 pp). By December 2024, this range had shifted to 10.5–33.9%, and by June 2025 to between 11% and 37.4% (a spread of 26.4 pp). The pattern is similar for AI and M7 exposure.

iii) A significant number of funds have no or very low exposure. In the technology sector, between 17 and 23 funds had no exposure whatsoever – direct or indirect – in their portfolios. The same was true for between 102 and 118 funds in the case of AI companies, and between 192 and 204 for the M7. As the lower panels of Figure 7 show, the bulk of assets are concentrated in funds with low exposures.

iv) A group of funds with very high exposures[7] has been identified, leaving them more vulnerable to shocks in the technology sector. For technology sector exposure, between 9 and 25 funds (depending on the year) are identified as having very high exposure (represented by dots in Figure 6), in some cases exceeding 90% of assets. The aggregate assets of these funds were relatively small and declining over time, accounting for 6.9% of equity category assets in 2023, 4.3% in 2024 and 3.7% in June 2025. As a proportion of total CIS assets, these figures were 1.1%, 0.68% and 0.54%, respectively.

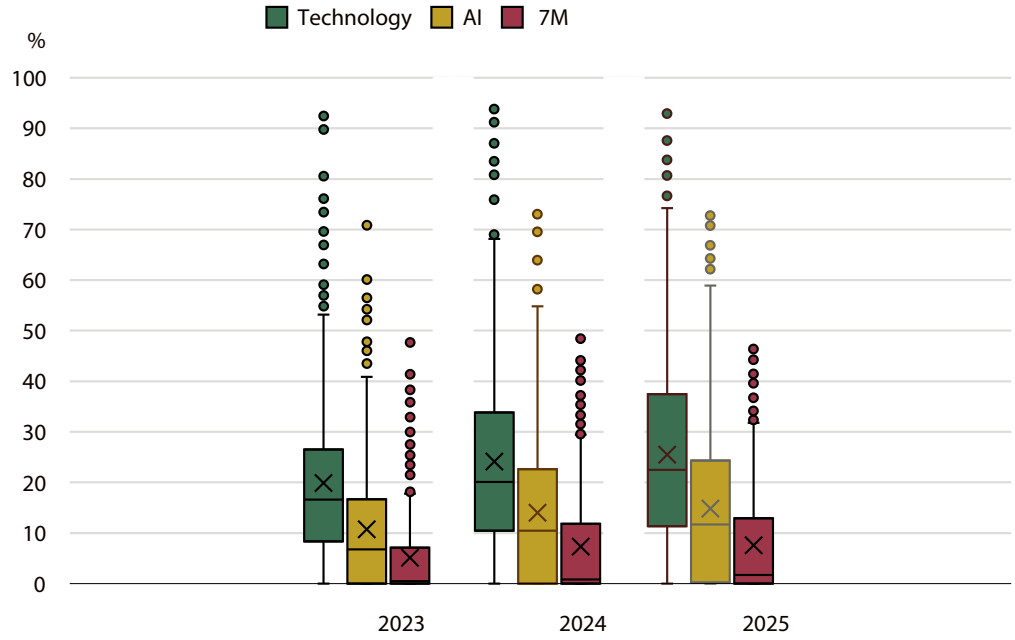
[6] The interquartile range excludes the 25% of funds with the lowest exposure and the 25% with the highest. In the figure, this corresponds to the limits of the box itself.

[7] In a statistical sense. This group comprises all funds whose exposure exceeds the upper whisker of the box plot, calculated as 1.5 times the interquartile range (i.e. the third quartile minus the first).

For AI company exposure, between 6 and 15 funds with very high exposures were identified, in some cases exceeding 70% of assets. On average, these funds represented 4.6% of equity category assets and 0.61% of total CIS assets over the period studied.

