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Initials and acronyms

AA. PP.	Public administration service
ABS	Asset-Backed Security
AIAF	Spanish Market in Fixed-income Securities
AIF	Alternative Investment Fund
ANCV	Spanish National Securities Numbering Agency
APA	Approved Publication Arrangement
APR	Annual Percentage Rate
ASCRI	Spanish Venture Capital & Private Equity Association
AV	Broker
BIS	Bank For International Settlements
BME	Spanish Stock Markets and Financial Systems
CADE	Public Debt Book-entry Trading System
CC. AA.	Autonomous regions
CCP	Central Counterparty
CDS	Credit Default Swap
CFA	Atypical financial contract
CFD	Contract for Differences
CIS	Collective Investment Company/Collective Investment Scheme
CISMC	CIS Management Company
CNMV	(Spanish) National Securities Market Commission
CP	Crowdfunding Platforms
CS	Customer Service
CSD	Central Securities Depository
CSRD	Central Securities Depositories Regulation
CTP	Consolidated Tape Provider
DLT	Distributed Ledger Technology
EAF	Financial advisory firm
EBA	European Banking Authority
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortisation
EC	European Commission
ECA	Credit and savings institution
ECB	European Central Bank
ECR	Venture capital firm
EFAMA	European Fund and Asset Management Association
EFSM	European Financial Stabilisation Mechanism
EICC	Closed-ended collective investment company
EIOPA	Occupational Pensions Authority
EIP	Public interest entity
EMIR	European Market Infrastructure Regulation
EMU	Economic and Monetary Union
ESEF	European Single Electronic Format
ESFS	European System of Financial Supervision
ESG	Environment, Social and Governance
ESMA	European Securities and Markets Authority
ESRB	European Systemic Risk Board

ETF	Exchange Traded Fund
EU	European Union
EUSEF	European Social Entrepreneurship Fund
FICC	Closed-ended collective investment fund
FII	Real estate investment fund
FIN-NET	Financial Dispute Resolution Network
FINTECH	Financial Technology
FOGAIN	Investment Guarantee Fund
FRA	Forward Rate Agreement
FROB	Fund for Orderly Bank Restructuring
FSB	Financial Stability Board
FTA	Asset securitisation fund
FTH	Mortgage Securitisation Fund
GDP	Gross Domestic Product
HF	Hedge Fund
HFT	High Frequency Trading
IAGC	Annual corporate governance report
IARC	Annual report on director remuneration
IAS	International Accounting Standards
ICO	Initial Coin Offering
IF	Investment Firm / Investment Fund
IFRS	International Financial Reporting Standards
IIMV	Ibero-American Securities Market Institute
IMF	International Monetary Fund
IOSCO	International Organization of Securities Commissions
IPO	Initial Public Offering (for sale/subscription of securities)
IPP	Periodic public information
IRR	Internal Rate of Return
ISIN	International securities identification number
KIID/KID	Key Investor Information Document
LATIBEX	Market of Latin American Securities
LEI	Legal Entity Identifier
LIIC	Spanish Collective Investment Companies Act
LMV	Spanish Securities Market Act
MAB	Alternative Stock Market
MAD	Market Abuse Directive
MAR	Market Abuse Regulation
MARF	Alternative Fixed-Income Market
MBS	Mortgage-Backed Securities
MEFF	Spanish Financial Futures Market
MFP	Maximum Fee Prospectus
MiFID	Markets in Financial Instruments Directive
MiFIR	Markets in Financial Instruments Regulation
MOU	Memorandum of Understanding
MREL	Minimum Requirement for Own Funds and Eligible Liabilities
MTF	Multilateral Trading Facility
MTS	Market for Treasury Securities
NCA	National Competent Authority
NDP	National Domestic Product
OECD	Organisation for Economic Cooperation and Development
OIS	Overnight Indexed Swaps
OTC	Over The Counter
OTF	Organised Trading Facility
PER	Price-to-Earnings Ratio

PRIIP	Packaged Retail and Insurance Based Investment Product
PUI	Loan of last resort
RAROC	Risk-Adjusted Return On Capital
REIT	Real Estate Investment Trust
RENADE	Spanish National Registry for Greenhouse Gas Emission Allowances
RFQ	Request for Quote
RFR	Risk Free Rate
ROA	Return On Assets
ROE	Return On Equity
SAMMS	Advanced Secondary Market Tracking System
SAREB	Asset Management Company for Assets Arising from Bank Restructuring
SENAF	Electronic Trading Platform for Spanish Government Bonds
SEND	Electronic Debt Trading System
SEPBLAC	The Executive Service of the Commission for the Prevention of Money Laundering and Monetary Offences
SGC	Portfolio management company
SGECR	Venture capital firm management company
SGEIC	Closed-ended investment scheme management company
SGFT	Asset securitisation fund management company
SIBE	Electronic Spanish Stock Market Interconnection System (SIBE)
SICAV	Open-ended collective investment company
SICC	Closed-ended collective investment company
SII	Real estate investment company
SIL	Hedge fund with legal personality
SME	Small and Medium Enterprise
SOC	National Electronic Clearing System
SPV/SFV	Special purpose/financial vehicle
SRB	Single Resolution Board
SREP	Supervisory Review and Evaluation Process
STOR	Suspicious Transaction and Order Report
SV	Broker-dealer
T2S	Target2-Securities
TER	Total Expense Ratio
TOB	Takeover Bid
TRLMV	Recast Text of the Spanish Securities Market Act
TVR	Theoretical Value of the Right
UCITS	Undertaking for Collective Investment in Transferable Securities
VCF	Venture Capital Fund
XBRL	Extensible Business Reporting Language

I Securities markets and their agents: situation and outlook

Table of contents

Exhibits

1 Executive summary

- **The financial year 2023 started in a macro-financial environment marked by uncertainty with still high global inflation rates, rising core inflation rates and a continued contractionary monetary policy stance.** Central banks' actions have been somewhat complex as a result of the deterioration of economic activity (bordering on recession in some economies) in a context marked by the sharp and rapid tightening of financing conditions. In addition, the month of March saw turbulence in the financial markets due to problems experienced by several banks in the United States and Europe, most notably the collapse of Silicon Valley Bank (SVB) and the takeover of the Swiss bank Credit Suisse by UBS. Against this backdrop, central banks continued to raise interest rates, albeit by lower amounts than those seen in 2022, at least in the United States and the United Kingdom.

- **International Monetary Fund (IMF) forecasts point to a slowdown in global GDP growth from 3.4% in 2022 to 2.8% this year, which is attributable to interest rate hikes, the consequences of Russia's war in Ukraine and increasing geopolitical fragmentation.** The degree of forecasting uncertainty is high, even more so after the period of banking turbulence mentioned above. The most relevant risks to the projected growth scenario remain on the downside. These include the possible persistence of high inflation, the (as yet) unrealised consequences of the tightening of monetary policy, uncertainty related to the banking sector, the vulnerabilities associated with the most indebted agents and the prolongation of the effects of the war.

- **The Spanish economy is performing relatively better than other neighbouring economies in this period of slowing global growth.** The IMF's growth expectations stand at 1.5% this year and 2% next year (5.5% in 2022), somewhat above the projected rates for the euro area (0.8% and 1.4%, respectively). The inflation rate, which peaked at 10.8% in July, decelerated noticeably to 4.1% in April (3.3% in March). The core rate has also moderated, but to a much lesser extent (6.6%, down from 7.6% in February). Public finances improved in 2022 (the public deficit declined by more than 2 percentage points [p.p.] of GDP to 4.8%), supported by the developments in economic activity and rising prices, as did the labour market, with the unemployment rate also showing declines (from 13.3% of the labour force in 2021 to 12.9% in 2022), while remaining above the EU average.

– **All major international market indices showed revaluations in the first quarter of the year,[1] with the exception of some emerging market equity indices.** European indices outperformed US indices, partly due to differences in the tone and expectations regarding monetary policy in the two economic areas. Uncertainty stemming from the episodes of banking crisis reduced the cumulative gains in the quarter and led to a slight increase in market volatility. Nevertheless, the quarterly balance sheet shows significant gains: in Europe they ranged from 10.4% for the Euronext 100 index to 14.4% for the Italian Mib 30, in the United States from 0.4% for the Dow Jones index to 16.8% for the Nasdaq, and in Japan from 5.9% to 7.5% for its most representative indices.

– **The revaluation of the Ibex 35 in the first quarter of the year was 12.2%, placing it in the mid-range of values observed in other European indices and recovering the levels existing before the pandemic.** All major sectors showed gains except real estate, which is more affected by interest rate hikes. Notable advances were made in the telecommunications and consumer goods and services sectors, and even in the banking sector, despite the setbacks they suffered during the March turmoil. Trading in Spanish securities in the first three months of the year recorded an increase over the previous two quarters, but showed a significant decline in year-on-year terms (-15.3%). Primary market activity remained very limited and mainly oriented towards non-resource-raising modalities.

– **Fixed income markets saw a flattening of the yield curves in response to:** i) increased yields at shorter maturities, in line with increases in central bank policy rates, and ii) a more uneven decline in yields at longer maturities, which have been moving in line with changes in expectations about monetary policy actions. Long-term asset yields declined markedly at least twice in the first quarter, reflecting the expectation that the process of policy rate hikes will be completed or attenuated, that inflation trends are favourable or, as in March, following the turbulence in the banking sector. The most extreme case was observed in the United States, where the yield curve inverted.

– **In Spain, similar trends were observed in the fixed income markets**, with increases in short maturities and declines (or smaller increases depending on the assets) in longer maturities. The yield on the 10-year sovereign bond ended the quarter at 3.33%, down from 3.65% at the end of December, while Treasury bill yields were 2.6-3% in the 3-12 month maturity range. The sovereign risk premium presented a slight drop in the quarter to 101 basis points (bp). Finally, debt issuance by Spanish private-sector issuers on the CNMV's register declined but increased for issuance made abroad.

1 The closing date for this report is 31 March, except for certain specific information.

– **The stress indicator for Spanish financial markets, which reached high risk levels in the last quarter of 2022, has remained at a medium risk level so far this year (i.e. between 0.27 and 0.49).** It declined gradually until early March, when there was a temporary upturn as a result of the banking-related turmoil, which led to an increase in the volatility indicators of the various segments of the financial markets. Nevertheless, the indicator remained at a medium risk level throughout (0.37 as of 14 April).

– **Growth in the assets of investment funds registered in Spain, which experienced a significant increase in 2021, halted in 2022, with a contraction of 4.1%, to stand at €324.7 billion at the end of the year.** This decline in assets was due solely to the fall in the value of these institutions' investment portfolios, as net subscriptions were positive during the year. The largest inflows went to fixed income funds, with net inflows of more than €15 billion. In parallel, there was a considerable decrease in foreign collective investment schemes (CIS) marketed in Spain, whose equity ended 2022 at €201 billion, 27.2% less than in 2021. In the specific area of open-ended collective investment companies (SICAVs), it should be noted that as a result of a regulatory change requiring minimum shareholdings of €2,500 for shareholders to benefit from their tax regime, more than 50% of SICAVs deregistered in 2022, a process that has continued in the first months of this year.

– **In the area of investment services, credit institutions continued to receive the largest share of revenues generated by this sector in 2022, and the number of brokers and broker-dealers, a sub-sector in which there are an increasing number of independent or non-bank entities, also continued to grow.** The importance of the investment services business (including the marketing of CIS) has been consolidated in the banking business. The fees received for this activity represent about one third or more of the total fees and commissions of these institutions over the last 3 years. As for securities brokers and broker-dealers, although their number increased in 2022 to 95 (4 more), their aggregate pre-tax profits decreased by 22.3% in 2022 to €109.4 million, mainly due to the fall in income from market intermediation services. The number of loss-making institutions increased by 8 to a total of 37, although the size of the losses was similar to that of 2021 (€25.2 million). Solvency conditions for the sector remained satisfactory in relative terms.

– This report contains three monographic exhibits:

  - The first describes the effects of the introduction of the financial transaction tax on Spanish equity markets.

  - The second describes the Technical Guide on enhancing the transparency of CIS with a specific target return and of fixed income CIS with a buy-and-hold strategy, approved by the CNMV in April.

  - The third exhibit summarises the results of the work on the review of the FSB and IOSCO liquidity recommendations carried out in 2022, including the assessment of Spain, and notes relevant further work to be carried out as a result of these exercises.

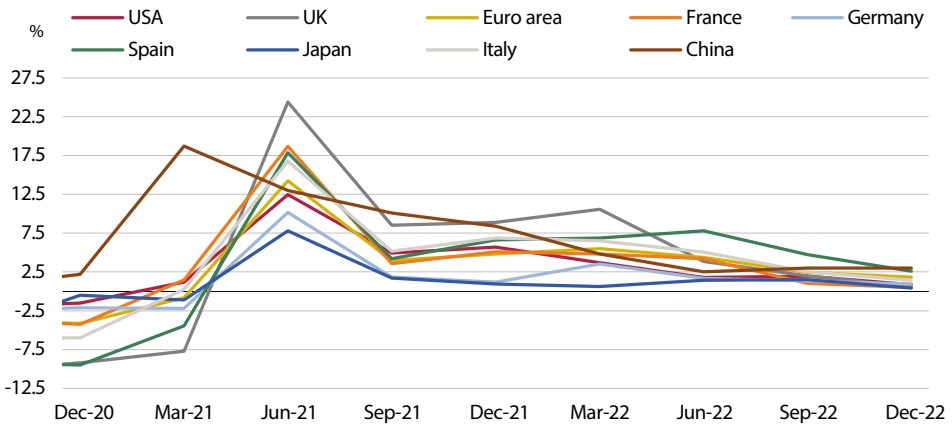
2 Macroeconomic environment

2.1 Economic performance

In 2022, a significant slowdown in global growth was observed. In aggregate terms, economic activity went from growing by 6.2% in 2021 to 3.4% in 2022,[2] showing a slowdown since the second quarter of the year. The slowdown in growth was generalised across economies, although there was some degree of disparity in its intensity, due both to the tightening of financing conditions and to the differing impact of Russia's war in Ukraine, dependence on energy commodities and the degree of recovery of sectors that had been most affected by the pandemic. Thus, emerging economies showed a more intense slowdown, with the Chinese economy standing out, which went from growing by 8.4% to 3%, and the Indian economy, which went from 8.7% to 6.8%. Russia went into recession in 2022. Meanwhile, in the advanced economies, the United States showed a decline in its growth rate of close to 4 p.p. to 2.1% and the euro area lost almost 2 p.p. to 3.5% (see Figure 1). Within the euro area, France and Italy experienced the strongest slowdowns, but Germany saw the lowest growth among the group of the largest euro area economies in 2022 (1.9%).

In 2022, the Spanish economy once again marked an average GDP growth rate of 5.5% as seen in 2021, but with a downward trend over the year. Growth peaked in the second quarter of the year (7.8%) and from then decelerated to 2.7% in the last quarter. Although the Spanish economy performed relatively better than other European economies in 2022, it has not yet returned to its pre-pandemic level of activity.

Annual change in GDP FIGURE 1



Source: Refinitiv Datastream. Year-on-year GDP rates are shown for each quarter in all economies except China, where growth rates accumulated in the year are represented in year-on-year terms.

2 *World Economic Outlook*, published by the IMF in January 2022.

The composition of growth in Spain in 2022 was much more balanced than in previous years, with domestic demand contributing 2.9 p.p. and the foreign sector 2.6 p.p. Within the former, different behaviour was noted between the consumption indicators, both private and public, which showed a significant slowdown, and those of gross fixed capital formation, which grew more strongly in 2022 than in 2021 due to the dynamism of the construction sector (see Table 1). In the foreign sector, exports continued to grow at a rate of over 14%, while imports slowed notably.

On the supply side, in 2022 there was a somewhat heterogeneous performance among the different sectors of the Spanish economy, with a slowdown in value added in the industrial branches, an increase in construction and stability in services. Within the services sector, whose value added grew by 6.5% on average in 2022, the same rate as in 2021, it is worth noting the consolidation of growth in some sub-sectors particularly affected by the pandemic, such as trade, transport and accommodation and food service activities, which recorded an increase of 17%, and arts, entertainment and other services, which grew by almost 14%. These two subsectors had shrunk by more than 20% during the pandemic.

Spain: main macroeconomic variables (annual % change) TABLE 1

	2019	2020	2021	2022
GDP	**2.0**	**-11.3**	**5.5**	**5.5**
Private consumption	0.9	-12.4	6.0	4.4
Public consumption	1.9	3.5	2.9	-0.9
Gross fixed capital formation, of which:	4.5	-9.7	0.9	4.3
Construction	7.2	-10.2	-3.7	4.2
Capital goods and others	2.0	-13.3	6.3	3.8
Exports	2.2	-19.9	14.4	14.9
Imports	1.3	-14.9	13.9	7.7
Foreign sector (contribution to growth, pp)	0.4	-2.2	0.3	2.6
Employment[1]	**3.3**	**-6.8**	**6.6**	**3.8**
Unemployment rate	**14.1**	**15.5**	**14.8**	**12.9**
Consumer price index	**0.7**	**-0.3**	**3.1**	**8.4**
Current account balance (% GDP)	**2.1**	**0.6**	**1.0**	**0.6**
Balance of public administrations (% GDP)	**-3.1**	**-10.1**	**-6.9**	**-4.8**
Public debt (% GDP)	**98.2**	**120.4**	**118.3**	**113.2**
Net international investment position (% GDP)	**58.4**	**61.5**	**50.4**	**41.9**

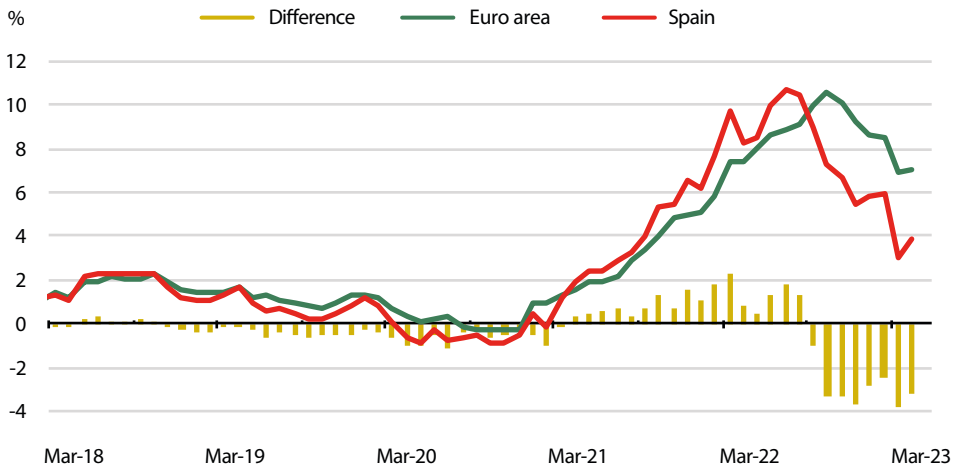
Source: Refinitiv Datastream, Bank of Spain and National Statistics Institute (INE).

[1] In terms of full-time equivalent jobs.

Energy and non-energy commodity prices have fallen significantly in recent months to levels below those prevailing before the Russia-Ukraine war, facilitating a slight decline in global inflation rates. Although inflation levels seem to have passed the peaks of this stage (in many cases above 10%), inflation rates are still very high and far from central banks' targets, and core inflation rates have not yet stabilised, which is more worrying. February data put inflation in the United States, the euro area, the United Kingdom and Japan at 6%, 8.5%, 10.4% and 3.3% respectively. Underlying rates range from 3.5% and 7.5%.

The inflation rate in Spain, which peaked at 10.8% in July 2022, has since declined progressively to rates of 4.1% in April (3.3% in March). This rate is well below that observed in other euro area countries. Core inflation, which excludes energy and fresh food prices from its calculation, also showed a slight decline in April, but less intense than the headline rate, and stood at 6.6% (the peak was reached in February at 7.6%). With regard to the components of inflation, it is worth noting the trend in processed food, with an inflation rate of 18.7%, and fresh food, with 13.6%. As far as the euro area is concerned, it should be noted that, since October last year, Spanish inflation has been below euro area rates with a difference of between 2.5 and 3.8 percentage points. This trend is mainly due to a stronger and earlier decline in energy inflation in Spain.

Harmonised CPI: Spain compared with the euro area (annual % change) FIGURE 2

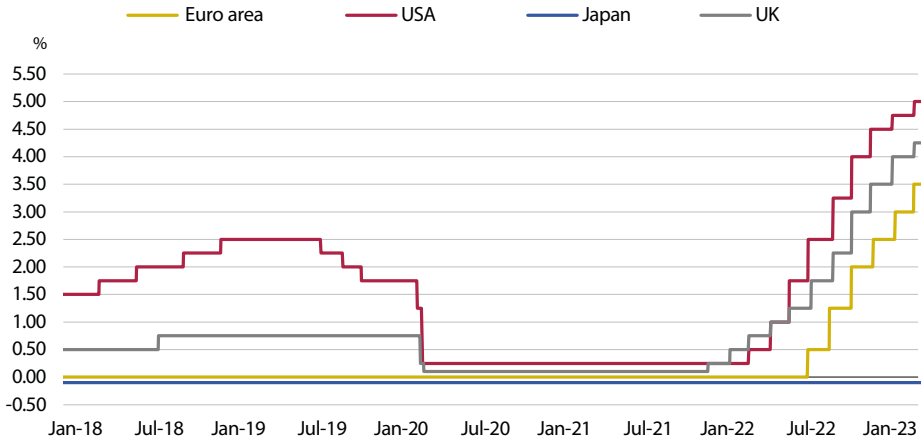


Source: Refinitiv Datastream. Data to February for the euro area and to March for Spain.

Continued relatively high global inflation, especially the core rate, as well as its expectations, led to further increases in policy rates in the first quarter of the year, but a less intense tightening of monetary policy is discernible. At least this would be the case in the United States and, to a lesser extent, in the United Kingdom. The latest rate hikes by the central banks of these economies in March were 25 bp, well below the extent of most of the hikes expected in 2022.

The European Central Bank (ECB) raised its official interest rates twice in the first quarter of the year, once in February and once in March, by 50 bp each. In 2022 it had made 4 increases, 2 of them of 50 bp and another 2 (the central ones) of 75 bp. Following these decisions, the rates on the main refinancing operations, the marginal lending facility and the marginal deposit facility stood at 3.5%, 3.75% and 3% at the end of the first quarter of 2023. The last of the hikes in 2023 occurred in the context of the turmoil related to the banking sector and some analysts predicted that the March rate hike would not be 50 bp as announced by the ECB in February. However, the European institution confirmed the announced rise, as it expects inflation to remain too high for too long. In any case, no further hikes for the coming months were announced at this meeting and it was indicated that, in an environment of very high uncertainty, the importance of its data-driven decision-making model was reinforced. Moreover, the monetary authority confirmed that the asset portfolio for the APP programme will be reduced by an average of €15 billion per month until the end of June.

Official interest rates FIGURE 3



Source: Refinitiv Datastream. Data to 31 March.

The Spanish labour market showed an improvement in 2022 and 2023, although the unemployment rate remains far from the EU average. It is worth noting the increase in the number of full-time equivalent jobs over one year, which was 386,000 (up 2%) and reflects the good tone of economic activity during the year. At the same time, the unemployment rate fell slightly from 13.3% of the labour force at the end of 2021 to 12.9% at the end of 2022 (12.9% annual average compared with 14.8% in the previous year),[3] but remains far higher the EU average, which ended 2022 at 6.1% and 6.7% in the euro area.

3 The data for the first three months of 2023 indicate that the labour market continues to improve, although the pace of decline in the number of unemployed is decreasing. Registered unemployment in the Public State Employment Service (SEPE) fell by 246,503 people compared to March 2022, to stand at 2,862,260 (a decrease that was much lower than that registered in the first quarter of 2022, which was greater than 800,000 people). In addition, the total number of contracts registered in March 2023 was 21.3% lower than in March 2022. Permanent contracts increased by 19.9%, which represented 46.8% of the total (30.7% in the previous year).

The Public Administration deficit stood at 4.8% of GDP in 2022 (6.9% of GDP in 2021).[4] Revenues increased by 8.1%, mainly due to higher fiscal resources, which were boosted by economic growth, employment and inflation. Expenditure, however, increased by 3.8%. By type of Administration, the published data reveal that virtually all of the reduction in the negative balance of the Public Administrations can be attributed to the central Administration, whose deficit fell from 6.2% of GDP in 2021 to 3.3% in 2022. Social security funds also improved their deficit, which went from 1% of GDP to 0.5%. In contrast, the autonomous regions increased their deficit (from 0.05% to 1.14%) and local corporations went from having a surplus (0.29%) to a deficit (-0.12%). Sovereign debt, however, (according to the Excessive Deficit Protocol) ended the year at 113.2% of GDP, below the figure of 118.3% seen at the end of 2021 and that of 120.4% in 2020. The forecasts of the Bank of Spain point to a reduction in the deficit and public debt to 3.5% and 108.8% of GDP, respectively, in 2024.

Household savings continued to decline in 2022 to reach pre-pandemic levels. This fall, which brought the savings rate down to 7.2% of household disposable income at the end of the year, can be explained by various factors, including, most notably, the impact of inflation (on consumption, to the detriment of savings), the rise in interest rates (on indebted households) and spending decisions that were postponed after the start of the pandemic. The saving rate of Spanish households remains below the average observed in the euro area, although the latter has also shown a downward trend since March 2021. In parallel with the decline in savings, there has been lower acquisitions of financial assets, at 3.4% of GDP in 2022 (6% a year earlier), with a relatively similar pattern to that of previous years, although the data for the second half of the year show two trends worth highlighting: i) a certain recomposition is beginning to be observed between demand and term deposits, in favour of the latter, in response to their greater attractiveness due to the rise in interest rates, and ii) household investment in mutual funds[5] stands out compared with disinvestments in shares and other equity or in insurance and pension funds (see Figure 4).

Non-financial listed companies' margins improved in aggregate terms in 2022. However, differences were observed between the different sectors and also within them. The aggregate profit for the financial year of these companies stood at €30.81 billion in 2022, which represents a slight increase of 0.5%, compared to the figure for 2021 (see Table 2). By sector, there were increases in the results of energy companies (39.2%), driven by the increase in the price of energy raw materials, and industrial companies (26.5%). However, aggregate benefits fell for trade and service companies (-24.1%) and construction and real estate (-55.7%). The individual analysis of companies' profit and loss accounts reveals that the deterioration in the profits of the trade and services companies can be explained almost entirely by a single company,[6] while in companies in the real estate sector the drop in profits was of a more general nature.

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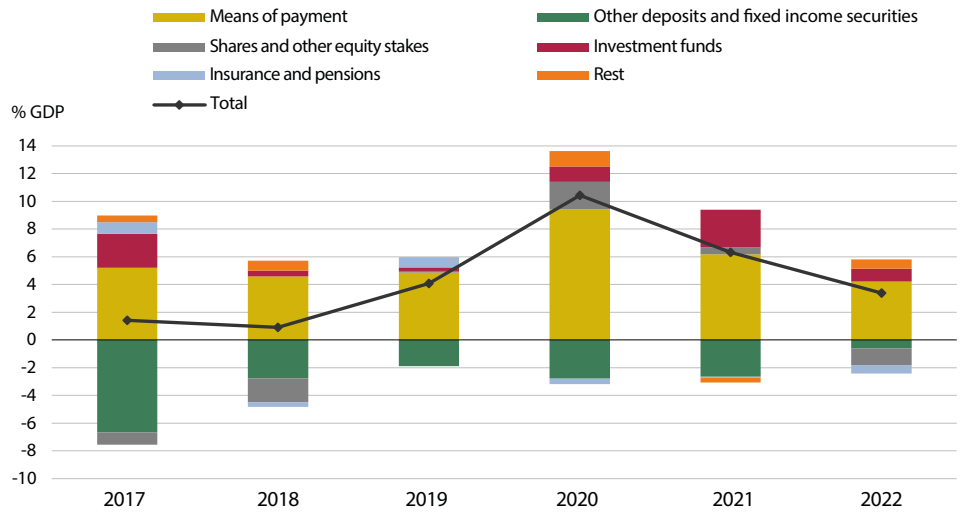
4 These data include financial aid, which amounted in net terms to 0.1% and at 0.07% of GDP in 2021 and 2022, respectively.

5 For more details of the composition of investment fund flows, see Section 4.1

6 Telefónica.

Households: net acquisitions of financial assets

FIGURE 4



Source: Bank of Spain, *Financial Accounts*. Cumulative data for four quarters.

Profit/(loss) by sector: non-financial listed companies

TABLE 2

Millions of euros

	Operating profit		Profit before tax		(Consolidated) profit for the year	
	2021	**2022**	**2021**	**2022**	**2021**	**2022**
Energy	17,591.9	23,649.4	16,366.8	22,246.6	11,446.9	15,931.0
Manufacturing	7,389.3	9,459.3	6,620.3	8,427.4	4,894.7	6,193.1
Trading and services	11,494.0	9,968.0	8,359.1	7,132.8	7,385.9	5,609.6
Construction and real estate	5,780.1	5,364.4	3,796.4	3,533.7	6,930.7	3,072.4
Aggregate total	**42,255.3**	**48,441.0**	**35,142.5**	**41,340.4**	**30,658.2**	**30,806.1**

Source: CNMV.

Indebtedness: non-financial listed companies

TABLE 3

	Debts[1]		Debt/equity		Debt as a percentage of operating profit or loss[1]	
	2020	**2021**	**2020**	**2021**	**2020**	**2021**
Energy	96,266.5	104,067.7	0.90	0.90	5.47	4.40
Manufacturing	25,044.2	25,760.5	0.55	0.52	3.39	2.72
Trading and services	95,551.8	94,196.6	1.42	1.28	8.31	9.45
Construction and real estate	48,428.2	52,310.6	1.09	1.15	8.38	9.75
Aggregate total	**265,290.7**	**276,335.5**	**1.01**	**0.97**	**6.28**	**5.70**

Source: CNMV.

1 Millions of euros.

The level of debt of non-financial listed companies increased by 4.2% in 2022, up to €276.34 billion. The largest increases, both in absolute and relative terms, occurred in companies in the energy sector (8.1%) and the construction and real estate sector (8%). There was also an increase in the indebtedness of industrial companies, albeit much smaller, while companies in the trade and services sector saw a decrease in their level of debt (-1.4%). As can be seen in Table 3, the leverage ratio, measured as the ratio of debt to equity declined between 2021 and 2022 from 1.01 to 0.97. This can be explained by the stronger increase in the equity of the entities rather than that in the level of indebtedness itself. The a**ggregate debt coverage ratio** also improved as a result of the increase in companies' operating margins.

2.2 Outlook

An IMF forecast published in April this year predicts a slowdown in global growth from 3.4% in 2022 to 2.8% in 2023 and a slight recovery in 2024 to 3.0%. The forecast in this latest report contains a slight worsening compared to its previous publication in January (-0.1 p.p.) and is lower than the historical average observed between 2000 and 2019 (3.8%). For advanced economies, the institution forecasts growth of 1.3% in 2023 and 1.4% in 2024 (2.7% in 2022), and 3.9% and the 4.2% in the same periods for the emerging economies (4.0% in 2022). Spanish economic growth is expected to also slow from 5.5% in 2022 to 1.5% in 2023 and 2% in 2024,[7] but remain somewhat more dynamic than for the euro area as a whole (0.8% and 1.4%). In addition, GDP growth expected for Spain saw the highest upward revision of all countries around us (4 tenths of a percent more than in January).

Gross Domestic Product

TABLE 4

Year-on-year % change

					IMF[1]	
	2019	2020	2021	2022	2023	2024
Global	2.8	-2.8	6.3	3.4	2.8 (-0.1)	3.0 (-0.1)
United States	2.3	-2.8	5.9	2.1	1.6 (0.2)	1.1 (0.1)
Euro area	1.6	-6.3	5.3	3.5	0.8 (0.1)	1.4 (-0.2)
Germany	1.1	-4.1	2.6	1.9	-0.1 (-0.2)	1.1 (-0.3)
France	1.9	-7.9	6.8	2.6	0.7 (0.0)	1.3 (-0.3)
Italy	0.5	-9.0	7.0	3.8	0.7 (0.1)	0.8 (-0.1)
Spain	2.0	-11.3	5.5	5.5	1.5 (0.4)	2.0 (-0.4)
United Kingdom	1.6	-11.0	7.6	4.1	-0.3 (0.3)	1.0 (0.1)
Japan	-0.4	-4.3	2.2	1.0	1.3 (-0.5)	1.0 (0.1)
Emerging economies	3.6	-1.8	6.9	4.0	3.9 (-0.1)	4.2 (0.0)

Source: Refinitiv Datastream and FMI.

1 In parentheses, the variation compared to the last published forecast (IMF forecasts published in April 2023 with respect to January 2023).

7 The Bank of Spain forecasts growth of 1.6% and 2.3% in the same period (and a 2.1% in 2025).

The degree of uncertainty surrounding these forecasts has intensified even further since March, as a result of the turbulence caused by some banking entities. While it is possible to identify factors that can affect both upside and downside growth expectations, the latter are more numerous, heterogeneous and more likely. Elements that may improve expected growth relate to the possible existence of pent-up demand that has not been satisfied since the pandemic and the possibility of a stronger disinflation process than initially expected. Downside risks would be related to: i) the possible persistence of high inflation, ii) the depreciation of financial assets, iii) increased uncertainty associated with the banking sector, iv) vulnerabilities linked to high levels of indebtedness, v) the slowdown in the recovery of the Chinese economy, and vi) the escalation of the war in Ukraine and, in general, an increase in geopolitical fragmentation.

The Spanish economy will continue to grow at above average European rates, although its performance is not without risks. All the elements of uncertainty listed above can potentially affect the Spanish economy, albeit with varying degrees of intensity. Among them, it is worth highlighting the risk related to the high level of indebtedness of agents (public and private sector) at a time of rising financing costs. The consequences of these higher financing costs together with rising inflation may significantly affect agents' consumption and savings vs. investment decisions. On a more positive note, the performance of service-related sectors, whose activity had deteriorated significantly during the pandemic, may continue to develop favourably. It is also worth noting the degree of support to the activity provided by the European Next Generation funds.

3 The performance of the securities markets

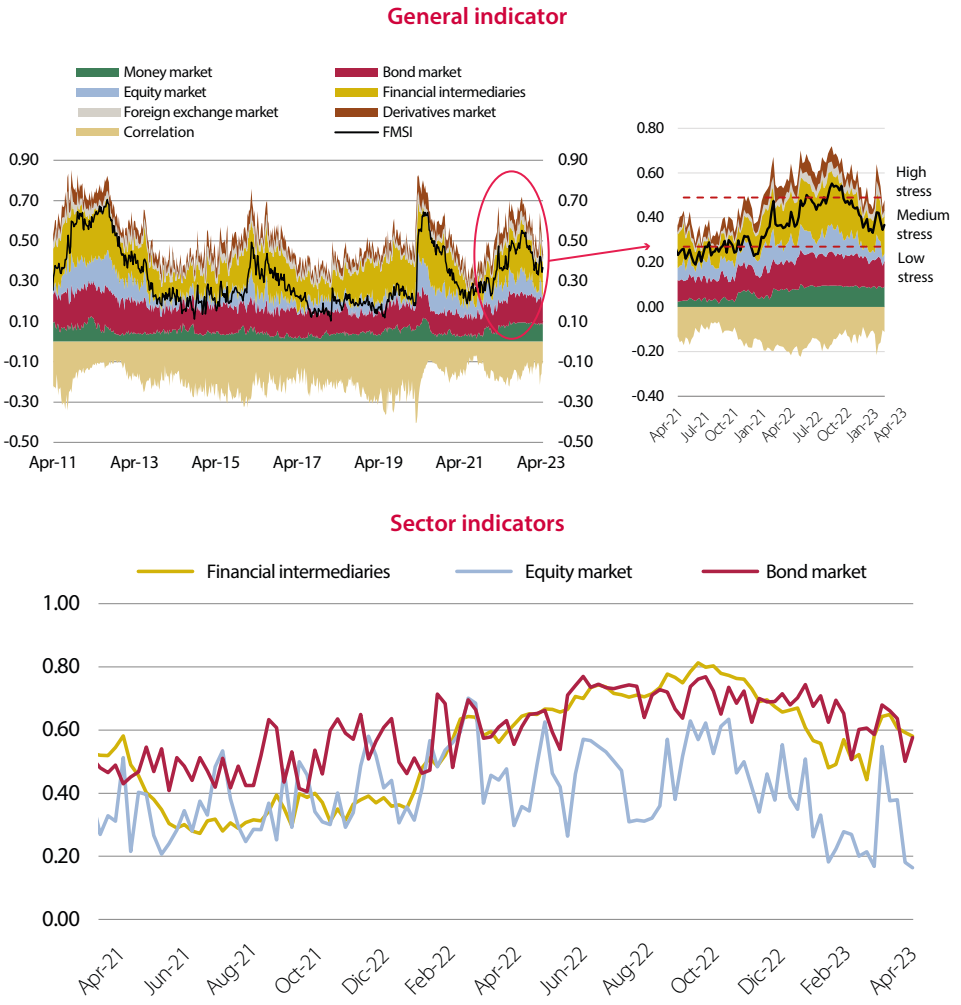
The stress indicator for Spanish financial markets, which reached a high risk level in the last quarter of 2022, has fallen in the first months of this year to more moderate values, indicating a medium risk level. Therefore, the stress level showed a downward trend between December and the beginning of March from a value of 0.54 to 0.33. At this point, the indicator rebounded temporarily and reached a value of 0.42, remaining at a medium level of risk. This increase was a consequence of the turmoil related to the collapse of Silicon Valley Bank[8] and the takeover of the Swiss bank Credit Suisse by UBS, which first led to a decline in prices and increased volatility in bank stocks and then to further stress in other segments of the system, particularly in equity and foreign exchange markets. From the end of March onwards, the decline in volatility indicators led to a decrease in the stress indicator, which has remained stable at around 0.37 up to the date of this report (see Figure 5).

At the beginning of April, the highest stress levels were recorded in the two fixed income segments (the money market and bonds) and financial intermediaries. The stress indicator in the money market was slightly above 0.60, mainly driven by

8 The banks that experienced difficulties in the United States were Silvergate Bank, SVB, Signature Bank and First Republic Bank.

the upward trend of the 3-month Euribor, while in the bond market the same was true for 10-year sovereign bond rates. In the latter segment, however, the downward trend in bond yields since the beginning of March led the bond stress indicator to fall below 0.60 in April. In the case of the financial intermediaries segment, the increase in banks' share prices after the aforementioned March turmoil also resulted in stress levels of below 0.60.

Spanish financial markets stress indicator FIGURE 5



Source: CNMV.

3.1 Stock markets

All major international market indices experienced gains in the first quarter of the year, with the exception of some Latin American indices such as Brazil's Bovespa, and some Southeast Asian indices. The rises were greater in the case of the European indices, although they were accompanied by increases in volatility levels.

European indices outperformed their US counterparts, which can partly be explained by differences in the tone and monetary policy expectations in the two economic areas. The weaker gains in US indices in the first weeks of the year were attributed to the expectation that monetary policy tightening would continue to be faster and more intense in the United States than in the euro area, as had been the case throughout 2022. However, episodes of crisis in several banks and doubts about the effects on the banking sector in that country halted this trend. In the United States, the stock market indices showed gains ranging from 0.4% for the Dow Jones (with a greater weight of financial institutions) to 16.8% for the Nasdaq (7% for the S&P 500). In the euro area, gains ranged from 10.4% on the Euronext 100 to 14.4% on the Italian Mib 30. The Spanish Ibex 35 and the German Dax 30 indices recorded similar gains (12.2%). The UK's FTSE 100 index rose by only 2.4%, while Japan's Nikkei 225 and Topix rose by 7.5% and 5.9% respectively.

Performance of the main stock market indices[1]

TABLE 5

%

	2019	2020	2021	2022	II 22	III 22	IV 22	I 23
World								
MSCI World	25.2	14.1	20.1	19.5	-16.6	-6.6	9.4	7.3
Euro area								
Eurostoxx 50	24.8	-5.1	21.0	-11.7	-11.5	-4.0	14.3	13.7
Euronext 100	24.9	-3.6	23.4	-9.6	-9.8	-2.8	10.6	10.4
Dax 30	25.5	3.5	15.8	-12.3	-11.3	-5.2	14.9	12.2
Cac 40	26.4	-7.1	28.9	-9.5	-11.1	-2.7	12.3	13.1
Mib 30	28.3	-5.4	23.0	-13.3	-14.9	-3.0	14.8	14.4
Ibex 35	11.8	-15.5	7.9	-5.6	-4.1	-9.0	11.7	12.2
United Kingdom								
FTSE 100	12.1	-14.3	14.3	0.9	-4.6	-3.8	8.1	2.4
United States								
Dow Jones	22.3	7.2	18.7	-8.8	-11.3	-6.7	15.4	0.4
S&P 500	28.9	16.3	26.9	-19.4	-16.4	-5.3	7.1	7.0
Nasdaq-Composite	35.2	43.6	21.4	-33.1	-22.4	-4.1	-1.0	16.8
Japón								
Nikkei 225	18.2	16.0	4.9	-9.4	-5.1	-1.7	0.6	7.5
Topix	15.2	4.8	10.4	-5.1	-3.9	-1.9	3.0	5.9

Source: Refinitiv Datastream.

1 In local currency. Data to 31 March.

Emerging market stock indices performed more unevenly The main indices of both Latin American and Southeast Asian economies were mixed, with notable rises in the Mexican and Argentine stock market indices[9] and the Chinese Shanghai Composite index,[10] and falls in the Brazilian[11] and Indian stock market indices. Russia's main stock market index rose 2.7% in the first quarter after falling more than 39% in 2022.

The Spanish equity markets, which closed 2022 with price gains, began the year with further rises, following in the footsteps of the main European markets. The quarterly balance is in line with that of the main European stock markets and can be explained by the better than expected performance of the economy and the prospect that the pace of monetary policy easing could be slower than expected, even though tensions in core inflation persist.[12] Doubts in March about the performance of some European financial institutions dampened the quarter's gains.

In Spain, the Ibex 35, which fell by 5.6% in 2022, gained 12.2% in the first quarter, offsetting all the losses made in the previous year. The Ibex 35 stood above 9,200 points at the end of March, regaining the levels recorded before the outbreak of the pandemic. The strong performance of the index also extended to smaller companies (11.9%), while mid-cap companies showed more modest gains (7.1%). The FTSE Latibex All-Share and FTSE Latibex Top indices representing Latin American securities traded in euros also showed slight declines (2.8% and 4.5% respectively) as the strong performance of currencies[13] and some Latin American stock markets was insufficient to offset the decline in Brazilian stock market prices.

Most sectors ended the quarter with gains, helped by strong consumer spending, the growth in corporate profits and the moderation in energy prices. The intensity of progress was varied across companies and sectors depending on the outlook and uncertainties associated with each of them. In fact, the real estate sector as a whole posted losses in the first quarter, as it was hit hardest by the sharp rise in interest rates (see Table 6).

The most significant gains were made by consumer goods and services companies, as well as those in the technology and telecommunications and financial services sectors, which benefited from the good performance in demand for consumer goods and services, as well as from the rise in interest rates. In the case of the services and consumer goods sectors, of note was the good performance of companies in the tourism, leisure and hospitality sub-sector, as well as the rise in the share price of the textile company Inditex. In addition, technology and telecommunication companies made notable gains thanks to the recovery of Amadeus's share

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9 The BMV IPC and Merval indices of the Mexican and Argentinean stock exchanges rose by 11.8% and 21.8% respectively.

10 China's Shanghai Composite index rose by 5.9% in the first quarter of the year, while the main market indices in South Korea, Hong Kong, Singapore and Taiwan rose by 10.8%, 3.1%, 0.2% and 12.2% respectively.

11 Brazil's main stock market index, Bovespa, fell by 7.2%.

12 See the section "Macroeconomic environment".

13 In the first quarter of the year, the Brazilian real depreciated by 3% against the euro, while the Mexican peso lost 6.7%.

price, which was driven up by the good performance of the tourism sector, as well as that of telecommunications operators. Moreover, despite the significant falls following the bailout of Silicon Valley Bank and the purchase of Credit Suisse, banks continued to accumulate gains, benefiting from the rising interest rate scenario, which has had a positive impact on their net interest margins.

Performance of Spanish stock market indices and sectors

TABLE 6

Indices	2020	2021	2022	I 22[1]	II 22[1]	III 22[1]	IV 22[1]	I 23[1]
Ibex 35	-15.5	7.9	-5.6	-3.1	-4.1	-9.0	11.7	12.2
Madrid	-15.4	7.1	-4.8	-2.3	-4.0	-9.3	12.0	11.8
Ibex Medium Cap	-9.7	8.6	-7.4	-5.9	-1.5	-8.3	9.1	7.1
Ibex Small Cap	18.9	1.8	-12.8	3.1	-6.1	-15.3	6.2	11.9
FTSE Latibex All-Share	-22.0	5.8	10.7	-16.3	-16.3	1.4	-1.7	-2.8
FTSE Latibex Top	-19.1	13.5	7.8	-14.5	-14.5	0.5	-0.5	-4.5
Sectors[2]								
Financial services	**-26.4**	**20.3**	**7.9**	**6.3**	**-10.0**	**-4.0**	**17.3**	**13.3**
Banking	-27.5	20.7	9.0	6.8	-10.2	-3.4	17.7	13.9
Insurance	-23.6	7.3	-8.3	-2.7	-5.8	-11.6	13.3	0.2
Oil and energy	**5.0**	**-1.6**	**5.2**	**-1.1**	**2.3**	**-8.5**	**13.6**	**4.0**
Oil	-40.8	26.5	42.3	14.3	17.8	-16.0	25.8	-4.5
Electricity and gas	14.2	-4.2	-1.0	-4.1	-0.9	-6.8	11.7	6.0
Basic mats., industry and construction	**-2.5**	**9.3**	**-11.3**	**-10.2**	**-3.0**	**-4.7**	**6.9**	**10.1**
Construction	-16.3	15.2	-4.3	-5.8	-1.7	-1.8	5.2	9.8
Manufacture and assembly of capital goods	50.7	-20.4	-13.8	-19.4	6.2	-4.3	5.2	6.5
Minerals, metals and metal products processing	-0.1	28.7	-14.2	-10.6	-6.2	-10.1	13.7	10.2
Engineering and others	-6.1	29.2	-46.3	-19.2	-21.8	-17.4	2.8	13.0
Technology and telecommunications	**-21.9**	**9.0**	**-22.8**	**-0.5**	**-4.1**	**-19.4**	**0.5**	**19.9**
Telecommunications and others	-25.8	15.7	-25.7	-0.8	-0.7	-23.8	-1.0	16.4
Electronics and software	-18.8	1.2	-17.0	-0.1	-10.3	-10.3	3.1	26.2
Consumer goods	**-15.3**	**0.9**	**-17.0**	**6.3**	**-10.3**	**14.3**	**16.4**	**16.4**
Textile, clothing and footwear	-17.3	9.5	-14.2	9.1	-1.4	16.8	24.3	24.3
Food and drink	10.6	-1.6	-12.9	-0.2	-0.7	6.0	9.2	9.2
Pharmaceutical products and biotechnology	-18.3	-17.9	-0.7	2.4	-33.6	6.8	-13.2	-13.2
Consumer services	**-36.7**	**-1.9**	**-15.9**	**3.3**	**-19.0**	**-13.0**	**15.6**	**21.8**
Leisure, tourism and hospitality	-27.8	27.5	-35.7	-3.6	-18.3	-19.3	1.1	26.2
Transportation and distribution	-38.8	-2.6	-13.7	4.2	-19.9	-11.7	17.1	22.8
Real estate services	**-32.1**	**13.0**	**-16.0**	**5.6**	**-14.5**	**-15.5**	**10.2**	**-4.2**

Source: BME and Refinitiv Datastream.

1 Variation compared to the previous quarter.

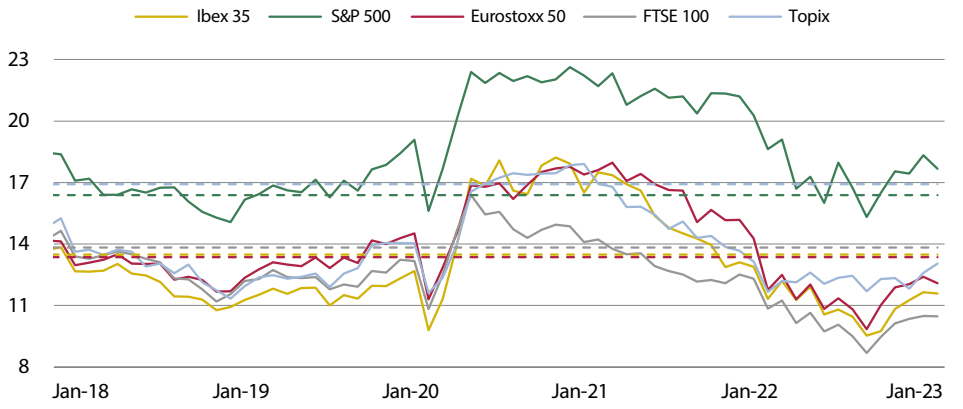
2 Sectors belonging to the IGBM (Madrid Stock Exchange General Index). The information corresponding to the most representative sub-sectors is displayed within each sector.

In terms of losses, the worst performers were, as already mentioned, the real estate sector, which is suffering from lower demand and the adjustment in valuations due to the rise in interest rates, as well as oil companies and the pharmaceutical sector. The latter are affected by falling demand and prospects of slower growth in the sector now the pandemic is over, while oil companies reflect the decline in oil prices in recent months.[14]

The price-to-earnings ratio (PER) of the major equity indices increased slightly in the first quarter compared to mid-December 2022 (see Figure 6). The increase in share prices in the first quarter, together with similar growth in expected corporate earnings in the coming months, led to a very small increase in the PER. The value of this ratio in the case of the Ibex 35 increased from 10.8 in mid-December 2022 to 11.6 in March, and remains below the value achieved by the Eurostoxx 50 index indicator. As Figure 6 shows, the PERs of the most important international stock market indices showed a similar performance in the quarter, although the increase was more significant in the case of the Spanish Ibex 35 and the Japanese Topix indices. They also remain below their average values over the last decade, with the exception, as is usually the case, of the US S&P 500 index.

The historical volatility of the Ibex 35, which had remained at low levels in the latter part of 2022 and the first months of 2023, increased in March to reach values close to 30%. The average volatility of the first quarter (15.8%) was similar to that of the previous quarter (16.3%), but below the annual average value for 2022 (18.4%). This upward trend in volatility in March was also observed in other international indices, but was more relevant in European indices due to fears that Credit Suisse's problems might eventually spread to some medium-sized or large European financial institutions. The volatility of the European Eurostoxx 50 index rose by around 10 p.p. in the second half of March to 25%, its highest level in recent months.

Price-earnings ratio[1] (PER) FIGURE 6



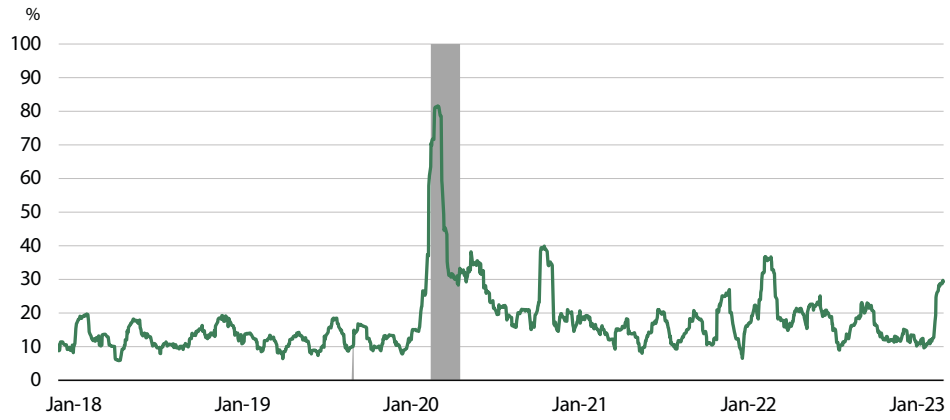
Source: Refinitiv Datastream. Data to 15 March. The dashed lines represent the historical average of the indicator since 2000.

1 With forecast earnings for 12 months.

14 Oil prices fell by 7.1% in the first quarter to around 80 dollars per barrel, although over the course of the quarter falls reached more than 15%.