Dispersion of exposure for the equity category[1]

FIGURE 6



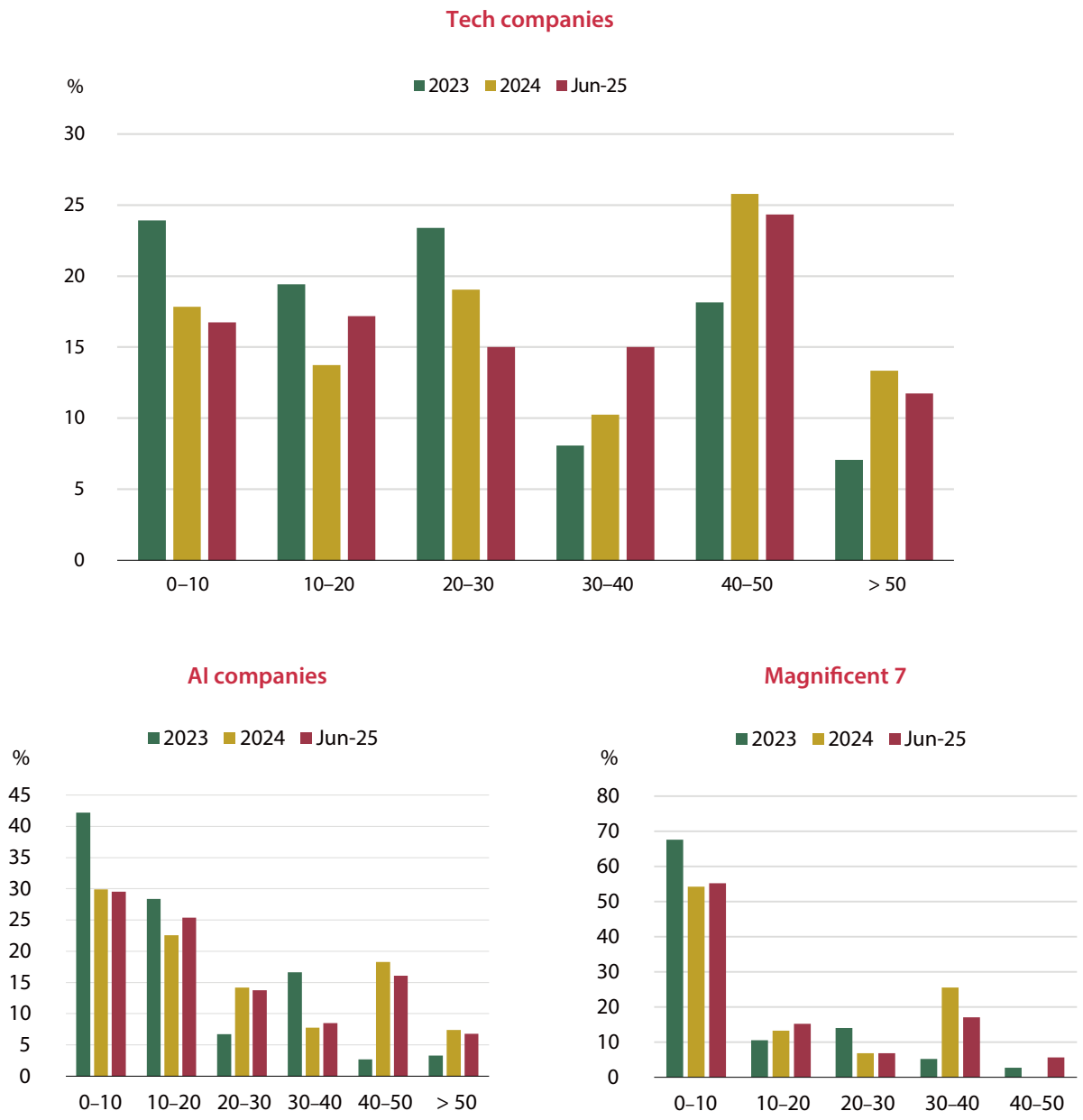
Source: Own calculations.

1 This box-and-whisker plot shows the dispersion of exposure to technology, AI and M7 companies. The y-axis shows exposure as a percentage of assets. The edges of the box represent the first and third quartiles, with the simple mean (cross) and median (line).

Turning to the funds with the highest exposure in asset terms (see Figure 7), in all three cases the share of assets accounted for by funds with significant exposures has grown over time. In June 2025, 11.7% of equity category assets invested in technology companies were held in funds with exposure exceeding 50% of their portfolio, up from just 7.1% in 2023. Similarly, for AI, 6.8% of assets had exposure above 50% in June 2025, compared with 3.3% in 2023. For the M7, 5.7% of assets had exposure exceeding 40% in June 2025 (2.7% in 2023).

Distribution of CIS assets by exposure[1]

FIGURE 7



Source: CNMV.

1 Percentage of equity category assets (y-axis) exposed to technology, AI and M7 companies by exposure interval (x-axis), regardless of the asset type in which they invest.

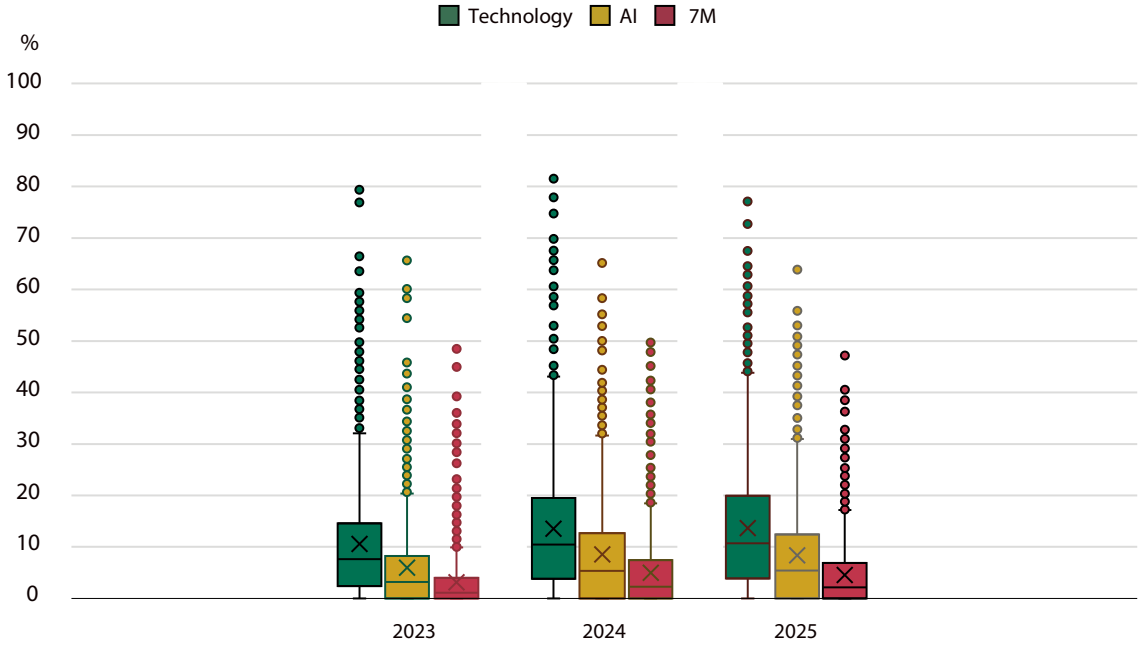
3.3.2 Mixed funds

Individual analysis of mixed funds yields broadly similar conclusions to those for equity funds, bearing in mind that while mixed fund exposure to technology companies is notable (10% of assets), it is far lower than for equity funds. Analysis of the dispersion of these funds' exposure shows that both average and median exposure have risen over time, with dispersion also widening significantly, particularly between 2023 and 2024 (see Figure 8).

A substantial share of mixed fund assets has relatively low technology sector exposure. In 2023, 76% of assets had technology company exposure below 10%, though by 2025 this had fallen to 59.3%. The same pattern holds for AI company exposure: 87.9% of assets had exposure below 10% in 2023, declining to 77.4% in 2025. For the M7, an average of 93.6% of assets were in funds with exposure below 10% throughout the analysis period (see Figure 9).

Dispersion of exposure for mixed funds[1]