Historical volatility of the Ibex 35

FIGURE 7



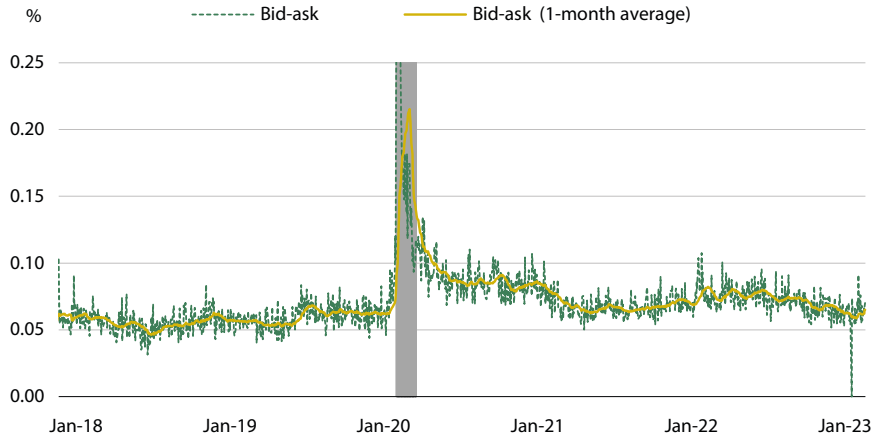
Source: Refinitiv Datastream and own calculations. The indicator is calculated as the annualised standard deviation of the daily price variations of the Ibex 35 over 21 days. The vertical lines in the figure refer to the introduction of the restrictions on short trading: the first for 1 day, which affected 69 banks (13 March 2020), and the second, adopted a few days later and finalised on 18 May 2020, which affected all entities.

Activity: trading, issues and liquidity

Ibex 35 liquidity conditions – as measured by the bid-ask spread – improved slightly in the first months of 2023 and remain at satisfactory levels. The quarterly increase in the volume traded, as well as relatively low levels of volatility over most of the quarter, caused the spread to decrease slightly during the quarter to an average of 0.063%, below the average of the last two quarters (0.076% and 0.069% in the third and fourth quarters of 2022 respectively), while remaining below the historical average of the indicator (0.09%) (see Figure 8).

Ibex 35 liquidity. Bid-ask spread

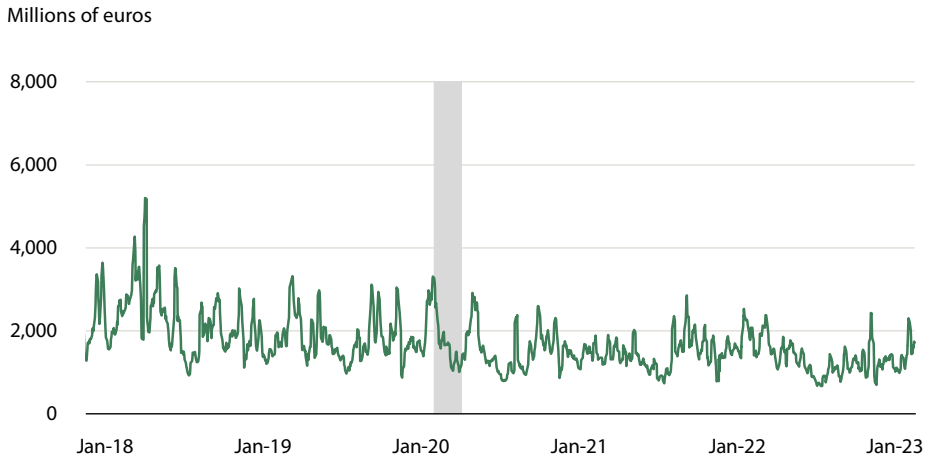
FIGURE 8



Source: Refinitiv Datastream and own calculations. Information is presented on the Ibex 35 bid-ask spread and the last month's average. The vertical lines in the figure refer to the introduction of the restrictions on short trading: the first for 1 day, which affected 69 banks (13 March 2020), and the second, adopted a few days later and finalised on 18 May 2020, which affected all entities.

Against this backdrop of contained average volatility and rising share prices, trading in Spanish equities amounted to €188.17 billion in the first quarter of the year, higher than in the previous two quarters. However, on a year-on-year basis, this volume experienced a 15.3% fall, which is partly explained by the increase in trading that occurred in the sessions close to the start of the Russian invasion of Ukraine in 2022. Average daily trading in the continuous market between January and March 2023 stood at €1.36 billion, higher than in the previous quarter but 20.1% lower year-on-year.

Daily trading on the Spanish stock market FIGURE 9



Source: CNMV. The vertical lines in the figure refer to the introduction of the restrictions on short trading: the first for 1 day, which affected 69 banks (13 March 2020), and the second, adopted a few days later and finalised on 18 May 2020, which affected all entities.

Trading volume increased from the previous quarter on BME's market as well as on trading venues and competing markets. However, in the latter, it did so at a faster pace, leading to a decline in BME's market share to 46.8%.[15] This percentage is calculated as a percentage of total trading subject to non-discretionary market rules. Trading through BME amounted to €87.33 billion (up 11.9%), while trading carried out at competing trading venues reached €100.84 billion (up 24.3%). BME's market share has been slightly below 50% for five consecutive quarters.

In terms of the composition of trading on competing markets and venues, the Cboe Global Markets (Cboe) continued to stand out in terms of absolute value. This market, which operates out of Amsterdam, continues to maintain its leading position, with trading exceeding €73 billion in the quarter (representing more than 72% of foreign trading and almost 84% of BME's trading). However, it lost market share to other competing venues which improved their share to 22.1%. The share of Turquoise, however, remains unchanged at 5.2%.

15 BME's market share reached 49.5% of total trading subject to non-discretionary market rules in the fourth quarter of 2022, while it stood at 48% for the year as a whole. An alternative estimate of BME's share of trading, published by BME and estimated by Liquidmetrix, puts this share in the first quarter of the year at 65.6%.

Likewise, trading carried out through systematic internalisers accounted for around 6% of total Spanish securities trading. This percentage, which is estimated taking total trading as the sum of trading subject to non-discretionary market rules and that carried out through systematic internalisers, remains at similar levels to those of previous quarters. This seems to have halted the downward trend observed in this trading model throughout 2021 and the first half of 2022, which represented clear progress in the fulfilment of one of the objectives of MiFID II regulation, namely to shift part of the trading of equities to multilateral trading venues where they are traded under non-discretionary market rules.

Trading in Spanish equities admitted to trading on Spanish stock exchanges[1]

TABLE 7

Amounts in millions of euros

	2019	2020	2021	2022	III 22	IV 22	I 23
Total	**805,833.0**	**780,343.5**	**690,205.8**	**738,361.6**	**148,635.1**	**159,231.7**	**188,170.4**
Admitted to SIBE electronic platform	**805,826.6**	**778,341.0**	**690,198.4**	**738,353.3**	**148,634.3**	**159,229.7**	**188,169.4**
BME	460,267.4	418,512.6	365,170.2	351,801.8	67,831.3	78,076.5	87,332.8
Cboe Equities[2]	256,772.5	275,682.4	238,466.3	297,465.9	58,949.3	64,050.1	73,290.9
Turquoise	30,550.6	23,242.2	23,101.3	19,474.6	4,446.6	4,289.1	5,244.7
Other	58,236.1	62,903.8	63,460.6	69,611.0	17,407.0	12,814.0	22,301.0
Open outcry	**6.2**	**2.5**	**7.4**	**8.3**	**0.8**	**2.0**	**1.0**
Secondary market	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Pro memoria							
Trading in foreign equities, BME	3,480.5	4,273.8	4,236.0	4,770.9	660.4	674.6	885.9
BME MTF Equity[3]	4,007.7	3,929.0	3,536.5	3,837.3	759.0	1,160.7	996.8
Latibex	136.6	79.5	48.8	93.4	21.5	27.2	28.9
ETF	1,718.0	2,551.4	1,549.0	1,604.8	328.5	291.0	374.5
Total trading through BME	469,616.6	429,348.5	374,655.6	362,116.5	69,601.5	80,231.9	89,619.8
% Spanish equities traded through BME/total Spanish equities	57.4	53.9	53.3	48.8	46.0	49.5	46.8
Systematic internalisers[4]	**141,308.3**	**144,694.4**	**48,469.9**	**42,059.5**	**9,187.6**	**10,835.2**	**11,897.0**

Source: Bloomberg and own compilation by the authors.

1 This includes the trading of Spanish equities subject to market rules or MTF (lit plus dark). Spanish shares on Spanish stock exchanges are those with a Spanish ISIN that are admitted to trading on the regulated market of Bolsas y Mercados Españoles (BME), i.e. not including the Alternative Stock Market (MAB), currently BME MTF Equity. Foreign equities are those admitted to trading in the regulated BME market whose ISIN is not Spanish.

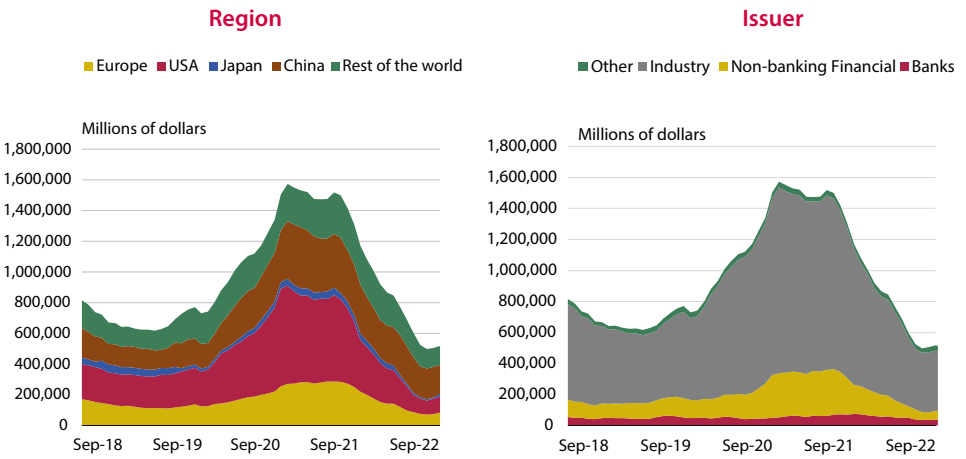
2 Includes trading that until 2020 was carried out through Chi-X and BATS, which since January 2021 has moved to Amsterdam as a result of Brexit.

3 Called MAB (Alternative Stock Exchange) until September 2020. This MTF has three segments: BME Growth (on which growth companies and Spanish real estate investment funds are listed), BME IIC (on which open-ended collective investment companies (SICAVs) and hedge funds are listed) and BME ECR (on which venture capital firms are listed).

4 Data estimated by the CNMV with data from transaction reporting.

The volume of equity issuance in the international financial markets, which fell by 65% in 2022 as a whole to around US$525 billion, continued to fall in the first quarter of 2023, but to a more modest extent (see Figure 10). The amount of these issues was US$140.6 billion in the quarter, 4.3% below the figure for the first quarter of 2022 (US$147 billion). There was different behaviour across regions, with increases in issuance in the United States, Europe and Japan to 31.1 billion, 29.8 billion and 11.7 billion respectively, and decreases in China and the rest of the world. By sector, the smallest decreases were recorded – in relative terms – in the issuance of industrial companies (-2.7% to US$102.3 billion) and banks (-4.8% to US$13.5 billion) and were more pronounced in non-bank financial institutions (-32.6% to US$16.4 billion).

International equity issues FIGURE 10



Source: Dealogic. Accumulated data for 12 months to 31 March.

Equity issues on the Spanish markets amounted to €1.04 billion in the first quarter, 43% less than a year ago. This figure extends the downward trend in primary equity markets that has been observed for almost two years. Practically all capital increases corresponded to operations under the scrip dividend format aimed at remunerating the shareholders of large companies, while fund-raising increases remained negligible.

No companies were incorporated into the continuous market nor did any initial public offerings (IPO) take place in the first quarter of the year. The context of uncertainty may be delaying the decisions of those companies that had in the past shown an interest in going public. Furthermore, BME Growth announced the incorporation of the renewable energy company Greening Group in the second half of April.

Capital increases and IPOs

TABLE 8

	2020	2021	2022	II 22	III 22	IV 22	I 23
Number of issuers[1]							
Total	**28**	**34**	**27**	**10**	**9**	**12**	**6**
Capital increases	28	33	27	10	9	12	6
Public offers for subscription of securities	1	1	1	0	1	0	0
Initial public offerings (IPOs)	0	1	0	0	0	0	0
Number of issuers[1]							
Total	**40**	**52**	**56**	**12**	**9**	**25**	**9**
Capital increases	40	51	56	12	9	25	9
Public offers for subscription of securities	1	1	1	0	1	0	0
Initial public offerings[2] (IPOs)	0	1	1	0	0	0	0
Effective amount[1] (millions of euros)							
Capital increases with fund-raising	**8,903.1**	**13,673.0**	**3,186.4**	**354.1**	**312.3**	**1,573.8**	**13.9**
With pre-emptive rights	6,837.2	7,060.4	254.2	254.2	0.0	0.0	0.0
No pre-emptive rights	150.1	100.0	200	0.0	200.0	0.0	0.0
Accelerated book builds	750.0	0.0	913.5	82.5	90.0	0.0	0.0
Capital increases with non-monetary consideration[3]	233.0	3,525.3	1,381.2	0.0	10.0	1,363.8	1.9
Capital increases via conversion	162.4	109.5	81.6	3.1	2.0	76.5	12.0
Other	770.3	2,878.1	355.9	14.3	20.3	133.6	0.0
Bonus share issues[4]	**1,949.0**	**1,264.9**	**1,503.0**	**347.8**	**694.6**	**37.9**	**1,025.6**
Of which, scrip dividends	1,949.0	1,243.6	1,501.5	347.8	694.6	36.4	1,025.6
Total capital increases	**10,852.1**	**14,938.1**	**4,689.4**	**701.9**	**1,006.8**	**1,611.7**	**1,039.5**
Initial public offerings	**0.0**	**2,200.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
***Pro memoria*: transactions on the MAB[5]**							
Number of issuers	9	44	44	13	13	13	10
Number of issues	14	77	88	26	26	18	27
Cash amount (millions of euros)	238.5	2,441.0	2,329.5	615.2	643.0	724.3	83.9
Capital increases	238.5	2,441.0	2,329.5	615.2	643.0	724.3	83.9
Of which, public offerings	173.5	1,654.0	1,487.1	190.7	399.3	399.3	0.0
Initial public offerings	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: BME and authors.

1 Transactions registered with the CNMV. Does not include data from MAB, ETF or Latibex.

2 Trades linked to the exercise of greenshoe options are separately accounted for.

3 Capital increases for non-monetary consideration are stated at market value.

4 In scrip dividends, the issuer gives existing shareholders the option of receiving their dividend in cash or converting it into shares in a bonus issue.

5 Transactions not registered with the CNMV.

Effects of the introduction of the financial transaction tax on Spanish equity markets

EXHIBIT 1

In early March, the CNMV published an authored study by Ramiro Losada and Albert Martínez of the Research and Statistics Department on the effects of the implementation of the financial transaction tax (FTT) on Spanish financial markets.[1] The tax, which entered into force on 16 January 2021, levies a tax rate of 0.2% on the acquisition of shares admitted to trading on a regulated or equivalent market, regardless of how the trading takes place (it can be carried out on a market under MiFID regulation or it can be over-the-counter (OTC)). The design of the tax excludes intraday trading and some types of transactions are exempted. In addition, the FTT applies only to shares whose issuers have a market capitalisation that exceeds €1 billion on 1 December of the previous year.

The study employs a methodology similar to that used in studies conducted for other markets where similar taxes have been introduced, and aims to contribute to the existing academic literature on the application of these taxes. In order to assess the effect of the introduction of the FTT on Spanish shares in secondary markets, several dimensions of liquidity (measured through the bid-ask spread and the Amihud[2] ratio), volatility (both intraday and historical) and trading volume of the secondary markets in which Spanish shares are traded have been analysed.

The study uses two methodologies, difference-in-differences and regression discontinuity, to capture two types of effects. The first analyses the impact of the introduction of the tax by comparing the performance of the variables subject to the tax in Spain with those of other countries with similar characteristics and not subject to the tax. Volume and share price data from five countries have been used in this case: Spain, Germany, Holland, Portugal and Austria. The analysis period begins on 10 February 2019 and ends on 23 December 2021, and excludes securities with a capitalisation of less than €1 billion. The second methodology compares the performance of the variables linked to the trading of shares of Spanish companies subject to the tax with those of companies not subject to the tax. In this case, the sample is restricted to observations of Spanish securities that are closer to the capitalisation threshold (close to €1 billion) and closer to the date when the tax was introduced (narrow time series). This second approach allows the effects to be tested in observations that are closer to both thresholds.

However, the results of the difference-in-differences analysis reveal that the tax had hardly any effect on the bid-ask spreads. Nevertheless, the level of equity trading was reduced, which in turn led to a slight deterioration in liquidity, as measured by the Amihud ratio, which increased slightly in absolute terms after the introduction of the tax. Volatility, while increasing in the short term, tended to decrease in the long term. This was the case for both intraday and historical volatility measures. Furthermore, the results indicate that the introduction of the tax may have shifted some OTC trading to secondary MiFID markets.

The results of the regression discontinuity analysis suggest that liquidity, as measured by bid-ask spreads, the Amihud ratio and trading volume, was generally not affected for taxable firms closer to the €1 billion capitalisation threshold. However, in some cases a deterioration in liquidity was observed (increase in bid-ask spreads and in the Amihud ratio in the short term and a decrease in trading volume in the medium term). Moreover, the intraday volatility of these companies' shares would have increased after the introduction of the tax.

In conclusion, the study identifies a decrease in trading following the introduction of the tax, albeit limited in absolute terms and with a relatively short time span. It is also noted that the introduction of the tax may have led to a slight concentration of trading on regulated markets, by shifting some OTC trading to secondary MiFID markets. This result was to be expected, since as the total trading volume in shares subject to the tax declines, some investors seek to concentrate their trading in the markets where there is the most trading (Beber et al., 2009). A complementary explanation could be that OTC markets have a higher proportion of institutional investors than regulated markets. These institutional investors would have a more elastic demand, which would cause them to reduce their share in trading to a greater extent. This would result in a higher relative weight of regulated markets when the tax is introduced.

Volatility, while increasing in the short term, tended to decrease in the long term. The design of the tax might have reduced the incentives of some long-term investors to participate in the market, as the tax base is calculated on the basis of the net purchases of shares made on the day. At the same time, the bid-ask spreads of large-cap companies do not seem to have been affected, although the Amihud ratio would have increased slightly in absolute terms. In the case of the shares of companies with a market capitalisation of close to €1 billion, the results reveal that after the introduction of the FTT, liquidity indicators deteriorated in the short term (40-session window), with no effects observed in the medium and long term.

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1 Losada, R. and Martínez, A. (2023). *Analysis of the implementation of the Spanish Financial Transaction Tax in equity markets* CNMV, Working Paper No. 83. Available at: https://www.cnmv.es/DocPortal/Publicaciones/MONOGRAFIAS/DT_ITF_enen.pdf

2 Amihud's measure is defined as a measure of illiquidity that represents the variation in price produced by a traded monetary unit.

3.2 Fixed income markets

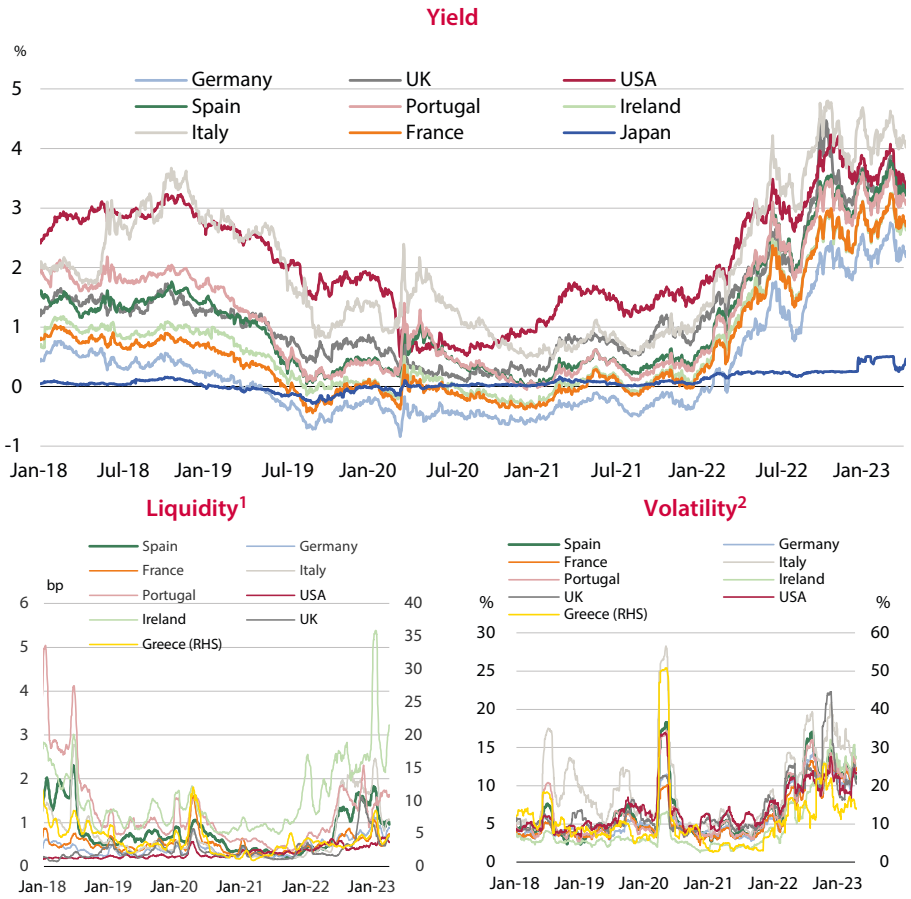
In the fixed income markets, a flattening of the curve was observed in the first quarter of the year. In general, the returns on longer-term assets fell slightly, while the returns on shorter-term assets rose significantly. The decline in the former is explained by the prospect of a possible slowdown in the pace of monetary policy tightening, which was accentuated in March. Conversely, the increase in the latter occurred as official interest rate hikes by central banks materialised.

Interest rates

The 10-year sovereign bond yield moderated in the first quarter of the year in the major advanced economies. In the United States, despite the two rate hikes made by the Federal Reserve, the drop in interest rates on 10-year public debt in the first quarter of the year was 28 bp, down to 3.48%. In this economy, it can be seen that the interest rate curve has inverted, decreasing in the longer terms, which suggests a change in the sign of monetary policy in the medium term. Typically, an inverted yield curve tends to be associated with periods of recession in the future.

10-year sovereign bond market indicators

FIGURE 11



Source: Bloomberg, Refinitiv Datastream and own calculations. Data to 31 March.

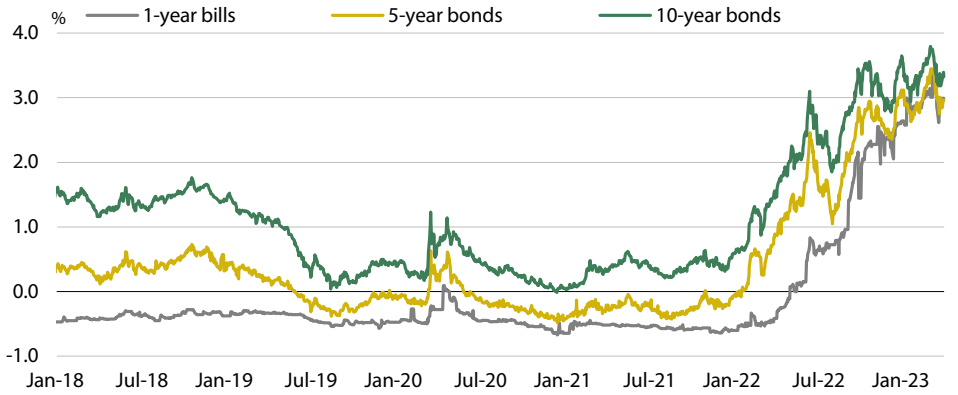
1 Monthly average daily bid-ask spread on 10-year sovereign bond yields.

2 Annualised standard deviation of daily changes in the prices of 40-day sovereign bonds.

In the euro area countries, the falls in the 10-year sovereign bond yield were similar, ranging from 16 bp in Belgium to 47 bp in Italy. The yield on German sovereign bonds fell back to 2.31%, while those of the Netherlands (2.66%), France (2.82%), Finland (2.88%), Belgium (2.97%) and Austria (2.96%) remained below 3%. Portugal's debt yielded 3.16%, lower than Spain's (3.33%), while Italy's (4.12%) and Greece's (4.25%) yielded more than 4%. On the other hand, in the United Kingdom and Japan, rates stood at 3.49% and 0.35%, respectively, down 15 and 10 bp.

In Spain, short-term debt yields rose again in the first quarter for both public and private debt. The increase in short-term debt yields has been more intense in recent months as the ECB's rate hikes have materialised, with the result that the curve has progressively flattened. Moreover, the amount of reinvestments of the ECB's debt purchases will be progressively reduced in the short term.[16] As a result, Treasury bill issuance rates in the primary market reached values of around 3% or higher in the latest auctions[17] and their average yield in March in the secondary market at 3, 6 and 12 months stood at 2.62%, 2.91% and 3.02%, respectively, which represents an increase of between 55 and 113 bp compared to December's values (see Table 9).

Interest rates on Spanish public debt FIGURE 12



Source: Refinitiv Datastream.

Yields on short-term private fixed income assets experienced a milder increase in the first quarter of the year. This trend can be attributed to two factors: i) private fixed income interest rates had already anticipated the tightening of monetary policy in previous quarters, and ii) there is a large dispersion in the yields of the issues, which is explained by the composition of the sample of companies available to calculate the averages. In previous quarters, the sample contained a significant amount of commercial paper issued in the Alternative Fixed Income Market (MARF) by smaller companies, which, although financed at a reduced cost, had higher interest rates than large companies and raised the average interest rates of the sample. In the most recent data, the importance of issuance by large non-financial companies and banks is higher, which tends to reduce the average rates in the sample despite the general context of rising rates. Spanish market data thus show that the average yield on commercial paper in the primary market in March reached values ranging from 0.84% for the three-month benchmark to 1.85% for the 12-month benchmark, levels only slightly higher, and in some cases even lower, than those prevailing at the end of 2022 (see Table 9).