FIGURE 8



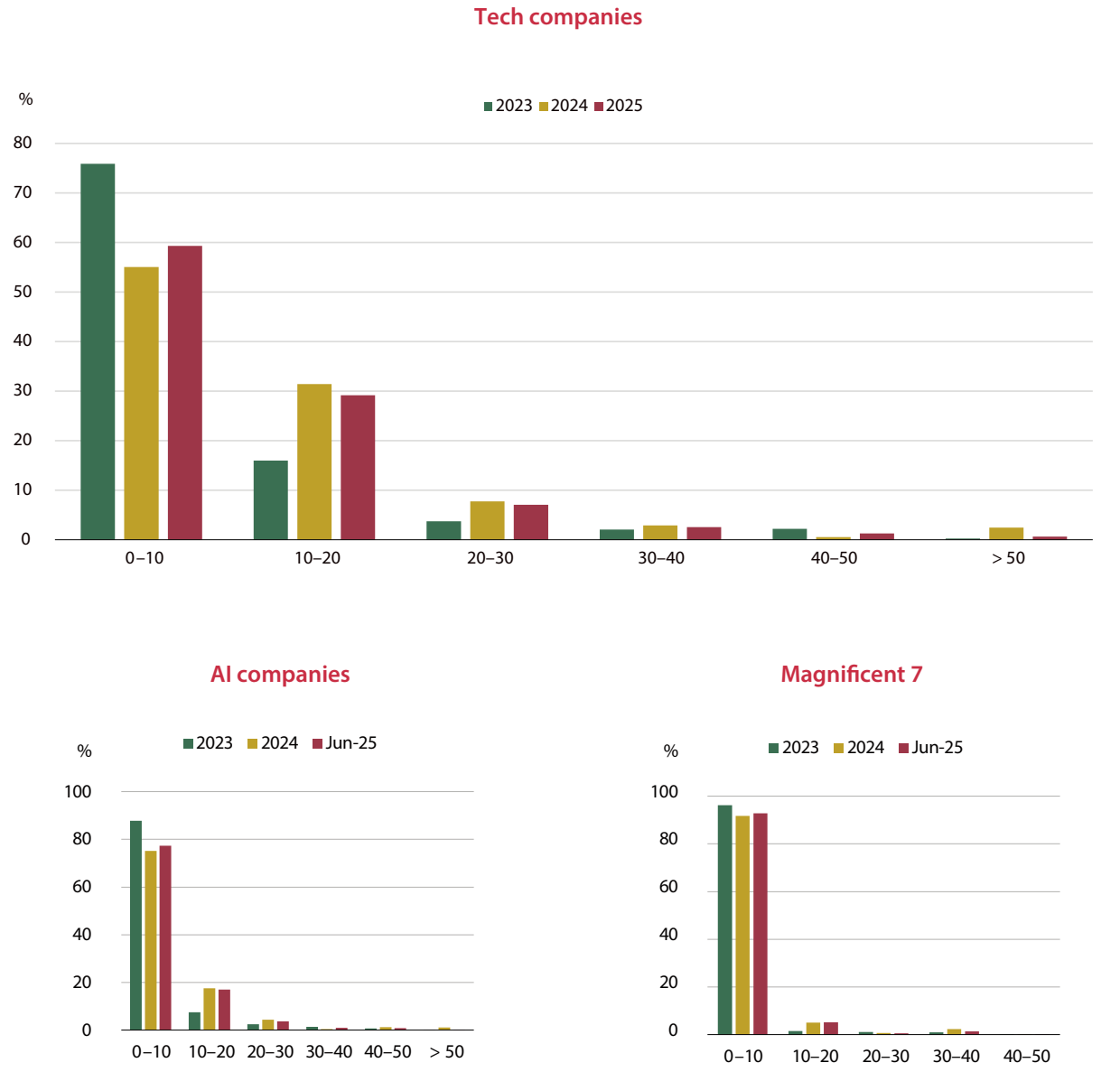
Source: Own calculations.

1 This box-and-whisker plot shows the dispersion of exposure to technology, AI and M7 companies. The y-axis shows exposure as a percentage of assets. The edges of the box represent the first and third quartiles, with the simple mean (cross) and median (line).

The most important aspect of this individual analysis is the identification of funds with the highest exposures, represented by dots in Figure 8. The proportion of assets with the highest technology company exposures has grown over time, but remains at relatively contained levels. While between 47 and 65 funds had very high exposures, some exceeding 70% of assets, these are small funds: assets of funds with exposure above 50% averaged just 1.1%. The picture is similar for AI and M7 company exposure, with assets of funds with exposures above 20% remaining very low (see the lower panels of Figure 9).

Distribution of investment fund assets by exposure[1]

FIGURE 9



Source: CNMV.

1 Percentage of mixed fund category assets (y-axis) exposed to technology, AI and M7 companies by exposure interval (x-axis), regardless of the asset type in which they invest.