16 The PEEP and PSPP debt purchase programmes ended in June and July 2022, respectively. By the end of March 2023, the ECB, which had purchased Spanish public debt under both programmes, had accumulated a debt stock of €195.878 billion and €316.322 billion in each of them respectively.

17 At the April auctions, the Treasury allotted 3-, 6-, 9-, and 12-month bills at average rates of 2.917%, 2.994%, 3.169% and 3.128% respectively.

Short-term interest rates[1]

TABLE 9

%

	Dec-20	Dec-21	Dec-22	Jun-22	Sep-22	Dec-22	Mar-23
Treasury bills							
3-month	-0.70	-0.77	1.49	-0.41	0.50	1.49	2.62
6-month	-0.59	-0.63	2.16	-0.02	0.96	2.16	2.91
12-month	-0.63	-0.60	2.47	0.56	1.60	2.47	3.02
Commercial paper[2]							
3-month	0.49	0.38	2.27	0.32	0.71	2.27	0.84
6-month	0.55	0.50	0.98	0.65	1.71	0.98	1.43
12-month	1.44	0.81	1.46	0.83	2.83	1.46	1.85

Source: Refinitiv Datastream and CNMV.

1 Monthly average of daily data.

2 Issuance interest rates.

Medium- and long-term bond yields[1]

TABLE 10

%

	Dec-20	Dec-21	Dec-22	Jun-22	Sep-22	Dec-22	Mar-23
Public sector fixed income							
3 year	-0.53	-0.46	2.54	1.58	2.05	2.54	3.05
5 year	-0.42	-0.18	2.71	1.99	2.35	2.71	3.12
10 year	0.05	0.43	3.18	2.65	3.00	3.18	3.45
Private fixed income							
3 year	-0.20	0.12	3.07	1.26	2.15	3.07	3.81
5 year	-0.13	0.13	2.93	1.50	1.94	2.93	3.73
10 year	0.41	0.56	3.11	2.35	3.73	3.11	4.43

Source: Refinitiv Datastream and own calculations.

1 Monthly average of daily data.

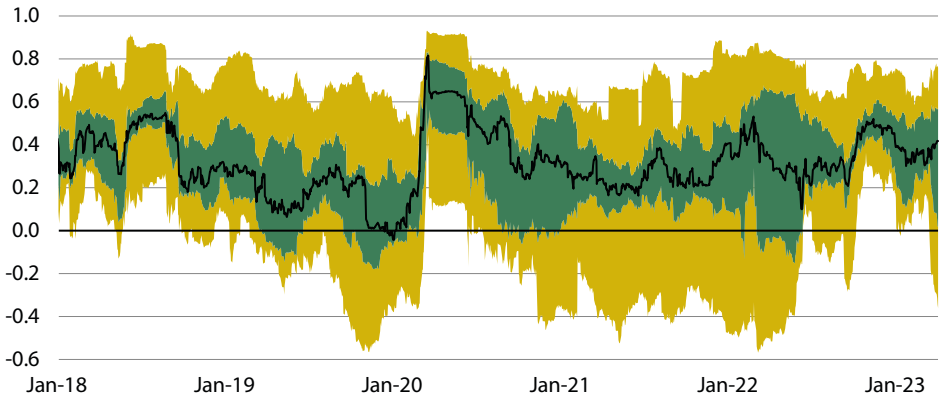
Rates on medium and long-term debt also rose during the quarter (comparing the monthly average in March 2023 with the monthly average in December 2022), albeit more modestly. As shown in Table 10, the yield on 3-, 5- and 10-year government debt in March stood at 3.05%, 3.12% and 3.45% (monthly average), respectively, which is between 27 and 51 bp more than in December.

The behaviour of long-term corporate bonds was similar, although the intensity of the rises was somewhat stronger for all maturities along the curve. The tightening of financial conditions has been passed on to a greater extent to large corporate debt issuers, which are now not supported by the ECB's debt purchase programmes[18] and the reinvestment of maturities is partial. Moreover, this upward

18 By the end of March, the Corporate Sector Purchase Programme (CSPP) had accumulated a purchase volume of €341.97 billion (€344.12 billion at the end of December 2022), of which slightly more than 23%

pressure on yields is more significant in the case of issuers whose issues have never been part of the range of eligible assets[19] as they have lower credit ratings. The March monthly averages put yields on 3-, 5- and 10-year corporate bonds at 3.81%, 3.73% and 4.43% respectively, between 74 and 132 bp higher than in December, implying a risk premium of between 61 and 98 bp over government bonds.

Correlation indicator between asset classes[1, 2] FIGURE 13



Source: Refinitiv Datastream and own calculations. Data to 31 March.

1 The asset class correlation indicator collects pairs of correlations calculated with daily data over a three-month window. The asset classes are sovereign debt, private fixed income of financial and non-financial entities and securities of the Ibex 35, financial companies, utilities and other sectors.

2 As from 7 June 2017, the CDS of the 5-year senior debt of Banco Popular has been excluded from the calculation of ROI on the asset class corresponding to financial fixed income.

The degree of correlation between the prices of different financial asset classes shows a downward balance in the first quarter of the year, although the turmoil in the banking sector led to a slight increase in March (see Figure 13). This drop in the level of correlation stems from the different performances of debt and credit assets relative to stock prices, with the former adjusting their valuations as interest rates rise, while the latter have risen on the back of corporate earnings performance and changing expectations about monetary policy.

Risk premiums

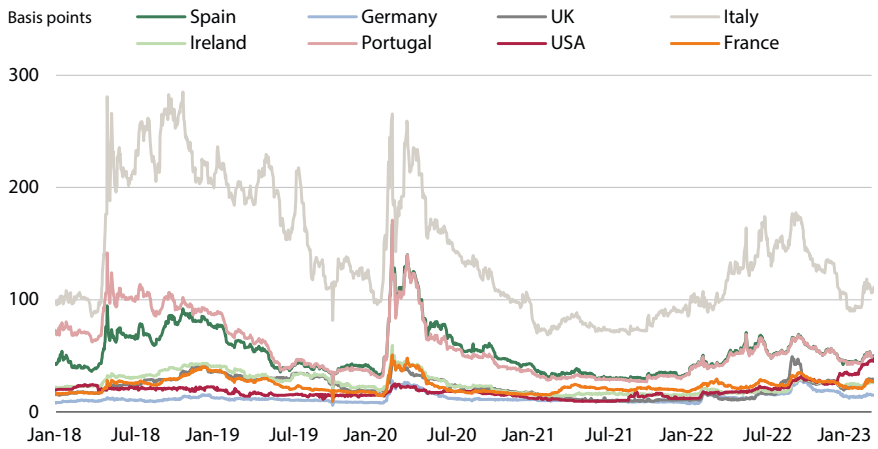
The performance of sovereign credit risk premiums (as measured by 5-year CDS contracts) in advanced economies was mixed in the first quarter, with declines in most euro area economies and increases in the United States. In the case of the United States, an upward trend was observed over the whole quarter, which intensified after the banking crisis episodes. In the euro area, the rise in interest rates has not, for the time being, led to increases in the risk premiums of the most indebted

was purchased in the primary market. Furthermore, as at the same date, it held corporate bonds amounting to €46.05 billion, acquired under the PEEP programme, although it no longer held commercial paper in its portfolio.

19 The ECB requires a minimum investment grade rating for purchases.

peripheral economies, thanks to the support of the ECB's TPI[20] (transmission protection instrument). In Italy and Greece, risk premiums fell by 26 and 16 bp in the three-month period, respectively, while in Spain and Portugal the decline was limited to 6 bp. In Germany, the decrease was 4 bp, whereas there were no changes in France and the United Kingdom.

Sovereign debt credit risk premiums (5-year CDS) FIGURE 14



Source: Refinitiv Datastream. Data to 31 March.

Credit risk premiums in advanced economies' corporate bond markets ended the quarter relatively unchanged, although there was a downward trend in the first few weeks of the quarter and an upward trend thereafter. In the case of high-yield debt, there were even slight declines in the quarter as a whole (8 bp in the United States and 3 bp in the euro area). By contrast, the risk premiums on BBB and AAA debt rose slightly, which was somewhat more pronounced for higher quality debt, which could to some extent be attributed to the discontinuation of the ECB's corporate bond purchase programmes. As seen in Figure 15, the increase in the cost of corporate debt as a result of the rise in interest rates over the last few months has not translated into an increase in the perception of risk of the most indebted companies by investors, who, for the time being, are keeping credit spreads at relatively contained levels.

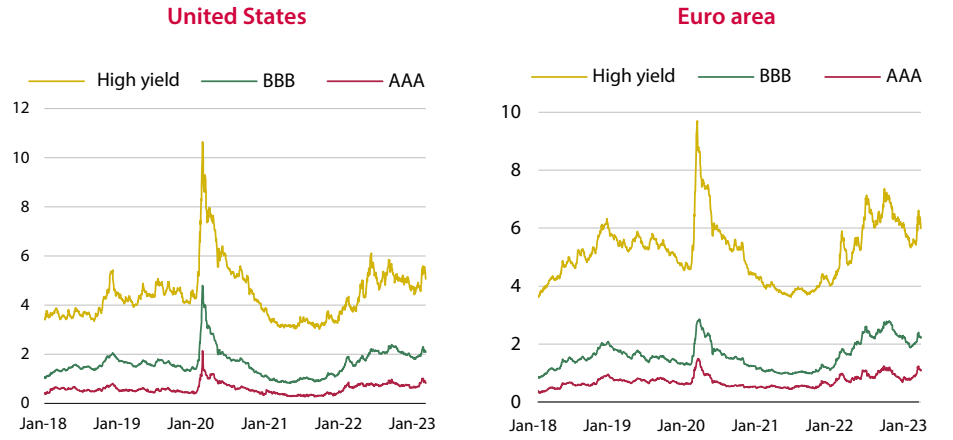
In Spain, the sovereign risk premium[21] closed the quarter at 101 bp, somewhat lower than at the beginning of the year (108 bp). This performance is in line with that of the rest of the neighbouring economies, as mentioned at the beginning of this section. In addition to the implicit support deriving from the tools made available by the ECB, the Spanish risk premium has also benefited from the better-than-expected economic performance and the impact of inflation on GDP, which allows the debt ratio of the most indebted agents to be maintained and even reduced.

20 This tool, approved by the ECB's Governing Council on 21 July 2022, is intended to ensure a smooth transmission of monetary policy to all euro area countries.

21 Defined as the difference between Spanish and German 10-year sovereign bond yields.

Private debt risk premiums Spread compared to 10-year sovereign debt[1]

FIGURE 15

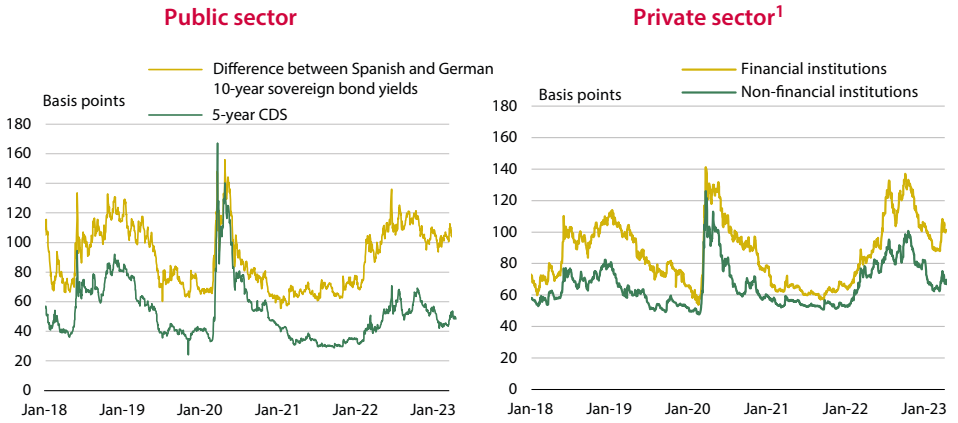


Source: Refinitiv Datastream and own calculations. Data to 31 March. 1.

1 In the euro area in relation to German sovereign debt.

Risk premium of Spanish issuers

FIGURE 16



Source: Refinitiv Datastream and own calculations.

1 Simple average of the 5-year CDS of a sample of entities.

The risk premiums of the private sub-sectors of the Spanish economy also showed slight decreases, which were more pronounced in the case of non-financial companies. Although banks are benefiting from the positive impact of higher interest rates on their margins, their risk premia, which were falling, tightened further in March because of the aforementioned doubts about some banks. Meanwhile, non-financial corporations, while facing a significant increase in their financial expenses, are favoured by the improved economic outlook and the good performance of corporate profits. As shown in Figure 16, the average CDS premiums of financial institutions stood at 100 bp at the end of March, while those of non-financial institutions were 68 bp, 4 and 14 bp lower, respectively, than at the beginning of the year.

Issuance

Gross long-term debt issuance on the international markets, which fell by 26% in 2022 as a whole, was down by 8.3% in the first quarter of the year[22] to US$6.1 trillion. As in the case of equities, primary bond markets have continued to show declines in the first months of 2023, but these are much more modest than in 2022, and with very significant differences across regions and sectors. By region, the increase in fixed income issuance in Europe (up 28.2% to US$1.5 trillion) was notable, compared with declines in the rest of the economic areas analysed: -18% in the United States, -1.4% in Japan and -19.5% in the rest of the world. The increase in debt issuance in Europe is likely to be driven by two elements: i) a relatively weak baseline (the first quarter of 2022) marked by the start of Russia's war in Ukraine and its negative impact on financial markets, and ii) an extension of debt issuance by issuers to the first months of 2023, in anticipation of future interest rate hikes.

International net fixed income issues

FIGURE 17

Source: Dealogic. Half-yearly data. Data for the first haft of 2023 are to 31 March, but are shown as their half-yearly equivalent for purposes of comparison.

22 Half-yearly data.

Gross bond issues by Spanish private sector issuers

TABLE 11

Registered with the CNMV					2022		2023
	2019	2020	2021	2022	III	IV	I[1]
Nominal amount (millions of euros)	**67,390**	**103,053**	**80,094**	**99,108**	**24,649**	**18,587**	**26,039**
Covered bonds	22,933	22,960	28,700	31,350	6,000	4,050	8,750
Territorial bonds	1,300	9,150	5,500	3,540	500	0	750
Non-convertible bonds[4]	9,101	5,545	3,680	2,249	0	500	1,482
Convertible/exchangeable bonds	0	0	0	0	0	0	130
Asset-backed securities	16,471	35,081	18,376	20,645	1,359	3,352	3,800
Commercial paper[2]	15,085	22,301	20,180	39,525	16,288	9,669	10,447
Securitisation	0	0	0	0	0	0	0
Other commercial paper	15,085	22,292	20,180	39,525	16,288	9,669	10,447
Other fixed income issues	1,500	6,266	823	0	0	0	3,380
Preference shares	1,000	1,750	1,625	0	0	0	1,100
Pro memoria:							
Subordinated issues	3,214	14,312	5,727	1,825	345	285	1,651
Secured issues	0	0	0	0	0		0

Issued abroad					2022		2023
	2019	2020	2021	2022	III	IV	I[3]
Nominal amount (millions of euros)	**100,321**	**91,966**	**127,193**	**112,545**	**29,956**	**29,541**	**26,356**
Long-term	53,234	46,282	60,089	48,037	13,429	8,432	14,581
Preference shares	3,070	1,850	3,820	0	0	0	800
Subordinated bonds	1,755	0	1,350	0	0	0	1,068
Bonds	48,409	44,432	58,920	48,037	13,419	8,421	12,702
Asset-backed securities	0	0	0	0	0	0	0
Short term	47,087	45,713	63,104	64,508	16,537	21,120	11,786
Commercial paper	47,087	45,713	63,104	64,508	16,537	21,120	11,786
From asset-backed securitisation	0	0	0	0	0	0	0

***Pro memoria*: gross issues of subsidiaries of Spanish companies in the rest of the world**

					2022		2023
	2019	2020	2021	2022	III	IV	I[3]
Nominal amount (millions of euros)	**92,342**	**71,048**	**69,633**	**81,225**	**19,017**	**18,821**	**15,672**
Financial institutions	57,449	42,120	57,132	57,132	13,071	13,603	11,452
Non-financial companies	34,893	28,928	24,093	24,093	5,945	5,218	4,220

Source: CNMV and Bank of Spain.

1 Data to 31 March.

2 The figures for the issuance of commercial paper correspond to the amounts placed.

3 Data to 28 February.

4 The CNMV registry also incorporates the issues of the SAREB (Spanish Asset Management Company for Assets Arising from Bank Restructuring), which, as it belongs to the public sector, are not included in this table. The amount of this company's issues was €25.284 billion and €8.437 billion in 2022 and the first quarter of 2023, respectively.

By sector, there were declines in sovereign and financial sector issues, and gains in issues by non-financial companies. Gross sovereign debt issues fell by 11.5% as a whole compared with the first half of 2022, to US$3.8 trillion. This decrease, which may in part be due to the reduced financing needs of Public Administrations in 2022, was not uniform across regions. In Europe, sovereign debt issuance increased by 35% to US$738 billion, while the United States and Japan showed decreases of 21% and 7% respectively (see Figure 17).

Gross debt issuance by the private sectors was mixed. Debt issuance by financial institutions declined by 14.4% to US$1.26 trillion, while debt issuance by non-financial companies increased by 18.8% to US$1 trillion. As can be seen in the lower panels of Figure 17, the fall in issues by financial institutions occurred in all regions analysed except Europe, with the sharp decline in the United States standing out. By contrast, the increase in issues by non-financial companies was of a more general nature across the different regions considered and can be seen in the context of a less intense slowdown in activity and a strategy that seeks to limit the cost of debt issues.

Fixed income issues registered with the CNMV by Spanish private sector issuers stood at €26.04 billion, 32.6% less than in the same quarter of 2022. The decrease is partly explained by the comparison with the figures for the first quarter of 2022, which, in the context of the Russian invasion in Ukraine, had increased in certain asset classes (e.g. securitisations). Conversely, issues made abroad in the first two months of the year amounted to €26.356 billion, almost double those registered in the same period of 2022 and higher than those recorded in Spain.

Issues of covered bonds, territorial bonds and asset-backed securities (ABS) fell significantly, with only the growth in the volume of commercial paper and internationalisation covered bonds being noteworthy. Issues of both types of covered bonds and securitisations fell sharply in both absolute and relative terms: in the case of covered bonds, the volume issued fell by almost half and a quarter, respectively, while in the case of securitisations, it was just over a quarter of the amount issued in the first quarter of 2022. Commercial paper issues grew by 53% year-on-year and seem to continue to benefit from the measures resulting from Law 5/2021 of 12 April, which, among other things, exempts issuers from the obligation to draw up a prospectus for issues of commercial paper with a maturity of less than 365 days, as well as from other measures adopted by the CNMV to simplify and streamline issuance processes. Also noteworthy were the 3.38 billion issued in internationalisation covered bonds, the last issue of which had been in 2021.

Issues on the Alternative Fixed Income Market (MARF) amounted to €3.87 billion in the first quarter, 24.5% more than in the same quarter of 2022. Most of this figure corresponded to commercial paper (97%), including that issued by companies such as Sacyr, MásMóvil and Técnicas Reunidas.

Debt issues made by Spanish issuers abroad in the first two months of the year increased to €26.356 billion. With one month of data still to come, this amount is almost double the amount observed in the first quarter of 2022 and originates from both long- and short-term debt issues. Large issuers changed the trend

observed in recent quarters and refocused their funding preferences on longer maturities, given the narrowing of rates between short to medium and long-term debt, as well as the prospect that rates will remain at high levels at least for some time to come. Debt issues of subsidiaries of Spanish companies abroad stood at €5.67 billion (data to February), 15% more than in 2022. Of this amount, almost three-quarters corresponded to financial institutions and the rest to non-financial companies.

The amount of debt issues with environmental, social and governance (ESG) criteria made by Spanish issuers stood at €6 billion in the first quarter (€5.34 billion in the same period of the previous year). The composition of issues made reveals an increase in the relative importance of sustainable or sustainability-linked issues to the detriment of green bonds. In addition, the number of issues made this year was 11 (6 green and 5 sustainable), 1 more than in the same period in 2022. Of the total amount of issues, 2.7 billion corresponded to the private sector (in 6 issues made abroad except 1), a fall of 32.4%, and 3.3 billion to the public sector[23] (in 5 issues made in Spain except 1), well above the amount of 2022 (1.34 billion).

In terms of activity on Spanish trading venues, both trading on the SEND market and on organised trading facilities (OTFs) grew slightly. Trading on the SEND stood at €6.05 billion in the first quarter of the year, **up 15%, but well below the volumes traded in the** 2021 financial year. Trading on the 3 OTFs authorised by the CNMV amounted to €414.2 billion in the first quarter, almost **4% more than in the same period of 2022 and more than double the amount traded in 2021. Of this amount**, €112 billion corresponded to Spanish public debt. The volume traded by OTF Tradition Financial Services España, which accounted for 77% of total trading, was once again a highlight.

4 Market agents

4.1 Investment vehicles

Financial CIS

Investment funds

The assets of investment funds registered in Spain, which experienced a significant increase in 2021, interrupted their growth in 2022, with a contraction of 4.1%, to stand at €324.70 billion at the end of the year. This decline in assets can be explained simply by the fall in the value of the investment portfolio, which had a weighted average return of -8.95% for the year as a whole and was particularly

23 There are four issues by different autonomous regions and one by the Spanish Official Credit Institute (ICO for its acronym in Spanish).

negative in the first half of this year. In fact, in the last quarter there was a revaluation of 1.2% of the total assets in the portfolio. In terms of new inflows, net subscriptions were positive in all quarters of 2022, with a cumulative value of close to €17 billion, of which €8.5 billion were in the fourth quarter.

Most of the inflows went to fixed income funds, which experienced net inflows of more than €15 billion. There were also net inflows, albeit lagging far behind, into passively managed funds, with a total of €4.5 billion, more than 90% of which occurred in the fourth quarter. In global funds, whose net subscriptions had exceeded €22 billion by 2021, net investment flows were 3.8 billion in 2022, while in guaranteed bond funds they amounted to just under 3.4 billion.[24] On the other hand, the largest redemptions (in net terms) were in mixed bond funds, with an outflow of €9 billion, of which around €3.4 billion was due to a change of focus (see Table 12).

Net subscriptions of investment funds

TABLE 12

Millions of euros

				2022			
	2020	2021	2022	I	II	III	IV
Total investment funds	**660.3**	**27,583.3**	**16,977.9**	**1,952.9**	**3,943.9**	**2,503.9**	**8,577.2**
Fixed income[1]	2,062.6	7,674.2	15,171.0	3,801.7	4,461.7	1,708.7	5,198.9
Mixed fixed income[2]	2,619.5	6,537.6	-8,999.8	-2,338.6	-5,840.5	743.9	-1,564.6
Mixed equity[3]	1,601.4	-4,179.3	-686.9	132.2	-620.5	-284.2	85.7
Euro equity[4]	-2,007.7	13.8	-335.9	-164.4	202.8	-53.0	-321.3
International equity[5]	2,633.1	5,260.9	1,782.7	1,402.6	603.8	276.5	-500.2
Guaranteed fixed income	-707.4	-1,787.1	3,355.8	-120.6	345.6	933.1	2,197.7
Guaranteed equity[6]	-2,254.2	-2,949.3	-1,409.6	-906.8	-831.3	108.8	219.6
Global funds	-1,501.2	22,755.0	3,824.2	378.4	5,158.6	-983.4	-729.4
Passive management[7]	-23.8	-2,700.6	4,551.5	-523.0	516.6	412.2	4,145.7
Absolute return	-1,761.9	-3,041.9	-274.9	291.3	-52.8	-358.7	-154.7

Source: CNMV.

1 Includes short-term public debt constant net asset value money market funds (MMF), short-term low volatility net asset value MMF, short-term variable net asset value MMF, standard variable net asset value MMF, euro fixed income and short-term euro fixed income.

2 Includes euro mixed fixed income and international mixed fixed income.

3 Includes euro mixed equity and international mixed equity.

4 Includes euro equity.

5 Includes international equity.

6 Includes variable income guarantee and partial guarantee.

7 Includes passively managed CIS, CIS that replicate an index and CIS with a specific non-guaranteed target return.

24 Fixed income guaranteed funds had been experiencing net outflows since 2013.

The funds' portfolio performance in 2022 was -8.95%, with negative returns in the first 3 quarters of the year. As can be seen in Table 13, all categories performed negatively for the year as a whole, with values ranging from -5% for absolute return funds to -13.1% for international equity funds. Despite these significant declines in 2022 as a whole, in the last 3 months the investment fund portfolio appreciated by 1.2%, with all categories in positive territory, except in the case of guaranteed fixed income funds, which returned -1.4%.

The supply of funds by management companies increased in 2022 to 1.452,[25] after several years during which there had been a progressive reduction. During the year, the number of vehicles increased by 32, after 143 registrations and 111 deregistrations. The largest increase, as in 2021, was in international equity funds, with 32 more funds, to take the number to 339.[26] There was also a strong increase in global and fixed income funds, with 28 and 27 more, respectively. Conversely, the largest declines were in guaranteed equity funds, with 12 fewer than in 2021, a year in which they had already declined by 19, and in mixed bond funds (10 fewer).

The total number of CIS that had availed themselves of Articles 8 or 9 of the European Disclosure Regulation at the end of the year was 295,[27] representing a growth of more than 60% in the number of vehicles in just 1 year. These articles indicate the pre-contractual disclosures that must be satisfied by financial products that promote environmental or social characteristics (Article 8) and financial products whose objective is sustainable investments (Article 9). Of these, the vast majority, specifically 280 (272 investment funds, 2 hedge funds and 6 SICAVs) had availed themselves of Article 8, whereas 15 (14 investment funds and 1 hedge fund) had availed themselves of Article 9. The number of unitholders in these institutions reached almost 8 million and their assets amounted to €112.769 billion, which represents 34% of the total investment in CIS.

The number of unitholders in the sector increased slightly by 1.9% in 2022 and ended the year with a total of 16.1 million.[28] This increase, lower than in previous years, was the result of the good performance in the first 3 months of the year, with almost half a million **more investors than at the end of 2021**, as the following 3 quarters saw slight declines in the number of unitholders (-70,000 between October and December). The largest increase was in international equity funds, with around 275,000 more unitholders, followed by passively managed funds, with an increase of 91,000. Fixed income funds also saw an increase in the number of unitholders, although the figure was much lower than in previous years (63,000 more compared to 1.3 million in 2021). In contrast, mixed fixed income funds marked the largest drop in the number of unitholders, with a decrease of more than 243,000 (-16.6%).

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25 These funds were distributed among 1,684 sub-funds.

26 In the last 5 years, the supply of international equity funds has risen from 211 to 339.

27 Corresponding to a total of 304 sub-funds.

28 It should be noted that the same unitholder is counted for each contract held in different funds, so that the registered increase could be sometimes due to diversification by the same investor into a greater number of funds.

Key figures for investment funds*

TABLE 13

				2022			
Number	**2020**	**2021**	**2022**	**I**	**II**	**III**	**IV**
Total investment funds	**1,644**	**1,611**	**1,684**	**1,622**	**1,625**	**1,625**	**1,684**
Fixed income[1]	276	266	293	264	268	274	293
Mixed fixed income[2]	174	181	171	180	175	168	171
Mixed equity[3]	186	192	206	195	198	197	206
Euro equity[4]	104	94	86	92	89	85	86
International equity[5]	276	307	339	319	328	329	339
Guaranteed fixed income	55	43	49	43	42	46	49
Guaranteed equity[6]	133	114	102	111	102	101	102
Global funds	248	263	291	275	280	284	291
Passive management[7]	118	88	93	81	81	85	93
Absolute return	72	61	54	60	60	54	54
Assets (millions of euros)							
Total investment funds	**279,694.5**	**324,701.0**	**311,466.4**	**316,020.4**	**302.684,2**	**299,627.1**	**311,466.4**
Fixed income[1]	81,015.9	88,422.8	98,561.1	90,688.1	92.858,9	93,280.9	98,561.1
Mixed fixed income[2]	43,200.4	50,869.7	37,846.0	46,975.3	39.139,4	39,147.9	37,846.0
Mixed equity[3]	30,432.7	28,141.1	24,247.9	27,072.9	24.638,2	23,812.0	24,247.9
Euro equity[4]	7,091.1	8,279.6	7,226.3	7,650.0	7.366,7	6,764.1	7,226.3
International equity[5]	37,722.5	51,222.2	45,588.9	50,254.2	45.344,7	44,650.5	45,588.9
Guaranteed fixed income	4,177.0	2,346.7	5,454.9	2,166.9	2.458,4	3,323.4	5,454.9
Guaranteed equity[6]	11,037.1	8,094.9	6,306.7	7,054.3	6.089,1	6,082.6	6,306.7
Global funds	40,944.5	67,591.0	63,717.0	65,204.9	66.365,4	64,401.4	63,717.0
Passive management[7]	14,014.3	12,500.4	15,935.0	11,570.7	11.336,4	11,470.4	15,935.0
Absolute return	10,057.4	7,231.2	6,582.5	7,382.7	7.086,8	6,693.5	6,582.5
Unitholders							
Total investment funds	**12,660,100**	**15,816,557**	**16,119,440**	**16,314,155**	**16,276,281**	**16,188,727**	**16,119,440**
Fixed income[1]	4,135,294	5,476,096	5,539,272	5,483,985	5,517,117	5,530,370	5,539,272
Mixed fixed income[2]	1,203,280	1,459,004	1,216,179	1,412,031	1,222,259	1,256,457	1,216,179
Mixed equity[3]	745,112	721,346	696,718	731,053	715,504	705,131	696,718
Euro equity[4]	530,107	778,138	836,711	864,790	875,675	852,841	836,711
International equity[5]	3,043,542	3,882,184	4,156,864	4,342,851	4,294,359	4,239,517	4,156,864
Guaranteed fixed income	135,320	77,430	141,717	74,099	81,826	99,959	141,717
Guaranteed equity[6]	356,439	265,043	209,188	235,945	202,655	204,133	209,188
Global funds	1,409,759	1,989,428	2,067,594	1,992,279	2,179,303	2,111,670	2,067,594
Passive management[7]	511,251	505,514	596,475	494,585	494,942	512,763	596,475
Absolute return	587,040	659,411	658,722	679,573	689,677	672,922	658,722

Key figures for investment funds* (*continuation*)

TABLE 13

				2022			
	2020	2021	2022	I	II	III	IV
Return[8] (%)							
Total investment funds	**0.78**	**6.31**	**-8.95**	**-3.16**	**-5.38**	**-1.81**	**1.20**
Fixed income[1]	0.62	-0.31	-5.38	-1.71	-2.51	-1.39	0.14
Mixed fixed income[2]	-0.03	2.49	-8.83	-3.18	-4.76	-1.80	0.69
Mixed equity[3]	0.59	7.18	-11.37	-4.21	-6.81	-2.20	1.52
Euro equity[4]	-8.75	16.72	-8.39	-5.62	-6.06	-7.55	11.77
International equity[5]	2.83	21.14	-13.14	-4.11	-10.67	-1.98	3.44
Guaranteed fixed income	1.68	-1.29	-8.43	-2.55	-2.35	-2.44	-1.36
Guaranteed equity[6]	0.70	0.06	-5.44	-1.79	-2.08	-1.82	0.15
Global funds	-0.31	7.90	-10.53	-3.90	-5.61	-1.50	0.14
Passive management[7]	0.44	9.82	-9.31	-3.38	-6.62	-2.53	3.13
Absolute return	0.94	3.02	-4.95	-1.88	-3.27	-0.52	0.67

Source: CNMV.

* Information on funds that have sent confidential statements (does not therefore include funds in the process of dissolution or liquidation).

1 Includes short-term public debt constant net asset value money-market funds (MMFs), short term low volatility net asset value MMF, short term variable net asset value MMF, standard variable net asset value MMF, euro fixed income and short term euro fixed income.

2 Includes euro mixed fixed income and international mixed fixed income.

3 Includes euro mixed equity and international mixed equity.

4 Includes euro equity.

5 Includes international equity.

6 Includes GIF and partial guarantee.

7 Includes passively managed CIS, CIS that replicate an index and CIS with a specific non-guaranteed target return.

8 Annual return for 2020, 2021 and 2022. Quarterly return not annualised for quarterly data.

Technical Guide on reinforcing the transparency of CIS with a specific target return and fixed income CIS with a buy-and-hold strategy

EXHIBIT 2

On 26 April, the CNMV published the *Technical Guide on reinforcing the transparency of CIS with a specific target return and fixed income CIS with a buy-and-hold strategy.*[1] This technical guide, which is part of the 2023 Business Plan initiative, updates the criteria included in *Technical Guide 1/2017 on enhancing transparency of investment funds with a specific long-term target return,* applicable only to those with a term of more than three years. Six years after its publication, it has been considered necessary to reinforce some aspects to bring them in line with best market practices and to extend their application to collective investment undertakings (CIS) with buy-and-hold strategies. The aim is to strengthen investor protection and informed consent when acquiring these funds.

In 2022, 32 investment funds with buy-and-hold strategies and 41 with a specific return target were registered with the CNMV. This trend has continued in the months up to 2023 (21 funds in the first category and 18 in the second category had been registered up to the date of publication of the guide). This justifies the validity of the objectives pursued with the update of Technical Guide 1/2017, as some of the criteria are being applied in the CNMV's registration practice to funds with buy-and-hold strategies, given the similarities of these CIS with those with a specific return objective.

The main objectives of the technical guide are:

– Establish criteria on the information provided to the investor on the estimated return (in terms of APR) that can reasonably be expected on fixed income CIIs with a buy-and-hold strategy, in the event that they hold their investment until the maturity of the strategy's time horizon, so that the investor has very important information for their investment decision.

– Complete the contents of the Technical Guide 1/2017 to reflect the registration and supervisory experience gained since its publication. In particular, establish criteria on the warnings to be given to investors about the risk of not valuing part of their transactions during the trading period, as well as about the effects of inflation on the nominal return on their investments.

– Reinforce some of the warnings included in the previous technical guide. The first is the liquidity cost warning, which will become applicable to funds that provide the investor with less than 12 liquidity windows per year (possibility to redeem without fees) instead of the 4 annual windows referred to in the 2017 rule. The second is that the risk of loss warning in the event of rising interest rates will apply to all funds and not only to those with a term of more than 3 years, as was previously the case.

– Extend the stated warnings on the term risk and liquidity cost of the fund to the fixed income investment funds of the fund with a buy-and-hold strategy.

The content of the technical guide has been defined after analysing and assessing the comments and observations received during the public consultation period (from 13 February 2023 to 31 March 2023), as well as the report issued by the CNMV's Advisory Committee.[2] At the same time as the public consultation process, the CNMV has for the first time commissioned a market study among retail investors (consumer testing) as part of its procedure for drawing up circulars and technical guides. The objective was to gauge investors' understanding of the text of the warnings and to identify adjustments to the wording to aid their understanding. This has allowed a number of modifications to be made to the final wording of the warnings in the light of the results of this process, in order to make them more comprehensible to the end-investor.

The CNMV points out that certain risks applicable to this type of fund are also relevant for other fixed income products not subject to the technical guide – such as bills, bonds, debentures or fixed income funds other than these two types – in

contexts of stressed interest rates or high inflation. Entities marketing or advising on them must, in compliance with their customer information duties, provide customers with adequate information to ensure that they understand the associated risks and costs.

1 *Technical Guide 1/2023 on reinforcing the CIS transparency with a specific target return and fixed income CIS with a "buy-and-hold" strategy*. Available at: cnmv.es/DocPortal/DocFaseConsulta/CNMV/GT_1_2023_Transparencia.pdf

2 A document with the assessment of the allegations received has also been made public. Available at: https://www.cnmv.es/DocPortal/DocFaseConsulta/CNMV/GT_1_2023_ValoracionObservaciones.pdf

The liquidity conditions of the investment funds' investment portfolio continued to be satisfactory in 2022, with a slight increase in assets considered to be more liquid, as the ratio of high quality liquid assets (HQLA)[29] rose from 38% to 42%. This ratio, which takes into account both the type of asset and its credit ratings[30] when determining the portfolio's liquid assets, stood at 31.9% for mixed funds,[31] 42.1% for equity funds,[32] 56.7% for bond funds[33] and 57.9% for money market funds. It is important to mention that investment in other CIS, which is particularly high in the case of mixed funds,[34] is not considered a liquid investment under this methodology, therefore the above-mentioned figures could be considered as a lower limit of the proportion of more liquid assets of investment funds. For this reason, in order to carry out an individualized analysis of the liquidity of investment funds, it has been decided to eliminate this investment from the total financial assets. If the amount of investments in other CIS is disregarded in the calculations, the individual fund liquidity analysis reveals that most investment funds had a level of liquid assets exceeding 40%,[35] with only 8.4% of the total (in terms of assets) having a ratio below this threshold (see Figure 18). The fixed income category has the highest proportion of funds with the lowest HQLA ratio: 14% of the funds (in terms of assets) had a proportion of liquid assets below 40% and 2.3% had a proportion below 20%.

29 High quality liquid assets.

30 High quality liquid assets are considered to be all cash and deposits, 50% of the value of the equity portfolio and variable percentages of public debt, private fixed income and securitisations depending on their credit rating. The percentage of public debt that would be considered liquid ranges between 0 and 100%, that of private fixed income is between 0 and 85% and that of securitisations is between 0 and 65%. For further details, see the article by Ojea, J. (2020). "Quantifying uncertainty in adverse liquidity scenarios for investment funds". CNMV Bulletin, Quarter II, pp. 25-47.

31 Includes the following vocations: absolute return, passive management, global, mixed fixed income, mixed equity and guaranteed equity funds.

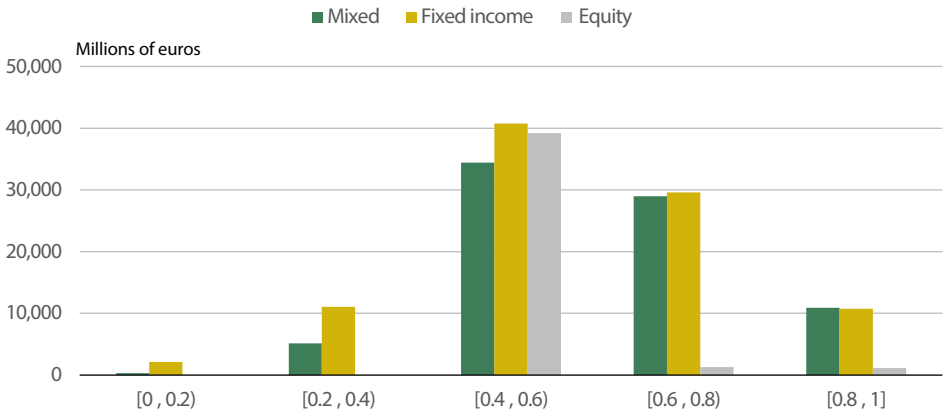
32 Includes euro and international equity funds.

33 Includes fixed income and guaranteed fixed income.

34 Investment in other CIS accounts for 48.4% for these institutions, while the percentage is 21.3% for fixed income funds and 4.5% for equity funds.

35 When calculating the ratio of high quality liquid assets, the denominator used is the total assets of the fund excluding the value of investments in other CIS.

HQLA in the different types of investment funds FIGURE 18



Source: CNMV.

Open-ended collective investment companies (SICAVs)

As a consequence of the legislative change aimed at SICAVs,[36] more than 50% were removed from the CNMV register, therefore, at the end of 2022 there were only 1,091 registered vehicles. This contraction was reflected both in the assets of these vehicles and in the number of shareholders: while the former fell by 44.3% during 2022 to close the year at €15.864 billion, the latter declined by 62% to €133.480 billion. This further reduction in the number of shareholders caused the average net assets per SICAV to increase substantially, from €12.5 million at the end of 2021 to €14.5 million a year later. Almost all SICAVs were listed on the BME MTF Equity market.

In the first two months of this year, the number of SICAVs continued to fall, with February ending with 695 registered vehicles, 396 fewer than at the end of 2022. Moreover, given that the regulatory deadline for deregistration is 30 June this year, it is expected that the liquidation process of many of the remaining institutions will continue.

Hedge funds

The total assets of hedge funds[37] continued to grow as they have for several years, rising by 5.9% in 2022 to €4,635 million at the end of the year. This segment continues to represent a very small share of collective investment in Spain as they account for just over 1% of total assets. 84% of the combined assets of these institutions corresponded to a hedge fund (81% one year earlier) and the remaining 16% to a funds of

36 This regulatory change, instrumented through Law 11/2021, of 9 July, on measures to prevent and combat tax fraud, requires shareholders to have a minimum share of €2,500, together with the existing requirement that there must be a minimum of 100 unitholders, in order to continue to benefit from the previous tax regime, according to which they were taxed at a Corporation Tax rate of 1%, in the same way as investment funds.

37 This collective investment segment consists of two types of vehicles, depending on whether they invest in assets directly (hedge funds) or through other hedge funds (funds of hedge funds). Both types can be set up in the form of funds or companies.

hedge funds. The total number of vehicles registered with the CNMV at the end of 2022 was 100, 17 more than at the end of the previous year. As can be seen in Annex 3.1, the increase occurred only in the hedge fund segment, which closed the year with 92 institutions (27 new registrations and 8 deregistrations), while in the funds of hedge funds segment there were 2 deregistrations, leaving 8 vehicles at the end of December. In the first 2 months of this year, the expansion in the hedge fund segment continued, with 10 registrations in the CNMV register.

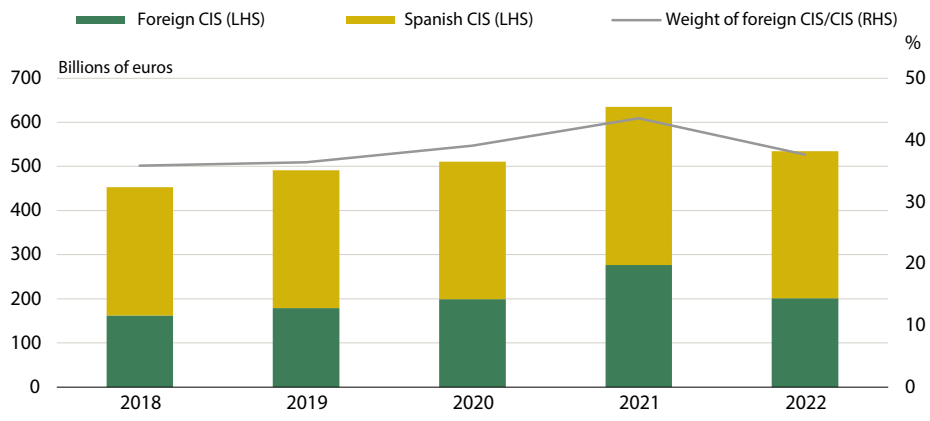
The return of the two types of vehicle was uneven: while the annual performance of the hedge funds was negative (-7.7%), that of funds of hedge funds saw a revaluation of the portfolio (3%). Accordingly, hedge funds recorded a negative return in the first 3 quarters of 2022, in line with the performance of the financial markets, while it was positive between October and December (1.9%). The total number of unitholders and shareholders of these institutions remained virtually unchanged, declining by only 7 from the previous year to 14,164. In the case of hedge funds, despite the significant number of registrations during the year, the total number of unitholders only increased by 0.4%, up to 8,817. There was a decline, also negligible, of 0.7% in the case of funds of hedge funds, which ended the year with 5,347 unitholders.

Foreign CIS marketed in Spain

The volume of foreign CIS marketed in Spain, after having increased notably in recent years, contracted by 27.2% in 2022. The assets of these entities stood at €201.059 billion at the end of the year. As can be seen in Figure 19, this decline, larger than that of domestic CIS, reduced the weight of foreign CIS in the total number of CIS marketed in Spain to 37.6% of the total (43.5% in 2021). Despite the decline in the assets of these institutions, their number (in the CNMV register) increased by 21 entities in 2022 (26 in 2021), so that by the end of December there were a total of 1,095 such vehicles (426 funds and 669 companies). The majority of registrations were of vehicles from Ireland, with 17 more registrations, bringing the total number of registrations to 248. The State with the highest number of registered vehicles continued to be Luxembourg, with 498 (501 in 2021).

Assets of foreign CIS marketed in Spain

FIGURE 19



Source: CNMV.

Outlook

The better than expected economic performance and rising interest rates make CIS more attractive, but their expansion may be constrained by lower investor savings. The year 2022 already saw fixed income funds receiving the lion's share of the industry's investment flows, in view of the rising yields of fixed income products. This trend may continue this year, especially in funds with shorter maturities. However, two important factors that may limit the dynamism of the industry in the short term should be borne in mind: i) first, it should be noted that rising interest rates also make other investment products more attractive, in particular bank term deposits and debt assets, which are natural competitors to some forms of mutual funds (in fact, the most recent *Financial Accounts* data already show some recovery of household investment in these financial assets), ii) second, it is necessary to consider that the resources available for investment may be constrained as a result of higher inflation and higher payments related to variable rate loans. It is reasonable to expect that the volume of resources allocated to the acquisition of financial assets, at least on the retail investor side, will be lower than historical averages in the short term.

Review of FSB and IOSCO liquidity recommendations and later works

EXHIBIT 3

In 2017 the FSB published a set of recommendations aimed at mitigating potential risks arising from asset management (*FSB´s Policy Recommendations to Address Structured Vulnerabilities from Asset Management Activities*). In a complementary way, and with the aim of putting part of these recommendations into practice, in 2018 IOSCO published its Recommendations for Liquidity Risk Management for Collective Investment Schemes. Well, throughout 2022, these exercises were carried out to assess the degree of compliance with both groups of recommendations.

First, the results of the review of the IOSCO[1] recommendations were presented, which focused on assessing the degree of implementation of these recommendations in the regulatory frameworks of 14 participating jurisdictions, which account for 92% of global assets under management. An additional 11 jurisdictions participated in the assessment with less stringent criteria and, finally, on a voluntary basis, 76 management companies responded to a questionnaire on their overall liquidity management policies.

Of the 17 IOSCO recommendations, ten were chosen for evaluation: five (R.1, R.2, R.3, R.4 and R.7), referring to the initial design phase of the fund; three (R.10, R.12 and R14), to day-to-day liquidity management; and two (R.16 and R.17), to contingency plans and the availability of liquidity management tools. As can be seen in the table below, of the 14 participating jurisdictions: seven (China, Germany, Japan, Luxembourg, Spain, the United Kingdom and the United States) were rated fully compliant with all ten recommendations evaluated; two (Ireland and France) were fully compliant with nine of the ten recommendations, and four (Brazil, Canada, India and Switzerland) were fully compliant with at least six of the recommendations and the remainder were complied with broadly or partly. Australia was the lowest rated jurisdiction. Even so, it was fully compliant with 3 of the recommendations, broadly compliant with 6 and partially compliant with the remaining ones.

A high degree of compliance is also observed among the 11 additional jurisdictions. Finally, all of the large managers (more than US$1 trillion in assets under management) have liquidity management practices in place that meet the recommendations, and more than half of the total have adopted practices whose results are consistent with the recommendations.

Results of the review of IOSCO's liquidity recommendations TABLE E3.1

	Design phase					Day to day management			Contingency plans	
	R. 1	R. 2	R. 3	R. 4	R. 7	R. 10	R. 12	R. 14	R. 16	R. 17
Australia										
Brazil										
Canada										
China										
France										
Germany										
India										
Ireland										
Japan										
Luxembourg										
Spain										
Switzerland										
United Kingdom										
United States										

Source: IOSCO.

Green: full compliance, yellow: general compliance, orange: partial compliance and red: non-compliance.

The outcome of the review of the FSB's recommendations became known at the end of the year.[2] The assessment was carried out by a working group set up within the Supervisory and Regulatory Cooperation Committee (SRC) which assessed the degree of effectiveness of four blocks of recommendations aimed at: i) reducing the structural risk of liquidity mismatch in open-ended collective investment schemes (CIS), ii) promoting the use of liquidity risk management tools, iii) reinforcing the periodic submission of data to the regulators that allow correct monitoring of the liquidity risk of CIS and, finally, iv) promoting stress test exercises both at individual CIS level and at the macro level, taking into account the interrelationships of the CIS with the rest of the entities of the financial system.

The main conclusion of the assessment work was that, despite the improvements observed since the publication of the FSB recommendations in 2017, certain vulnerabilities still persist and need to be addressed by strengthening some of the recommendations. The final report proposes improvements in the four areas analysed. For example, in the case of liquidity mismatches, it is proposed to classify open-ended investment funds into three categories according to the liquidity profile of their portfolio, so that redemption conditions are aligned with this

liquidity profile. In the area of liquidity management tools, it is proposed that supervisory authorities should encourage their use within their jurisdiction, especially those with an anti-dilutive effect, i.e. those that disable the benefits that investors who redeem the former gain in a crisis scenario. On the availability of data on investment funds, it is proposed to improve the data available on liquidity mismatches and the use of liquidity management tools, as well as to enhance the information provided to investors on the effects of the use of the tools. Finally, with regard to stress testing, it is proposed to encourage the conduct of stress tests and the exchange of information between jurisdictions as regards their design and use.

Spain already complies with the FSB recommendations, even with those aspects that are intended to be strengthened.

In this regard, the CNMV has received monthly data on fund portfolios for years, which allows it to continuously monitor the liquidity risks assumed by investment funds. In addition, and with regard to liquidity management policies and tools, the recently published *Technical Guide 1/2022 on the Management and Control of Liquidity of Collective Investment Schemes (CIS)* specifies and develops the principles established in CNMV Circular 6/2009 of 9 December on internal control of CIS management companies. In particular, it specifies the criteria that must be taken into account for an adequate liquidity management policy, both in the design phase of the CIS and in its day-to-day activity, and, finally, determines the criteria for a correct application of the liquidity management tools, among others of the anti-dilutive ones.

In order to review the FSB recommendations in line with the proposed improvements, a new joint FSB/IOSCO working group has been set up. The review work is ongoing this year and will be complemented by guidelines developed by IOSCO on the use of anti-dilution tools. In a second phase, work will be done to identify the data that should be included in the supervisory reporting in order to monitor liquidity risk in investment funds. The CNMV participates actively in all these works.

1 https://www.iosco.org/library/pubdocs/pdf/IOSCOPD721.pdf
2 Assessment of the Effectiveness of the FSB's 2017 Recommendations on Liquidity Mismatch in Open-Ended Funds – Financial Stability Board

4.2 Provision of investment services

Credit institutions are by far the largest providers of investment services in Spain and account for the bulk of fee income in the various types of services. In 2022, credit institutions received 88.3% of this income, almost 2 percentage points more than a year earlier (see Table 14). Broker-dealers and brokers, however, still retain some relative importance, especially in order transmission and execution activities, although they have also been losing their share in this segment for about 10 years.

In addition to these entities, specific investment services are provided by EAFs (financial advisory firms) and portfolio management companies (SGC).[38]

Fees received for investment services. 2022 TABLE 14

Amounts in millions of euros

	Investment firms[1]	Credit institutions[2] (CI)	Total	% CIs total
Total Investment services	**632**	**4,745**	**5,376**	**88.3**
Placement and underwriting	9	358	367	97.5
Processing and execution of orders	285	827	1,112	74.4
Portfolio management	40	719	759	94.7
Investment advice	87	904	990	91.3
Marketing of CIS	210	1,937	2,147	90.2
Total ancillary services	**281**	**1,481**	**1,762**	**84.1**
Administration and custody	38	749	783	95.7
Other ancillary services	247	732	979	74.7

Source: CNMV and Bank of Spain.

1 Includes broker-dealers and brokers, financial advisory firms (EAF) and branches of foreign IFs.

2 Includes banks, savings banks, credit cooperatives and branches of foreign credit institutions.

Credit institutions

The number of domestic credit institutions (banks, savings banks and credit cooperatives) registered with the CNMV for the provision of investment services stood at 108 at the end of 2022, the same number as a year earlier.[39] The total number of foreign credit institutions able to provide investment services in Spain at the end of the year was 458, after an increase of 43 during the year. This development, at least in part, was due to the reorientation of entities that were previously established in the United Kingdom as a result of Brexit.[40] Of the total number of foreign entities, 403 operated under the freedom to provide services regime and 55 through branches, and almost all of them were from other EU Member States (452 entities).