3.4 Exposure of the largest Spanish CIS management companies

The management companies examined in this section are those individually representing more than 5% of total industry assets across all three periods analysed. They belong to the following banks: CaixaBank, Banco Santander, Banco Bilbao Vizcaya Argentaria (BBVA), Ibercaja and Kutxabank, and together account for an average of 63.7% of assets over the period studied.

Figure 10 shows the exposure of these five management companies' funds to technology, AI and M7 companies. The time profile broadly mirrors that of the industry as a whole: exposure rose between 2023 and 2024 and edged back slightly in June 2025, but with a net increase over the period.

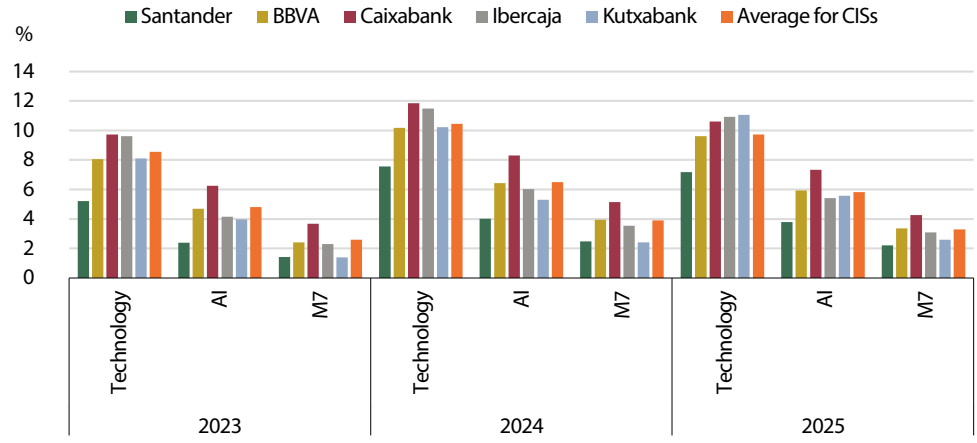
The estimates indicate that Banco Santander's management company has the lowest exposure to all three technology company groupings throughout the study period, with average exposure of 6.6% of assets to technology companies, 3.4% to AI companies and 2% to the M7 (compared with 9.6%, 5.7% and 3.3% for the industry as a whole). CaixaBank's management company, by contrast, generally shows the highest exposures, averaging 10.7% for technology companies, 7.3% for AI companies and 4.4% for the M7.

The remaining cases are more mixed. BBVA's management company, for example, has relatively low exposure to technology companies overall (9.3% on average), but registers higher readings when the focus narrows to AI companies or the M7. Ibercaja's management company, by contrast, has high exposure to technology companies as a whole, but much lower levels for AI and M7 companies specifically.

Kutxabank's management company is a notable case: while its exposure is below the industry average in most instances, it is the only one to have seen exposure rise consistently throughout the analysis period, unlike the other management companies or the fund industry as a whole.

Exposure of the CISs of the five largest management companies in the Spanish market

FIGURE 10



Source: Own calculations based on Lipper and CNMV data.

4 Conclusions

This study has assessed the recent exposure of Spanish CIS portfolios to technology companies, finding that average exposure between 2023 and June 2025 stands at 9.6% of assets, 5.7% for AI companies and 3.3% for the M7. Half of this exposure stems from direct equity investment in these companies, with the remainder split between fixed income assets and investments in other CISs that in turn hold positions in the sector. By category, the highest exposure is in equity funds (with close to 30% of assets invested in technology companies, around 20% in AI companies and 12% in the M7), followed by mixed funds (with approximately 10% in technology companies). At an individual level, a relatively small group of CISs with very high exposures has been identified, though these are very small relative to the industry as a whole. Analysis of the five largest management companies in the Spanish market reveals no significant deviations from the average.

Looking ahead, continued attention to the potential risks for financial markets and supervised entities that could arise from price adjustments in technology stocks – or assets more broadly – remains important, should a negative shock materialise that shifts market expectations. In the investment fund space, the institution's focus will be on ensuring appropriate portfolio asset valuations. The aim is to prevent, as far as possible, liquidity mismatches, so that in adverse market conditions or periods of heightened redemptions, CISs have sufficient liquid assets and adequate liquidity management tools at their disposal. Past experience has consistently been very positive.

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