The aggregate amount of fees and commissions received for the provision of investment services and the marketing of CIS increased slightly by 1.3% in 2022 to €6.23 billion (see Table 15). The provision of non-ancillary investment services accounted for €2.81 billion in fees for credit institutions, 2.8% less than in 2021, with disparate behaviour of the different items: fees for order processing and execution and investment advice increased by more than 5%, while fees for placement and underwriting of securities and discretionary portfolio management decreased. In

38 In the case of SGC, none have been registered in Spain since December 2021.

39 Of the 108 institutions, 99 were considered to be actively providing investment services.

40 In 2021, 69 entities established in the United Kingdom had been deregistered.

terms of fees for ancillary investment services, these institutions received €1.48 billion, 19.5% more than in 2021, with a particularly strong growth in revenue from financial reporting and analysis, which amounted to 548 million.[41]

Income of credit institutions[1] from the provision of securities services and the marketing of non-bank financial products

TABLE 15

Amounts in millions of euros

	2019	2020	2021	2022	% of total fees of CIS[1]
For investment services	**1,847**	**2,167**	**2,888**	**2,808**	**16.5**
Placement and underwriting	296	354	531	358	2.1
Processing and execution of orders	498	642	786	827	4.9
Discretionary portfolio management	479	527	725	719	4.2
Investment advice	573	644	846	904	5.3
For ancillary services	**923**	**1,055**	**1,240**	**1,481**	**8.7**
Administration and custody	650	651	744	749	4.4
Financial reports and research	148	234	280	548	3.2
Other ancillary services	125	169	216	183	1.1
Marketing of non-bank financial products	**4,084**	**4,009**	**4,778**	**4,934**	**29.0**
Collective investment schemes	1,597	1,581	2,018	1,937	11.4
Pension funds	927	972	1,134	1,200	7.0
Insurance	1,437	1,377	1,604	1,793	10.5
Other	123	80	23	5	0.0
Total	**6,854**	**7,231**	**8,906**	**9,223**	**54.1**
Pro memoria:					
For securities services and marketing of CIS	4,367	4,802	6,146	6,226	35.1
Total fee and commission revenue	**14,527**	**14,595**	**16,261**	**17,039**	**100.0**

Source: CNMV and Bank of Spain.

1 Includes banks, savings banks, credit cooperatives and branches of foreign credit institutions.

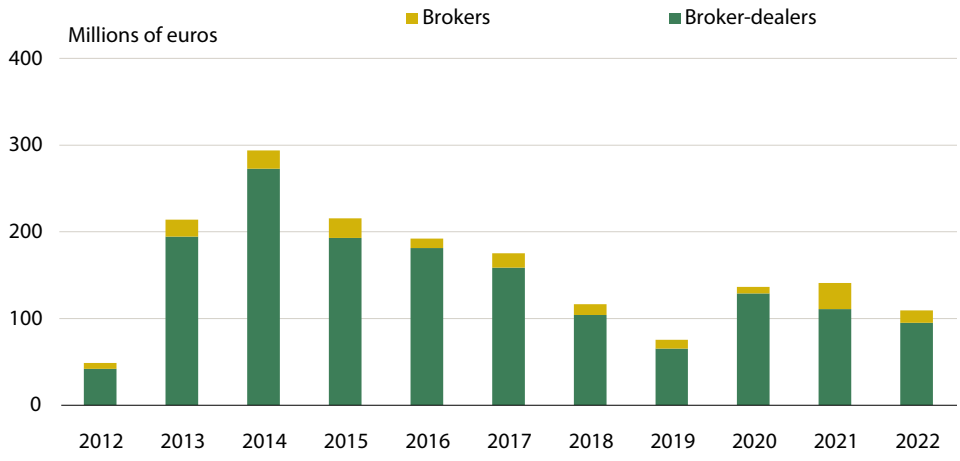
Broker-dealers and brokers

In 2022, the broker and broker-dealer investment services business experienced a substantial contraction in relation to the previous year's figures. There was a reduction in income in all the activities carried out by these institutions, and this was particularly high in those related to securities market intermediation. The change process in the business model of a considerable part of these entities is thus continuing, as the main traditional business, brokerage in the securities markets, continues to progressively lose weight. This is, at least partially, the shifting of part of the trading of the Spanish stock exchanges to other platforms established outside Spain.

41 These fees have grown remarkably in recent years: almost tripling since 2019.

In 2022, broker-dealers and brokers reported a combined profit before tax of €109.4 million, 22.3% more than one year earlier. This decline was the result of the contraction in profits of both broker-dealers, with a decline of 14.1%, and brokers, where the decline was much larger in relative terms, namely 52.5% (see Figure 20).

Aggregate profit before tax of broker-dealers and brokers FIGURE 20



Source: CNMV.

In terms of entities registered with the CNMV, at the end of 2022 there were a total of 95 broker-dealers and brokers, 4 more than **at the end of 2021, thus continuing the expansionary trend of recent years.** This increase, which was the result of 9 registrations and 5 deregistrations, was due, at least in part, to the creation of independent brokerage firms related to non-bank entities with foreign capital. This fact highlights the transformation of this sector towards a growing presence of independent institutions and those belonging to non-bank groups. Most entities that provided services in the European Union did so under the freedom to provide services regime, specifically 55 (two more than in 2021) and, and five entities maintained branches in other countries (three less than in a year before).

The number of foreign entities providing investment services in Spain increased by 22 in 2022, following 65 new authorisations and 43 deregistrations. By the end of December, there were a total of 965 such institutions, most of which were from Cyprus, the Netherlands and Germany, after the UK institutions were deregistered in 2021 as a result of Brexit. Of all foreign institutions, 922 were operating under the freedom to provide services, 20 more than at the end of 2021, while those operating through branches numbered 43 (41 a year earlier).

Broker-dealers experienced a significant decline in revenues compared to 2021, caused by a decrease in fee and commission income (-39.1%) and, to a lesser extent, in income from other operating products and charges (-95.2%). Within revenues from the provision of services to third parties, there was a contraction in all fees and commissions, including a 35.4% decline in order processing and execution

fees, the most important for broker-dealers, to €105.8 million.[42] As for other fees, the reduction in fees received for the placement and underwriting of securities from €86.3 million to less than €8 million is particularly significant. Although the decline in CIS marketing fees was also smaller, they fell moderately (-1.9%) to €63.4 million, making them the second largest.

Fee income and operating expenses fell by 52.9% and 21.1% respectively, in line with the lower activity in the sector. This, together with a 75.8% increase in income from financial investment income, offset the contraction in revenue, so that the operating result increased by 1.2%. However, the significant decline in "Other income" caused the pre-tax result to fall by 14.1% to €95.1 million.

The aggregate profit before tax for brokers, as mentioned above, experienced a significant contraction in 2022, falling by 52.5% to €14.3 million. The worsening results were due not so much to lower revenues as to higher costs arising from operating expenses. As a result, fee income fell by 2% to €198.3 million. In contrast to broker-dealers, fees for order processing and execution of broker orders increased significantly (27.5%) to more than €18 million. The fees from the marketing of CIS also grew, albeit more moderately, and closed 2022 at €94.3 million, 3.2% higher than in 2021. By contrast, the largest decline was in investment advisory revenues, which contracted by 6.5% to €37.5 million. Operating expenses increased by 7.4%, which, together with lower revenues, caused the pre-tax result to fall by more than 50%.

Despite the decline in profits, the sector's return on equity (ROE) before tax rose significantly during the year, from 13.7% to 19.4%. Performance was uneven between the two types of entities: while in broker-dealers the ROE showed a rise from 11.5% in 2021 to 20.4% in 2022, for brokers there was a decrease from 24% to 14.9% (see left hand panel of Figure 21). Moreover, the number of loss-making institutions increased by 8 to 37. This increase was caused solely by brokers, as at the close of 2022 there were a total of 26 brokers in losses, 10 more than in 2021. In contrast, the number of broker-dealers fell from 13 to 11. The aggregate amount of losses remained similar to that of 2021, at €25.2 million.

42 This decline is due in part to the departure of Credit Suisse in August, which was very active in this investment service and was transformed into a credit institution.

Aggregate profit and loss account (Dec-22)

TABLE 16

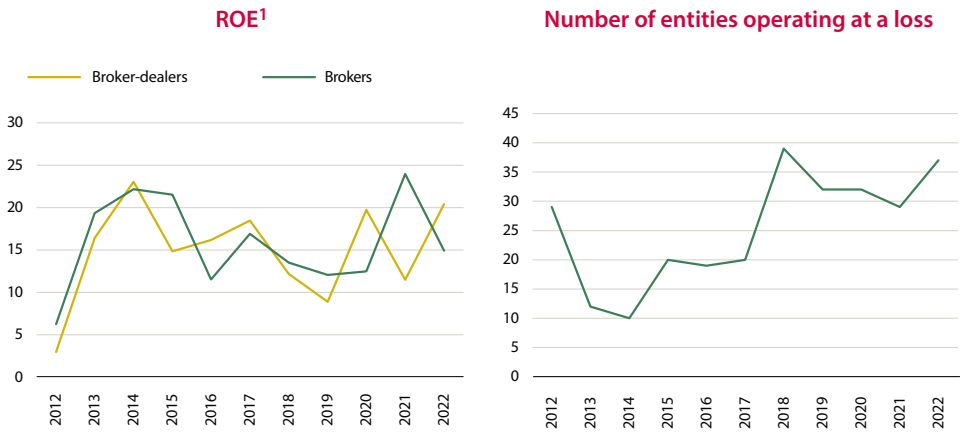
Amounts in thousands of euros

	Broker-dealers			Brokers		
	Dec-21	Dec-22	% change	Dec-21	Dec-22	% change
1. Net interest income	41,565	66,519	60.0	454	960	111.5
2. Net fees	265,790	191,789	-27.8	173,785	170,724	-1.8
2.1. Fees received	481,945	293,594	-39.1	202,333	198,293	-2.0
2.1.1. Processing and execution of orders	164,293	105,849	-35.6	14,140	18,030	27.5
2.1.2. Issuance placement and underwriting	86,324	7,881	-90.9	1,481	1,187	-19.9
2.1.3. Deposit and book-entry of securities	36,880	32,979	-10.6	425	286	-32.7
2.1.4. Portfolio management	15,860	14,096	-11.1	22,874	23,388	2.2
2.1.5. Investment advice	7,944	7,937	-0.1	40,142	37,547	-6.5
2.1.6. Search and placement of block trades	5,306	1,010	-81.0	0	0	-
2.1.7. Market credit transactions	0	0	-	0	0	-
2.1.8. Marketing of CIS	64,608	63,402	-1.9	91,375	94,339	3.2
2.1.9. Other	100,728	60,440	-40.0	31,896	23,516	-26.3
2.2. Fees paid	216,155	101,805	-52.9	28,548	27,569	-3.4
3. Gains/(losses) on financial investments	32,733	57,558	75.8	666	-1,479	-
4. Net exchange differences	972	-273	-	213	527	147.4
5. Other products and operating charges	34,398	1,645	-95.2	-989	61	-
Gross margin	**375,458**	**317,238**	**-15.5**	**174,129**	**170,793**	**-1.9**
6. Operating costs	276,737	218,470	-21.1	145,812	156,604	7.4
7. Depreciation, amortisation and other charges	9,599	7,893	-17.8	2,200	4,184	90.2
8. Impairment losses on financial assets, net	156	836	435.9	-38	-13	65.8
Operating profit	**88,966**	**90,039**	**1.2**	**26,155**	**10,018**	**-61.7**
9. Other gains and losses	21,754	5,057	-76.8	3,846	4,244	10.3
Profit before tax	**110,720**	**95,096**	**-14.1**	**30,001**	**14,263**	**-52.5**
10. Tax on income	17,239	12,940	-24.9	7,199	3,899	-45.8
Profit from continuing operations	**93,481**	**82,156**	**-12.1**	**22,802**	**10,364**	**-54.5**
11. Profit/(loss) from discontinued operations	-2,773	0	100.0	0	0	-
Net profit for the year	**90,708**	**82,156**	**-9.4**	**22,802**	**10,364**	**-54.5**

Source: CNMV.

ROE before tax of investment services firms and number of loss-making institution

FIGURE 21

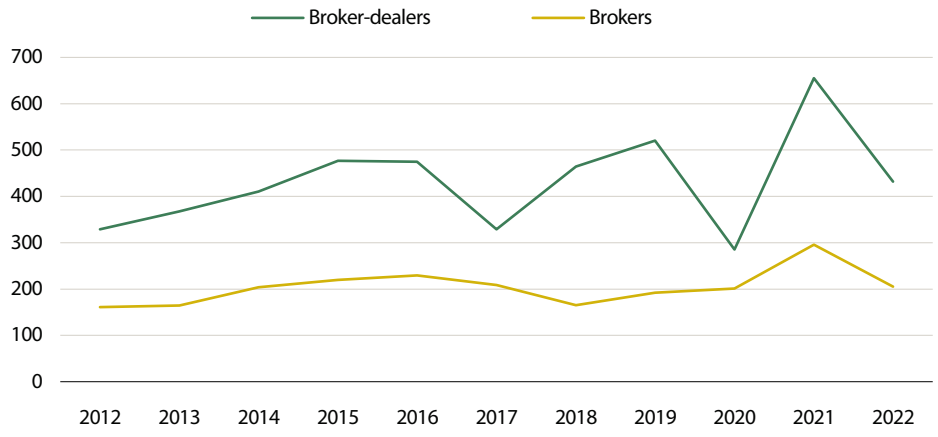


Source: CNMV.

1 ROE calculated with profit before taxes.

Investment services firms solvency margin (excess of computable own resources over the enforceable own resources)

FIGURE 22



Source: CNMV.

The sector continued to exhibit high relative solvency levels – albeit with low absolute amounts – overall during 2022: at year-end the equity margin was 3.6 times the volume of enforceable resources. This figure was high but lower than that observed in 2021 (5.3 times), which was the first year of the calculation of the institution's solvency margins in accordance with Regulation (EU) 2019/2033.[43] This Regulation is more proportionate and appropriate to the level of risk assumed by investment firms and requires fewer own funds from most companies than the

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

previous Regulation, although solvency margins are likely to experience some variability in the first years of the Regulation, which will diminish as institutions adjust their own funds levels to the new requirements. As usual, the capital surplus was generally larger for broker-dealers than for brokers, standing at around 4.3, for the former, and 2.0 for the latter (see Figure 22). In addition, 2 brokers and 2 broker-dealers closed the year with a capital deficit.

Financial advisory firms (EAFs)

At the end of 2022, there were 143 EAFs registered with the CNMV, 3 more than at the end of 2021, after 2 years without any changes. Total assets under advisory services decreased by 4.7% to €18.62 billion. This decline was due to the decrease in assets under advice in the professional customer segment, which fell by 18.8% to €8.454 billion. In contrast, as can be seen in Table 17, assets under advice in retail customer segment increased by 11.4% over the year to more than €10 billion. This trend, which has been observed for some years, appears to indicate that the model for this business is shifting towards one in which the retail segment plays a more prominent role.

Main figures of financial advisory firms

TABLE 17

Thousands of euros

	2020	2021	2022	% change 22/21
Number of entities	**140**	**140**	**143**	**2.1**
Assets under advice[1]	**17,423,050**	**19,530,452**	**18,617,956**	**-4.7**
Retail clients	6,907,284	9,125,730	10,164,034	11.4
Professional clients and other	10,515,766	10,404,722	8,453,922	-18.8
Number of clients[1]	**7,264**	**9,329**	**10,700**	**14.7**
Retail clients	6,867	8,893	10,274	15.5
Professional clients	384	436	426	-2.9
Other	13	-	-	-
Fee income	**45,782**	**56,823**	**56,757**	**-0.1**
Fees received	**45,153**	**56,430**	**56,133**	**-0.5**
From customers	37,363	45,364	43,139	-4.9
From other entities	7,790	11,066	12,994	17.4
Other income	**629**	**393**	**624**	**58.8**
Equity	**30,177**	**33,334**	**35,546**	**6.6**
Share capital	5,454	6,151	6,971	13.3
Reserves and carry-overs	18,979	21,128	23,912	13.2
Profit/(loss) for the year	4,837	6,517	3,708	-43.1
Other own funds	907	-461	955	-307.2

Source: CNMV.

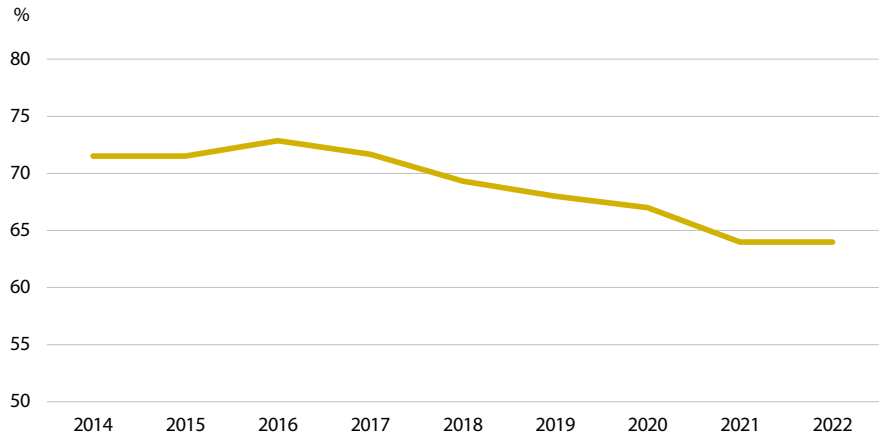
[1] End-of-period data at market value.

The total profit of these types of entities contracted significantly, from €6.5 million in 2021 to €3.7 million in 2022. This drop was mainly due to an increase in expenses, as fee and commission income remained stable at €58.8 million. Within these, fees received directly from clients decreased by 4.9% to €43.1 million, while income from rebates and other fees from other entities grew by 17.4% to reach €13 million at the end of 2022.

A complementary view of the entities that provide investment services

It is of interest to analyse the business related to the provision of investment services on the basis of the institutions' business model, rather than the type of institution. Information on the activity of providing investment services[44] is usually presented according to the type of entity (credit institution, investment services firm or CIS management company). However, a more focused view of the business model of these entities might be more useful and more accurately reflect the reality of the industry. This section provides a more precise definition of which part of the business related to the provision of investment services is carried out by banks that could be referred to as "commercial", whose income comes mainly from the provision of typical banking services (deposits, loans, etc.) and which part is carried out by entities specialised in the provision of investment services. This last group would be formed by independent investment services firms and CIS management companies (that is, not subsidiaries of commercial banking groups) and by banks specialised in the provision of investment services.

Participation of financial institutions related to commercial banking[1] in total income from the provision of investment services[2] FIGURE 23



Source: CNMV.

1 This group of entities includes commercial banks (understood to be those that are not specialised in the provision of financial services) and the investment firms and CIS management companies that belong to them.

2 Includes CIS management activity, although this is not an investment service from a legal point of view.

44 Includes CIS management activity, although this is not strictly speaking an investment service from a legal point of view.

The calculations carried out reveal that in 2022 64% of the business related to the provision of investment services in Spain[45] corresponded to traditional commercial banks or their group companies. The remaining 36% corresponded to financial entities specialised in providing of investment services that are not linked to commercial banking. This proportion, similar to that of 2021, tends to stabilise the downward trend in the weight of commercial banks in this sector observed since 2017 (in 2016 this weight stood at 73%, see Figure 23).

Outlook

The business of providing investment services shows little change in relation to the patterns that have been observed for some years with a predominance of credit institutions in this sector and a diversification of the business by investment firms. Credit institutions have consolidated their relevance in the provision of investment services by progressively increasing their share of the fees received for these services. This share, which stood at 77% of the total in 2010, increased to the range of 88-90% in the years 2015-2016 and has remained stable at these high proportions since then. At the same time, the income received from this activity has also shown an increasing relevance within the total fees of credit institutions: the percentage, which was 18% in 2010, has increased over the years to more than 35% in 2021 and 2022. The fact that this business has been a strategic consideration for credit institutions is also reflected in the fact that most of them have progressively incorporated their broker-dealer and broker business into their parent companies. As a consequence of these changes, the set of broker-dealers and brokers that continue to operate is, in general terms, characterised by the fact that they are increasingly independent (from traditional commercial banks) and present a more diversified business among the different investment services they can provide. The marketing of CIS, investment advice and portfolio management are becoming increasingly important.

4.3 CIS management companies

In 2022, the number of collective investment scheme management companies (SGIICs) remained stable (at 123), but not their assets under management, which declined by 7.2% to €332.6 billion euros.[46] This decline, as mentioned in previous sections, was due solely to the fall in the value of the portfolio of the institutions under management. As in previous years, the largest share of assets was accounted for by domestic mutual funds, which also increased by almost 4 percentage points to 93.7%, followed by SICAVs with 4.6% (8.2% a year earlier). It is important to note, irrespective of these figures, that the management of foreign CIS by domestic management companies increased by 0.7%, despite the contraction in the total assets of these vehicles, and amounted to €23.3 million. This seems to indicate that domestic managers are increasing their market share in this segment. The sector remained highly concentrated in 2022: the three largest management companies held a combined share of 50.1% of total assets, almost 2 pp more than in 2021.

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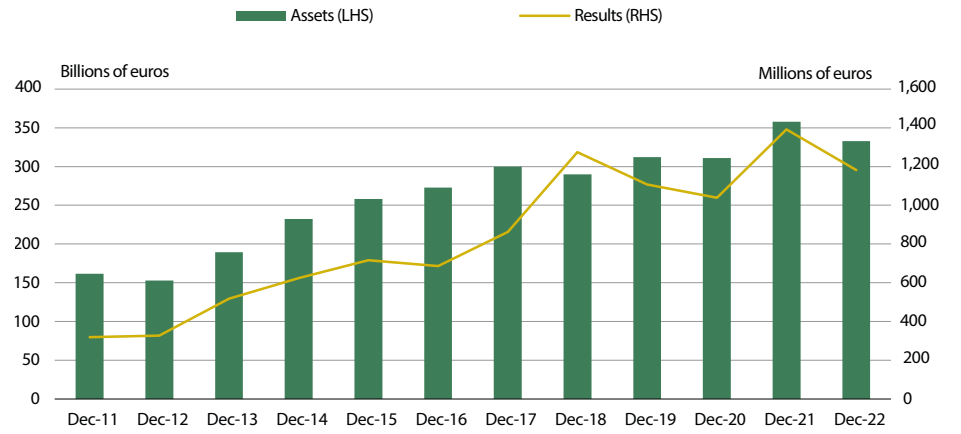
45 Measured through fees received and including CIS management fees.

46 This figure corresponds to the information obtained from the confidential statements that Spanish CIS submit to the CNMV.

CIS management companies: assets under management and profit before tax

FIGURE 24



Source: CNMV.

CIS management companies: assets under management, CIS management fees and average fee ratio

TABLE 18

Amounts in millions of euros

	Assets under management	Income from CIS management fees	Average CIS management fee (%)	Fee ratio[1] (%)
2014	232,232	2,004	0.85	61.80
2015	258,201	2,442	0.95	63.68
2016	272,906	2,347	0.86	61.67
2017	299,974	2,647	0.88	58.68
2018	290,364	2,649	0.91	51.24
2019	312,235	2,638	0.84	49.75
2020	311,043	2,551	0.82	49.72
2021	358,349	3,026	0.84	47.74
2022	332,588	2,832	0.85	50.49

Source: CNMV.

1 Relationship between costs from commissions for the marketing of funds and revenue from CIS management fees.

Aggregate pre-tax profits of the CIS management companies shrank by 15.1% in 2022 to €1.034 billion, as a result of the decline in assets under management. This fact gave rise to a decrease in fees received of 5.2%, within which CIS management fees – which are by far the largest, with around 85% of the total fees received by the management companies – did so by 6.4%, up to €2.832 billion (see Table 18). This amount represented 0.85% of assets, a figure very similar to that of the previous year (0.84%). As a consequence of the decline in the profits of these institutions, the ROE declined from 103.5% at the end of 2021 to 82.8% in 2022. At the same time, the number of loss-making companies increased significantly to 26 (14 in the previous year), with a total value of €9.6 million, also well above the €5.7 million in 2021.

4.4 Other intermediaries: venture capital firms and crowdfunding platforms

Venture capital firms

In 2022, private equity and venture capital activity continued to mark the same upward trend seen in recent years, with a large number of new entities, which was much higher in terms of vehicles than management companies. The number of investment vehicles registered with the CNMV increased by 184 (125 in 2021), after 204 registrations and 20 deregistrations, while the number of management companies increased by 13 (3 in 2021), with 16 registrations and 3 deregistrations.

Traditional venture capital entities[47] saw 137 registrations and 15 deregistrations, for a total of 319 venture capital funds and 310 venture capital firms at the end of the year. In the case of SME venture capital entities, there were 7 registrations and 1 deregistrations, and as of 31 December 2022 there were a total of 39 vehicles (14 funds and 25 firms). A significant number of European venture capital funds (EuVECA) were also registered, 42 to be precise, and 2 European Social Entrepreneurship Funds (EuSEFs), which meant that at the end of the year there were a total of 85 and 8 entities, respectively, of these typologies.[48]

Registrations and deregistrations in the venture capital registry in 2022 TABLE 19

	Situation as at 31/12/2021	Registrations	Deregistrations	Situation as at 31/12/2022
Entities				
Venture capital funds	276	53	10	319
SME venture capital funds	13	2	1	14
European venture capital funds (EuVECA)	44	42	1	85
European social entrepreneurship funds (EUSEF)	6	2	0	8
Venture capital firms	231	84	5	310
SME venture capital firms	20	5	0	25
Total venture capital firms	**590**	**188**	**17**	**761**
Closed-ended collective investment funds	43	14	1	56
Closed-ended collective investment firms	38	2	2	38
Total closed-ended collective investment entities	**81**	**16**	**3**	**94**
Management companies of closed-ended collective investment entities	**122**	**16**	**3**	**135**

Source: CNMV.

47 Traditional entities are understood to be those that existed before the entry into force of Law 22/2014, of 12 November.

48 EuVECA and EuSEF are entities regulated under Regulation (EU) No. 345/2013 of the European Parliament and of the Council, of 17 April 2013, on European venture capital funds and Regulation (EU) No. 346/2013 of the European Parliament and of the Council, of 17 April 2013, on European social entrepreneurship funds

The number of closed collective investment schemes grew somewhat less in 2022 than in previous years, leaving 94 such vehicles at the end of the year. This figure, spread over 56 funds and 38 firms, represents an increase of 13 vehicles, all funds, compared to the figure at the end of 2021, and is explained by 16 registrations and 3 deregistrations during the year. It should be mentioned that this type of collective investment scheme enjoys high flexibility both in its investment policy and in terms of compliance with investment ratios, which are more restrictive in the case of venture capital firms.

The data for 2022, provided by SPAINCAP,[49] show a 15% increase in the volume of investment compared to 2021, up to €8.74 billion in 935 transactions, thus maintaining the dynamism observed in 2021**.** As in previous years, investment by international funds accounted for 80.7% of the total volume, thanks in part to their prominence in large transactions (those of more than €100 million). From the point of view of the project development phase, the venture capital segment (seed and start-up phases) was, as in previous years, the most active in terms of the number of transactions, with a total of 745 (691 in 2021), in which almost €1.5 billion was invested.

Crowdfunding platforms

Regulation (EU) 2020/1503 of the European Parliament and of the Council, of 7 October 2020, on European Crowdfunding Service Providers (ECSP) makes it compulsory for crowdfunding platforms (CPs) that were operating under national law to comply with this Regulation. The deadline for this adaptation was extended by the adoption of the Commission Delegated Regulation (EU) 2022/2311, published on 21 October 2022, until 10 November 2023. As a result, CPs registered with the CNMV that have not yet been brought into line with the European regulation have one more year to do so. By 31 December 2022, six platforms had been authorised to adapt to the above-mentioned European regulation, two of which completed the process in 2022.

As regards CPs still operating under national regulations, activity in 2022 was low. As a result, no authorisations were resolved during the year, although 1 CP was registered and 2 were deregistered, leaving 26 registered at the end of the year. In fact, of these 26, only 24 were CPs themselves, since the other two, as mentioned in the previous paragraph, had already completed the process of switching to ECSP (see Table 20).

49 Association of venture capital institutions in Spain, formerly known as ASCRI.

Number of registered crowdfunding platforms

TABLE 20

Platform type	Securities	Loans	Mixed	Total
CP	8	6	10	24
ECSP	2	0	0	2
Cumulative total	**10**	**6**	**10**	**26**

Source: CNMV.

II Reports and analysis

Transition risk in Spanish investment funds

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Summary[1]

The transition to a low-carbon economy may generate risks to financial sustainability arising from the materialisation of transition scenarios that have not been foreseen by economic agents. The analysis shows that the risks to the financial system from a late and disorderly transition are substantial. However, while the climate transition will generate costs for business, these risks must be considered alongside the benefits of limiting global warming, so that the costs and opportunities of the ecological transition are jointly assessed.

1 Introduction

The transition to a low-carbon economy may generate risks to financial sustainability arising from the materialisation of transition scenarios that have not been foreseen by economic agents. Uncertainty caused by changes in investor preferences, technological disruptions and the implementation of climate policies, particularly in an abrupt manner, can lead to a prolonged decline in the price of financial assets over time. The greater the uncertainty and the more abrupt the implementation of policies, the more sudden the fall in prices will be.

The green transition will increase the operating costs of carbon-intensive companies and reduce demand for their products. These changes may increase funding costs, reduce the value of stranded assets and carbon-intensive assets (brown assets), and deteriorate the credit quality of issuers, leading to losses on financial instruments issued by companies vulnerable to the transition.

Analysing the link between investment funds and carbon-intensive companies provides early warning indicators of systemic risk arising from the climate transition. Their commitment to decarbonising their portfolios and the disclosure of new climate and environmental information may cause investors to reduce or reject carbon-intensive investments, leading to a contagion effect on overlapping exposures and a risk of flight from brown assets. In addition, financial institutions with shares and debt in brown companies could also be affected by the transition, due to the increased credit and market risk in their portfolios.

1 This article summarises the methodology and analysis collected in Crisóstomo (2022). *Measurement of transition risk in investment funds*. CNMV, Working Paper No. 81.

To quantify the impact of the climate transition, Crisóstomo (2022) proposes a framework that estimates the loss in value that each individual asset in a portfolio could suffer under an adverse transition risk scenario. The vulnerability of each counterparty to climate transition is assessed in this study on the basis of its carbon intensity and economic sector. Credit risk and market risk measures are also considered for each exposure in the portfolio to assess the risk inherent in positions with different credit quality, duration, convexity or volatility.

This analysis shows that investment funds would suffer significant losses in a scenario of high transition risk. Overall, the loss of mark-to-market (MtM) value in the mutual fund sector is 5.69%. However, the distribution of losses is highly skewed, with the worst 1% of funds experiencing an average loss of 21.34%. These figures represent a lower level of potential losses in the fund sector, as they only take into account the direct and first round effects of the climate transition. Amplifying factors such as the market impact of forced sales, the relationship between profits and rebates, indirect contagion or other systemic factors could trigger cascading effects and non-linear impacts that increase the ultimate loss.

It also concludes that sustainable funds perform better than the general fund sector in the green transition. In terms of tail risk, the worst performing sustainable vehicles in the 1% and 5% tranches suffer a loss of 14.65% and 11.00% (compared to 21.34% and 15.47% in the fund sector). In aggregate terms, the loss observed for all sustainable funds as a whole is 5.70%, lower than the 5.92% that would be achieved by the sector's portfolio of funds with comparable investments in terms of asset classes. These figures indicate that sustainable funds are slightly less exposed to transition risk and invest in financial assets that perform better than their sectoral comparables in the climate transition.

Furthermore, Spanish fund portfolios have lower transition risk than their European counterparts. Using the framework developed by Alessi and Battiston (2022), the transition risk exposure ratio (TEC) of Spanish funds is 4.37%, compared to 6.11% for EU funds. Taking into account the percentage of the portfolio included in the calculation, the adjusted TEC for Spanish funds rises to 12.91% (compared to 29.2% for EU funds). In addition, sustainable funds have a significantly lower TEC and adjusted TEC than Spanish and EU funds, which reinforces their consideration as green investments.

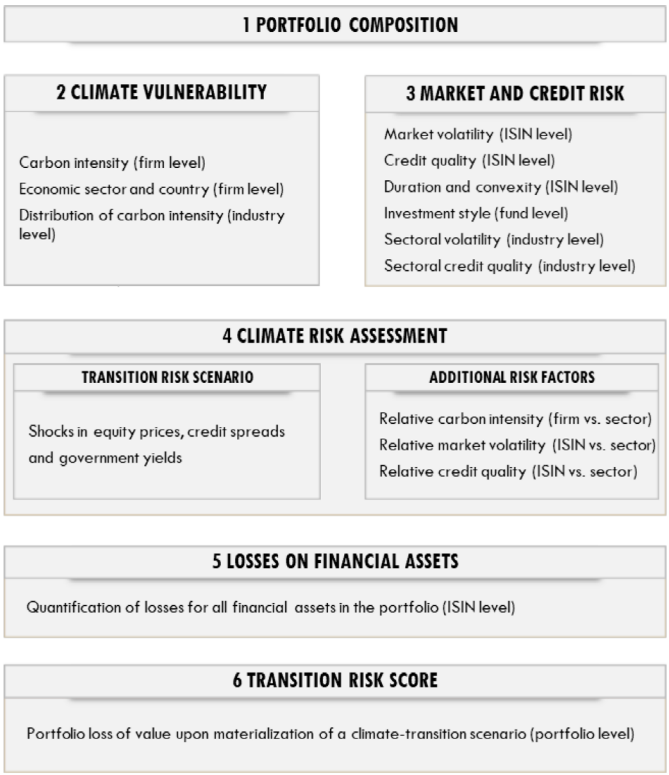
2 Measurement of transition risk in investment portfolios

The main aspects of the methodology used to quantify the impact of climate transition on investment portfolios are outlined below.[2] Figure 1 describes the steps and risk factors used to estimate transition risk in investment funds.

2 The complete methodology can be consulted in Crisóstomo (2022).

The assessment of climate risk starts with the portfolio at the ISIN code level of each investment fund. The sensitivity of each counterparty to the climate transition derives from its carbon intensity and the economic sector in which it operates.[3] Economic sectors with higher greenhouse gas (GHG) emissions, such as utilities, transport, mining and fossil fuels, are more at risk of suffering losses in the climate transition, because policies aimed at reducing emissions and facilitating the green transition may negatively influence carbon-intensive industries in terms of their carbon intensity.

Steps and risk factors used to quantify the transition risk FIGURE 1



Source: Crisóstomo (2022).

Beyond sectoral information, company-specific factors, such as product mix, reliance on different energy sources or its technology portfolio, can also significantly alter a company's climate risk profile. Therefore, in addition to sectoral factors, individual company data are used to discriminate between the best and worst positioned companies in each economic sector.

3 Due to problems of availability and comparability of Scope 3 emissions, carbon intensity calculations include only Scope 1 and 2, which may underestimate the emissions of some sectors compared to others. Also, as reported in Crisóstomo (2022), carbon intensity is calculated by dividing emissions by the level of revenue, which generates relatively higher intensities in unconsolidated or new technology companies that have not yet reached a high level of revenue.

Furthermore, even for the same company, the behaviour of its financial instruments will differ according to the type of asset considered and the characteristics of each exposure. For credit instruments, the risk of loss varies according to the credit quality, collateral, duration and convexity of each exposure. Similarly, the risk of loss of equity instruments also varies depending on market factors such as the volatility of the underlying asset.

On this basis, Crisóstomo (2022) develops a methodology that quantifies the loss in value that each individual exposure, and consequently the corresponding portfolio, could suffer in an adverse transitional risk scenario. This methodology allows for a consistent assessment of the transition risk of five interrelated asset classes: i) equities, ii) corporate bonds, iii) sovereign debt, iv) investment in other funds, and v) cash and cash equivalents.

3 Data, calibration and climate scenario

Data for the investment funds sector are obtained from the detailed composition of each portfolio reported to the CNMV. The portfolio reported in June 2021 is considered for all funds. The database consists of 1,629 investment funds with 88,631 individual positions. The total amount of assets under management (AuM) included in the database is €307.373 billion. The funds' holdings are classified into 5 asset classes which account for more than 99% of the assets managed by Spanish mutual funds: i) equities, ii) corporate bonds, iii) sovereign debt, iv) investment in other funds and v) cash and cash equivalents. Table 1 shows the distribution of investment fund portfolios by asset class.

Distribution of the investment funds portfolio TABLE 1

Asset class	Investment share (AuM, %)	No. of positions	Unique ISINs
Equity	15.46	3,1834	4,196
Corporate bonds	19.68	2,8274	5,598
Sovereign debt	20.97	8,532	1,462
Investment in other funds	34.42	1,2877	3,802
Cash and equivalents	8.81	6,191	-

Source: Crisóstomo (2022).

Table 2 summarises the climate and financial indicators used to estimate the transition risk for each exposure. Credit and market risk measures (i.e. credit quality, duration, convexity, volatility and investment style) are obtained directly for each ISIN code, while climate indicators (i.e. carbon intensity, economic sector and country) are obtained for the issuer of each exposure. If a climate indicator is not available for the issuer, the information is obtained from its parent or final parent. This procedure provides a data coverage in terms of AuM of 97,1% on average, ranging from 91,2% to 100% depending on the input considered.

Climate and financial risk measures by asset class TABLE 2

Asset class	Climate risk measures			Financial risk measures				
	Carbon intensity	Economic sector	Country	Credit quality	Duration	Convexity	Volatility	Investment category
Corporate bonds	✓	✓	-	✓	✓	✓	-	-
Sovereign debt	✓	-	✓	✓	✓	✓	-	-
Equity	✓	✓	-	-	-	-	✓	-
Investment in other funds	✓	-	-	-	-	-	-	✓
AuM coverage (%)	91.8	100.0	100.0	93.5	100.0	100.0	91.2	100.0

Source: Crisóstomo (2022).

3.2 Climate risk scenario

To ensure a consistent risk assessment across different economic sectors, geographical areas, asset classes and individual exposures, a top-down modelling approach is employed. This analysis is based on a global climate scenario that generates macroeconomic and environmental projections with a sectoral and geographical breakdown.

In the financial sector, the scenarios developed by the Network for Greening the Financial System (NGFS) provide a common framework for analysing climate risks to the economy and the financial system. In terms of transition risk, one of the NGFS scenarios considers a late transition, where climate policies would not be introduced until 2030. As a result, it is assumed that an abrupt and disorderly implementation of climate measures to limit global warming will have to take place by 2030. This scenario leads to a rapid increase in carbon prices and generates geographic and sectoral shocks that affect the entire economy (see NGFS, 2021).

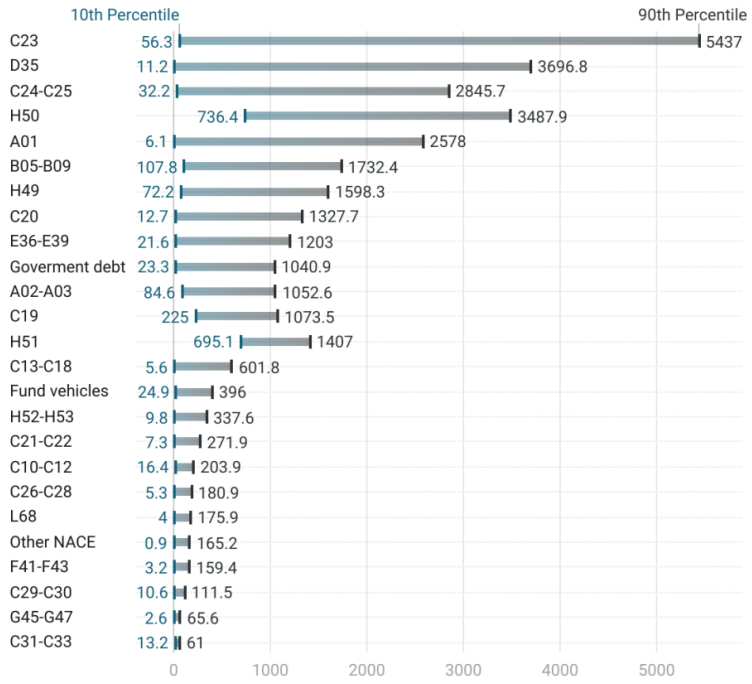
Macroeconomic and environmental projections in line with the late transition of the NGFS are obtained from the NiGEM and REMING-MagPIE models. Using these projections, the European Systemic Risk Board (ESRB) and the European Central Bank (ECB) provide climate shocks for different asset classes that are representative of the late transition. These impacts concentrate the shock in asset prices expected over a three-year period (2030-2033) and have also been used in the 2022 stress tests on pension funds and European Union banks (see ESRB, 2022; EIOPA, 2022; ECB, 2022; Crisóstomo, 2022).

3.3 Disruptions at ISIN level

In order to increase the granularity of the analysis, the climate vulnerability of the counterparties and the financial risk indicators obtained specifically for each exposure are considered. As for the counterparties, Figure 2 summarises the carbon intensity data for the 25 economic segments considered in the study.

CO_2 intensity by economic segment

FIGURE 2



Source: Crisóstomo (2022). Note: Carbon intensity is calculated as direct (scope 1) and indirect (scope 2) CO_2 equivalent emissions in tonnes normalised by net sales or revenues in millions of dollars.

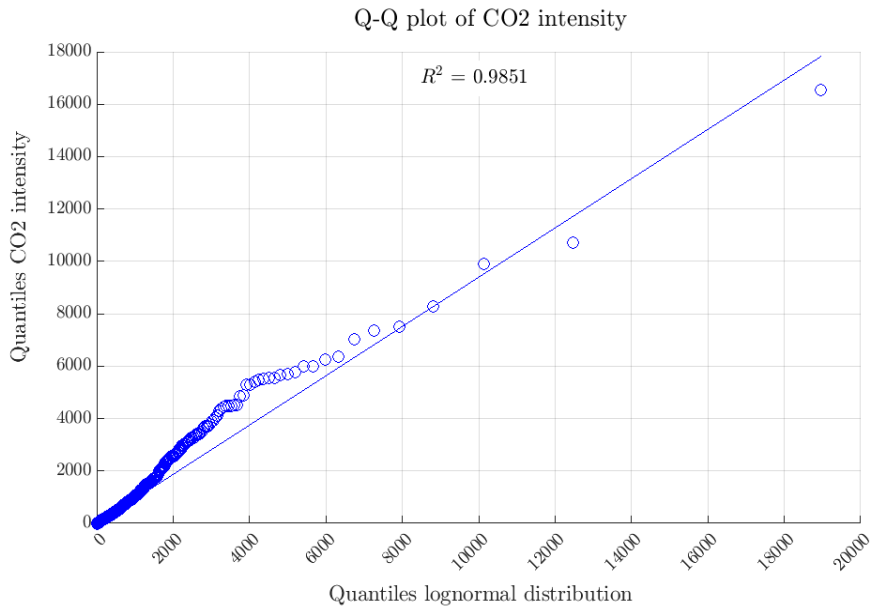
Figure 2 shows that carbon intensity varies substantially between economic sectors. The highest carbon intensity is observed in sectors C23 (manufacture of other non-metallic products), D35 (electricity, gas, steam and air conditioning supply) and H50 (water transportation). Conversely, information technology and professional, scientific and technical services (both included in other NACE) are among the lowest emitters. Furthermore, the intra-sectoral dispersion of GHG emissions in many segments is considerably high. For example, the 10th to 90th percentiles in sub-sector C23 range from 56.3 to 5,437 tCO_2eq/m, while in sub-sector D35 they range from 11.2 to 3,696.8 tCO_2eq/m.

Individual company data are used when considering the intra-sectoral dispersion of GHGs. In sub-sector C23, the average carbon intensity is 891.8 tCO_2e/ m, but there are companies with a carbon intensity below 100, while others have figures above 5,000. The variability can be explained by the different technologies and energy sources used by each company to manufacture non-metallic products. NACE C23 covers all manufacturers of cement, glass, clay and ceramic products, regardless of whether their manufacturing process uses renewable energy technologies or traditional fossil fuel burning methods. As a result, the sector median may underestimate or overestimate the carbon intensity of companies and lead to biases in the transition risk assessment. It should be noted that the carbon intensity calculation only includes Scope 1 and 2 emissions.

To discriminate between companies, a log-normal distribution is used to model the carbon intensity of each sector. As reported by Crisóstomo (2022), the log-normal distribution is appropriate for describing carbon intensity data, since: i) GHG emissions can be assumed to be capped at zero and ii) carbon-intensive emitters show

a much higher carbon intensity than their sectoral comparables, which generates right-skewed distributions.[4] Furthermore, the fit of the log-normal distribution to the empirical carbon intensity data improves as the number of observations increases. Figure 3 shows the Q-Q plot for CO_2 intensity for the 4,621 counterparts, showing that a log-normal model adequately describes the carbon intensity data ($R^2 = 0.9851$).

QQ log-normal plot of CO_2 intensity FIGURE 3



Source: Crisóstomo (2022).

The credit and market risk measures also show high intra-sectoral variability, which motivates the use of position-by-position data to complement sectoral information. Financial risk indicators are used to estimate the potential loss that instruments with different credit ratings, duration, convexity or volatility could experience in an adverse transition risk scenario.

4 Empirical results

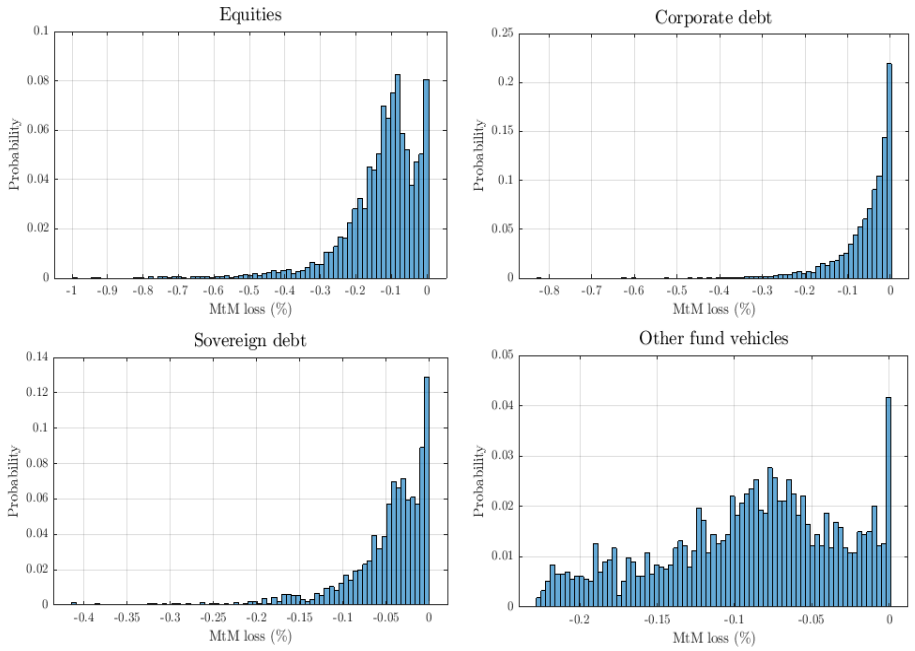
First, the distribution of transition risk for each type of asset is presented. The losses incurred by investment fund portfolios are then considered and the performance of sustainable funds is analysed. Finally, the results of an alternative transitional risk metric designed to address the comparability issues generally observed in the measurement of GHG emissions are presented.

4 Carbon intensity shows positive asymmetry in 24 of the 25 economic segments analysed.

4.1 Losses due to transition risk in each asset class

Figure 4 shows the distribution of losses due to transition risk in each asset class. The largest losses are seen in equity investments (-12.71% on average), followed by corporate bonds (-5.61%) and sovereign debt (-4.77%). However, there is substantial variability in the financial instruments included in each asset class. Table 3 presents a characterisation of the best and worst performing instruments. In equities, assets in the worst performing 1% suffer an average loss of 70.96% and are characterised by companies with high carbon intensity (1,812.3 tCO_2e/m on average) operating in polluting sectors (NACE B, C19 and D35). Furthermore, shares issued by companies with a carbon footprint close to zero experience the lowest losses.

Distribution of losses due to transition risk in each asset class FIGURE 4



Source: Crisóstomo (2022).

In corporate debt, a large proportion of bonds suffer reduced losses. In addition to bonds issued by companies with low issuance, almost half of the corporate debt in the database used has a short maturity (less than 3 years) and would therefore bear little loss in a scenario of widening credit spreads. In contrast, corporate bonds issued by companies with high GHG emissions (755.24 tCO_2e/m) and long residual maturities (average duration of 24.01) suffer the largest falls.

Characteristics of financial instruments with the best and worst performance TABLE 3

		Climate vulnerability		Credit and market risk			
Asset class	MtM loss (%)	Carbon intensity (tCO_2e/m)	NACE / Country	CQS	Duration (years)	Volatility (%)	Investment style
Stocks (worst 1%)	-70.96	1,812.30	B05-09; C19; D35	-	-	66.33	-
Corporate bonds (worst 1%)	-37.22	755.24	D35, Other	2.72	24.01	-	-
Sovereign debt (worst 1%)	-31.03	59.54	BE, DE, FR, ES	1.23	32.54	-	-
Other funds (worst 1%)	-22.20	1,127.28	-	-	-	-	Shares
Stocks (best 1%)	<-0.01	5.89	A01; C21,22,24-28; L68	-	-	34.94	-
Corporate bonds (best 1%)	<-0.01	7.88	C13-18; C23-25	2.09	3.72	-	-
Sovereign debt (best 1%)	<-0.01	116.83	PO, RO, HU, CH	1.82	0.12	-	-
Other funds (best 1%)	<-0.01	2.46	-	-	-	-	Corporate and sovereign bonds
Stocks (all)	-12.71	271.79	-	-	-	37.06	-
Corporate bonds (all)	-5.61	190.73	-	2.27	4.52	-	-
Sovereign debt (all)	-4.77	351.00	-	1.92	5.31	-	-
Other funds (all)	-9.07	193.80	-	-	-	-	-

Source: Crisóstomo (2022). Note: The figures for MtM loss, carbon intensity, CQS, duration and volatility are expressed as the weighted average of all financial instruments included in the corresponding subset.

The distribution of transition risk in sovereign debt also shows a high proportion of bonds with low losses. As with corporate debt, the resilience of these instruments stems from the combined effect of low-carbon issuers and short-maturity bonds. Two thirds of the sovereign bonds in the database used suffer a loss of less than 5%, performing better than other asset classes. However, significant losses are observed for sovereign bonds with long-term maturity (duration 32.5) issued by countries that are more exposed to the climate transition.[5]

4.2 Losses due to transition risk in Spanish investment funds

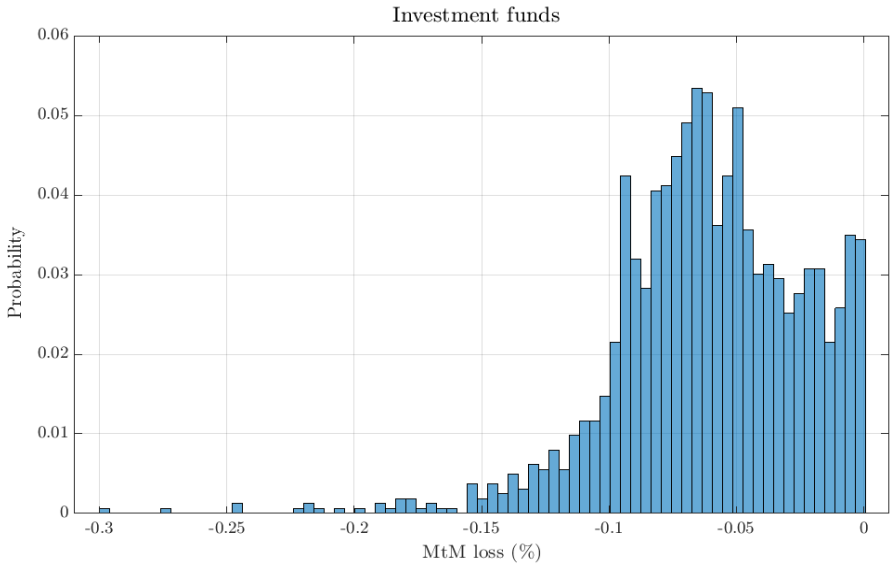
Figure 5 shows the distribution of losses due to transition risk in Spanish funds. The average loss in the fund sector is 5.69%, which represents a total loss of €17.500 billion. This loss only takes into account the direct and first-round effects of the climate transition. Amplifying factors such as the market impact of forced sales, the relationship between earnings and redemptions, manager behaviour, indirect

5 To understand the performance of sovereign debt, it is worth recalling that the macroeconomic scenario calibrated by the ECB and the ESRB determines the increase in the sovereign interest rate for the main issuers. The largest increases are seen in the long-term bonds of several European countries. Consequently, bonds issued by some EU countries are among the worst performers despite having good credit ratings and relatively low carbon intensity. By contrast, the calibrated scenario assigns negative interest rate shocks to government bond yields in Poland, Romania and various maturity tranches in China and Hungary. Consequently, credit exposures that experience a decline in interest rates perform well despite being issued, particularly in the case of China, by a country that is the world's largest CO_2 emitter.

contagion or other systemic factors could trigger cascading effects and non-linear impacts that increase the ultimate loss.

The distribution of transition risk for investment funds is significantly skewed to the left (-0.97 skewness), showing a remarkable dispersion across investment portfolios. In a disorderly transition scenario, funds in the worst performing 1% suffer an average loss of 21.33%, while funds in the best 1% experience no loss.

Distribution of the transition risk of the investment fund sector FIGURE 5



Source: Crisóstomo (2022).

countries. Consequently, bonds issued by some EU countries are among the worst performers despite having good credit ratings and relatively low carbon intensity. By contrast, the calibrated scenario assigns negative interest rate shocks to government bond yields in Poland, Romania and various maturity tranches in China and Hungary. Consequently, credit exposures that experience a decline in interest rates perform well despite being issued, particularly in the case of China, by a country that is the world's largest CO_2 emitter.

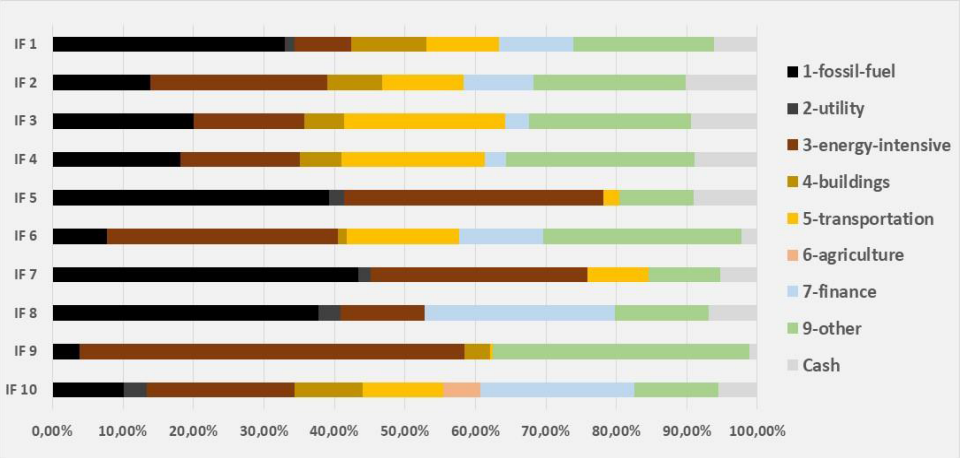
The detailed composition of each fund makes it possible to analyse the determinants of transition risk and to characterise the portfolios experiencing the largest losses. Funds that invest in the shares of highly polluting companies are the worst performers in the climate transition. In particular, funds in the worst 1% invest 94.8% of their portfolio in equities and show an average carbon intensity of 998.9 tCO_2e/m15. In contrast, the aggregate fund sector invests only 15.46% in equities and shows a carbon intensity of 137.2.

Figure 6 shows the breakdown by economic sector of the 10 investment funds with the largest losses. The worst performing funds invest 64.6% of their portfolio in climate policy relevant sectors (CPRS), which are expected to perform worse in the transition to a low-carbon economy (see Battiston et al., 2017).[6] In comparison, the general fund sector has 12.2% of its portfolio in CPRS sectors.

6 Relevant sectors for climate policies are fossil fuels, utilities, energy intensity, construction and agriculture.

In contrast, 34 of the 1,626 funds recorded no losses at all. However, this figure is partly conditioned by funds that are in liquidation or have only recently been set up. In particular, half of the no-loss funds have a volume of assets under management below the legal minimum, suggesting that they are either being incorporated or liquidated. Excluding these vehicles, the best 1% funds hold most of their portfolio in cash and cash equivalents and therefore perform relatively better in an adverse weather scenario.

Sector breakdown of the 10 worst performing funds FIGURE 6



Source: Crisóstomo (2022).

4.3 Sustainable funds

The portfolio of sustainable funds differs from the general fund sector. As can be seen in Table 4, sustainable funds invest a greater percentage of their portfolio in equities (25.17% compared to 15.46% in the fund sector). However, even when overweighting riskier assets (equities), sustainable funds outperform the climate transition investment fund sector. Regarding tail risk, the sustainable funds located in the worst 1% and 5% record an average loss of 14.65% and 11.00% (compared to 21.34% and 15.47% of the funds sector). In aggregate terms, the loss observed in sustainable funds is only 5.70%, lower than the 5.92% that the fund sector portfolio would obtain with comparable investments in terms of asset classes.

Sustainable funds also present a lower carbon intensity than the fund sector (115.52 vs. 137.22). The lower carbon footprint can be explained by i) a higher weighting of low carbon sectors and ii) a selection of counterparties that are less carbon intensive than the average for their sector. However, Table 10 suggests that the improved performance of sustainable funds is not homogeneous across asset classes. In shares and holdings in other funds, sustainable funds invest in instruments with a lower CO_2 footprint, which perform better than their peers. For example, the equity portfolio of sustainable funds shows an average carbon intensity of 147.40 and suffers a loss of 7.82%. By comparison, the equity portfolio of the entire fund sector records a carbon intensity of 224.37 and experiences an average loss of 9.30%.

Performance of sustainable funds by asset class TABLE 4

	Sustainable funds			Funds sector		
Asset class	Investment share (% of managed assets)	MtM Loss (%)	Carbon intensity (tCO_2e/m)	Investment share (% of assets managed)	MtM Loss (%)	Carbon intensity (tCO_2e/m)
Shares	25.17	-7.82	147.40	15.46	-9.30	224.37
Corporate bonds	24.17	-5.57	143.30	19.68	-4.02	137.43
Sovereign debt	15.49	-4.68	56.46	20.97	-3.27	65.18
Other funds	26.03	-6.38	134.63	34.42	-8.06	179.59
Complete portfolio	100.00	-5.70	115.52	100.00	-5.69 / -5.92	137.22
Funds worst 1%	-	-14.65	201.03	-	-21.34	998.92

Source: Crisóstomo (2022). Note: MtM losses are calculated as the weighted average of assets under management of all positions in the relevant portfolio. The loss of -5.92% in the funds sector represents the MtM loss that would be incurred in the representative portfolio of the funds sector with an asset class weighting equivalent to that of the sustainable funds.

In contrast, the corporate bond portfolio for sustainable funds has a slightly higher carbon intensity than the aggregate sector. As a result, the loss recorded by sustainable funds on corporate bonds is higher than the loss observed in the funds sector. This result suggests that the investment decisions for sustainable corporate bond funds have room for improvement in order to obtain a more climate-friendly portfolio.

4.4 Robustness analysis: Alessi and Battiston (2022)

The lack of comparable and independently verified information on GHG emissions is one of the main challenges in climate risk analysis. To address the problems observed in GHG measurement, Alessi and Battiston (2022) propose two measures of green alignment and transition risk that are transparent and easily replicable. Using four-digit NACE codes, Alessi and Battiston (2022) quantify green alignment as the proportion of each economic sector that conforms to the EU taxonomy for sustainable activities (taxonomy alignment coefficient or TAC). In addition, since green alignment does not provide a direct assessment of risk, Alessi and Battiston (2022) also consider the proportion of each sector that is invested in activities with a high carbon footprint (transition risk exposure coefficient or TEC).

Table 5 shows the TEC and TAC of Spanish funds compared to the EU sector. To understand these figures, it should be noted that the Alessi and Battiston (2022) method only covers NACE-coded investments (i.e. equities and corporate bonds). Therefore, exposures without a NACE code (sovereign debt and equity in other funds) are, in practice, included as a zero in the aggregation, which reduces the TAC and TEC of the portfolios. Therefore, to complement these metrics, an adjusted TEC and TAC are calculated that consider the percentage of each portfolio included in the calculations. This adjustment provides standardised figures that can be used to compare portfolios with different compositions.

Taxonomy alignment and exposure to transition risk of investment funds

TABLE 5

%

Holder	Exposure to transition risk (TEC)	Taxonomy alignment (TAC)	Eligible portfolio	Adjusted TEC	Adjusted TAC
Spanish investment funds	4.37	0.94	33.88	12.91	2.79
Spanish sustainable funds	3.78	2.67	47.98	7.87	5.57
EU investment funds	6.11	1.37	20.91	29.20	6.54

Source: Crisóstomo (2022). Note: The TAC and TEC for EU investment funds are taken from Alessi and Battiston (2021). The adjusted TAC and TEC values are calculated as the standard TAC and TEC divided by the eligible portfolio.

Table 5 shows that Spanish funds are less exposed to transition risk than their EU peers, but also show less alignment with the European taxonomy. This divergence is explained by the relationship between the TAC and the TEC in many economic sectors. Therefore, of the four-digit NACE codes that show a positive TEC, about half of them also have a positive TAC. It should be noted that the TAC and TEC calculations are based on alignment estimates and that the most carbon-intensive sectors are also the most highly represented in the taxonomy given their greater potential to contribute to emission reductions. Consequently, funds investing in sectors with a high transition risk also tend to show a higher probability of alignment with EU taxonomy.[7]

By way of illustration, the TEC of NACE sector 35.11 (electricity production) is 0.39, which corresponds to the share of electricity obtained from fossil fuels. However, this sector also has a TAC of 0.35, which is the share of electricity obtained from renewable sources. Consequently, all NACE 35.11 companies receive high TEC and TAC values, irrespective of whether they generate electricity from renewable sources or by burning fossil fuels. This example shows that even four-digit sectoral breakdowns can be problematic when assessing transition risk, which supports the use of company-level information to complement sectoral analyses.

Finally, Table 5 shows that the portfolio of sustainable funds is greener and less exposed to transition risk than the Spanish and EU funds as a whole. Given Alessi and Battiston's (2022) sectoral approach, this suggests that sustainable funds avoid economic sectors that are highly exposed to transition risk and invest more of their portfolio in sectors that are aligned with the EU taxonomy.

7 The correlation between the TEC and TAC figures in this study sample of 1,629 funds is 0.55.

5 Conclusion

This article based on Crisóstomo (2022) proposes a methodology to quantify the vulnerability of investment portfolios to the transition to a low carbon economy. The measurement of transition risk combines climate indicators for each counterparty with measures of credit and market risk obtained for each exposure. This methodology makes it possible to quantify the loss in value that each financial instrument, and hence the corresponding portfolio, could suffer in the event of an adverse transition risk scenario.

The analysis concludes that investment funds would suffer a moderate loss of 5.7% in a high transition risk scenario. However, the distribution of risk shows a high asymmetry, with the worst performing 1% of the funds achieving an average loss of 21.3%. Equity assets are the worst performers (-12.7%), followed by corporate bonds (-5.6%) and sovereign debt (-4.8%). It is also observed that sustainable funds are less exposed to transition risk and perform better than the funds sector in the ecological transition, which supports their consideration as green investments. In addition, the portfolio of Spanish investment funds has a lower transition risk than its European peers.

With regard to future methodological developments, the inclusion of Scope 3 issues in transition risk analyses could increase differentiation between portfolios, economic sectors and individual counterparties. However, the problems of availability and quality of reporting of these emissions make it difficult to use them systematically. In addition, although Spanish funds make limited use of derivatives, the quantification of risk exposure obtained through financial derivatives (which can affect both market and counterparty risk) could also refine the risk assessment.[8]

Finally, while this paper focuses on transition risks, the relationship between transition costs and physical risks must be taken into account in the risk assessment. In particular, while the climate transition will generate substantial costs for business, these risks must be considered alongside the benefits of limiting global warming, so that the costs and opportunities of the ecological transition are jointly assessed.

References

This article is based on the study by Crisóstomo, R. (2022). *Measurement of transition risk in investment funds*. CNMV, Working Paper No. 81. The references included in Crisóstomo (2022), which are also included in this article, are the following:

Alessi, L. and Battiston, S. (2021). *Two sides of the same coin: Green Taxonomy alignment versus transition risk in financial portfolios.* JRC, Working Papers in Economics and Finance, No. 2021/14.

8 In addition, the current supervisory framework could also be enriched by taking into account a look through approach for investments in other funds.

Alessi, L. and Battiston, S. (2022). «Two sides of the same coin: Green Taxonomy alignment versus transition risk in financial portfolios». *International Review of Financial Analysis, 84*.

Battiston, S., Mandel, A., Monasterolo, I., Schütze, F. and Visentin, G. (2017). «A climate stress-test of the financial system». *Nature Climate Change, 7*, No. 4, pp. 283-288.

ECB (2022). *2022 Climate risk stress test.*

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Climate and sustainability benchmarks and their contribution to compliance with Sustainable Development Goals (part two)

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Acronyms used

AFM	Dutch Authority for Financial Markets
BaFin	German Federal Financial Supervisory Authority
BMR	Benchmark Regulation – Regulation (EU) 2016/1011 of the European Parliament and of the Council, of 8 June 2016, on indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investment funds
CIS	Collective investment scheme
CNMV	Comisión Nacional del Mercado de Valores (Spain's National Securities Market Commission)
CSRD	Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No. 537/2014, Directive 2004/109/CE, Directive 2006/43/CE and Directive 2013/34/EU, regarding the presentation of information on sustainability by companies (Corporate Sustainability Reporting Directive)
CTB	EU Climate transition benchmarks
EBA	European Banking Authority
EBITDA	Earnings before interest, taxes, depreciation and amortization
EIOPA	European Insurance and Occupational Pensions Authority
ESG	Environmental, Social and Governance Factors
ESMA	European Securities and Markets Authority
ESRS	European Sustainability Reporting Standards
EVIC	Enterprise value including cash
EU	European Union
GHG	Greenhouse gases
Green MiFID	Commission Delegated Regulation (EU) 2021/1253, of 21 April 2021, amending Delegated Regulation (EU) 2017/565 as regards the integration of sustainability factors, risks and preferences in certain organisational requirements and operating conditions of investment firms
IIA	Index Industry Association
IOSCO	International Organization of Securities Commissions
PAB	EU benchmarks aligned with the Paris Agreement
SDGs	Sustainable Development Goals
SFDR	Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 on the disclosure of sustainability-related information in the financial services sector (Sustainable Finance Disclosure Regulation)
TEG	EU Technical Expert Group on sustainable finance
US	United States

1 Introduction

Benchmarks are a tool that is increasingly used by the financial and asset management industry to align investment objectives and asset selection, as well as to measure and monitor their performance, giving them a clear role in mobilising financial resources towards a more sustainable, low-carbon economy.

As a result, the range of benchmarks on offer has continued to grow, particularly driven in recent years by the creation of benchmarks that take into account environmental, social and governance (hereinafter ESG) factors. In recognition of this role, and following the recommendations of the Technical Expert Group on sustainable finance (hereafter TEG),[1] the European benchmark regulation was amended in 2019[2] to create two new benchmarks labels that take into consideration the carbon footprint of component assets (referred to generically as climate benchmarks), as well as to improve and harmonise the level of transparency of benchmarks that consider or pursue objectives related to ESG factors.

This key role in channelling sustainable finance and in the transition to a decarbonised economy can be seen through three main functions played by these benchmarks:

- They facilitate the selection of investments with ESG objectives, both directly and through investment funds and other vehicles. At the same time, benchmarks transparency obligations make it easier for investment product providers to comply with their own transparency obligations.

- They encourage companies to incorporate sustainability into their business and strategy, and to improve their transparency in this regard; this enables them to access benchmarks and facilitates their financing in the markets.

- They contribute to reducing the risk of greenwashing, both by the companies that are part of their composition (as the selection is made according to regulated criteria and by supervised entities, the administrators), and by the benchmarks users, fund managers and investment product providers, as it allows them to meet their ESG objectives with investments selected according to regulated criteria identified by the benchmark administrator.

Through these functions, they become a key lever in a virtuous circle that aligns the investment community with long-term sustainability considerations and the transition to a low-carbon economy, which will encourage real economy companies to embrace these goals.

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1 This group, called the Technical Expert Group on sustainable finance (TEG), was set up by the European Commission in July 2018 to assist with the implementation of the Sustainable Finance Action Plan and, among other aspects, with the proposal for a regulation on climate benchmarks. The TEG report on climate benchmarks and disclosure requirements was published in September 2019 (EU TEG, 2019a) and complemented with a manual released in December 2019 (EU TEG, 2019b).

2 Regulation (EU) 2019/2089 of the European Parliament and of the Council, of 27 November 2019, amending Regulation (EU) 2016/1011 as regards EU Climate Transition Benchmarks, EU Paris-aligned Benchmarks and sustainability-related disclosures for benchmarks.

Contribution of climate and ESG benchmarks to the sustainable economy ILLUSTRATION 1

Source: Compiled by the authors.

More than three years after the adoption of the European regulation on climate benchmark labels and harmonisation of ESG information, this article, as a continuation of the work published in 2021,[3] attempts to analyse whether this virtuous circle is fulfilled in practice. Particularly with reference to climate benchmarks and the factors that may hinder their development. In line with the findings observed, and taking into account that the European Commission intends to review the benchmark regulation and advance in the regulation of ESG benchmarks labels, the main measures proposed to improve their effectiveness are also included.

2 Growth of ESG benchmarks

The range of benchmarks available on the market is constantly growing and offers increasingly innovative and sustainability-oriented solutions. During 2022, the number of benchmarks globally grew by 4.43% and reached well over 3 million. Equity benchmarks account for 76% of the total, although fixed income benchmarks have shown the strongest growth in recent years.

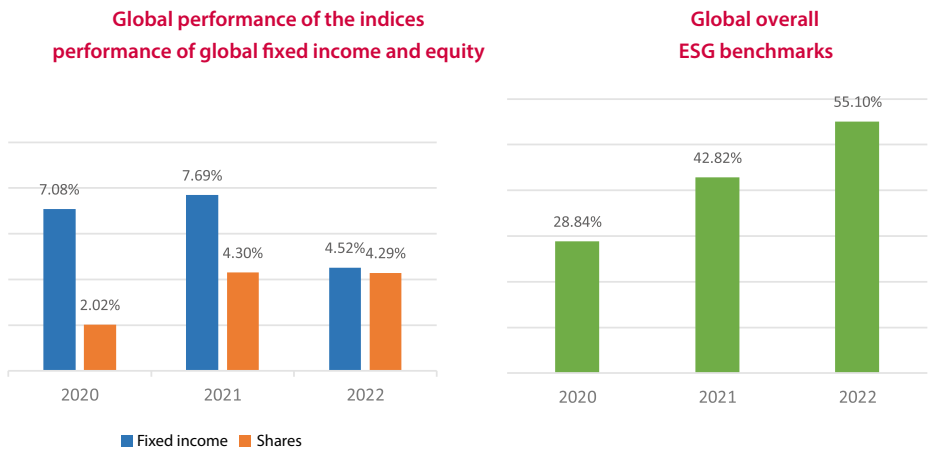
Global growth in benchmarks is led by ESG[4] benchmarks (including both climate benchmarks and those that are considered ESG factors) which grew by 55% in 2022; again with fixed income ESG benchmarks leading the way in driving this growth. The number of fixed income ESG benchmarks has increased by 95.8% and, for the

3 Gómez-Yubero and Gullón. (2021).

4 In this article we will refer to ESG benchmarks or sustainability benchmarks generically as benchmarks that integrate ESG factors in some way in their construction, either generically, from a non-ESG universe or considering one or more specific factors. Unless otherwise specified, this reference also includes climate benchmarks

first time, exceeded the number of equity ESG benchmarks, even though the latter have grown by 24.2%. Currently, there are more than 50,000 ESG benchmarks around the world.[5]

Performance of the number of general and ESG benchmarks worldwide FIGURE 1



Source: Rick Redding (2022).

In the EU, there are 70 benchmark administrators registered with ESMA (54 registered and 16 authorised in accordance with Article 34 of the BMR) and the estimated portfolio of benchmarks offered is close to 50,000.[6] The number of ESG[7] benchmarks, which are offered by ESMA registered administrators, is estimated to be around 10% of the total number of benchmarks offered. These include benchmarks created under EU-regulated climate labels, which amount to 149 (of which 112 are PAB and 37 are CTB), according to the ESMA register. At the time of writing, only 4 of the ESMA-registered administrators provide such benchmarks in the EU, according to the following table. The low proportion of PAB and CTB benchmarks, relative to the total supply of benchmarks in the EU, is consistent with their recent creation, as well as with the stringency and limitations of their regulation (see Section 6 for a detailed analysis of the regulatory issues hindering the development of these benchmarks).

5 These data correspond to the estimates of the sixth survey of the Index Industry Association (2022b).

6 The exact number of benchmarks is not easy to obtain as there is no specific register of benchmarks, but only of administrators authorised to offer benchmarks in EU territory. However, in the case of third country benchmarks, the ESMA register lists each of the benchmarks offered by the recognised (Article 32 of the BMR) or validated (Article 33 of the BMR) administrators. In addition, the lack of a unique identifier per benchmarks also makes this task difficult.

7 An analysis, based on a sample of ESG benchmarks, of the main trends in the construction of these benchmarks (most common methodologies used to select the investable universe, most commonly used ESG factors and main components of these benchmarks) can be found in European Commission (2022c).

Number of climate benchmarks available in the EU, according to the ESMA register TABLE 1

Competent authority	Location	Administrator	Authorisation type	PAB	CTB	Total
AFM	Netherlands	Euronext Amsterdam NV	Registry (Article 34 BMR)	42	3	45
Bafin	Germany	Solactive AG	Registry (Article 34 BMR)	6	3	9
ESMA	Switzerland	Stoxx Ltd.	Recognition (Article 32 BMR)	6	5	11
AFM (Netherlands)	USA	S&P Dow Jones Indices LLC	Endorsement (Article 33 BMR)	58	26	84
Total				**112**	**37**	**149**

Source: Prepared by the authors based on the websites of the administrators and ESMA.

In addition to the above, there are other third country administrators – not yet registered with ESMA – that also offer EU climate benchmarks. These are: FTSE International Limited (6 PAB and 6 CTB), MSCI Limited (13 PAB) and Bloomberg Index Services Limited (9 PAB and 1 CTB). All three administrators are located in the UK and registered on the Financial Conduct Authority's register of administrators. These benchmarks can be used in the EU and their administrators have until 31 December 2023 to be included in ESMA's register as third country administrators.[8]

3 Use of benchmarks in the selection of ESG investments

3.1 Growth of ESG investment and performance prospects

In recent years, sustainability principles have become a major driver of investment decisions for many managers, largely driven by increasing investor demand and the recognition that financial returns are increasingly linked to sustainability goals.

This is corroborated by an Index Industry Association (IIA) survey of 300 mutual fund managers in the USA and Europe, according to which 85% of managers recognise that ESG criteria have become a high priority in their management, a proportion which rises to 94% among US fund managers.[9]

8 Article 51.5 of the BMR provides for a transition period until 31 December 2023 for benchmarks provided by third country administrators to be registered with ESMA. During this period they can continue to be used by EU supervised entities.

9 Index Industry Association (2022a).

The same survey reveals that the main reason for adopting ESG criteria is client demand, cited by 54% of the managers surveyed. The desire for higher returns was the second most frequently cited driver (44% of respondents), highlighting the growing conviction that there is an alignment between financial and ESG goals. The diversification of yields and investment policies, coupled with concerns about ESG factors, continued to provide additional motivation for ESG adoption. Last on the list were reputation and regulatory risk.

According to data from McKinsey & Company,[10] between 2016 and 2021, the global volume of assets under ESG management grew by more than 19% per year, well above the average growth rate for the asset management industry as a whole (which grew by an annual average of around 9%). According to the same study, by the end of 2021, global assets under management in ESG strategies reached a record US$2.1 trillion, representing just over 3% of total assets under management.

However, ESG investment appears to be as vulnerable to shocks affecting the global economy as general investment, at least in the short term, as recent events have shown. According to the aforementioned McKinsey & Company study,[11] the outbreak of war in Ukraine, the sharp rise in inflation and interest rates, the emerging European energy crisis and the resulting slowdown in economic growth have led to sharp declines in the markets, which have also been reflected in ESG investments (down 20% in the first half of 2022); reflecting the same trend as the industry at a global level. However, while total assets under management globally experienced a net outflow of US$1.14 trillion, ESG strategies recorded only a slight outflow of US$8 billion.

A similar situation occurred in the European ESG investment fund industry where, according to ESMA data,[12] funds with sustainable investment as an objective (Article 9 products under the Sustainable Finance Disclosure Regulation (SFDR)) recorded net inflows of €8.6 billion in the first three months of 2022; while investors withdrew €3.3 billion from funds that only promote sustainability features (Article 8 products under the same regulation).

These data suggest that the mobilisation of funds towards ESG investments is adopting a secular trend, in which the credibility and quality of ESG commitments made by issuers and product managers is taking precedence over the mere search for returns. ESG investment can be resilient to shocks and setbacks because it is not seen as transitory or in response to external pressures, but as a central part of achieving financial returns.

It can also be argued that ESG investment will continue to grow despite the deteriorating global economic outlook. The aforementioned Index Industry Association survey[13] found that the projected growth in ESG investment has accelerated markedly from where it stood just a year ago. According to this survey, over the next 12 months, 40% of asset management portfolios are expected to include ESG elements

10 McKinsey & Company (2022).
11 McKinsey & Company (2022).
12 ESMA (2022b).
13 Index Industry Association (2022a).

(an increase of 13 percentage points compared to the 2021 survey). That projection amounts to almost 6 in 10 (57%) portfolios in 5 years (also an increase of 13 percentage points since 2021). Over the next decade, respondents expect ESG elements to be incorporated into almost two thirds (64%) of their portfolios; whereas this forecast was 52% in 2021.

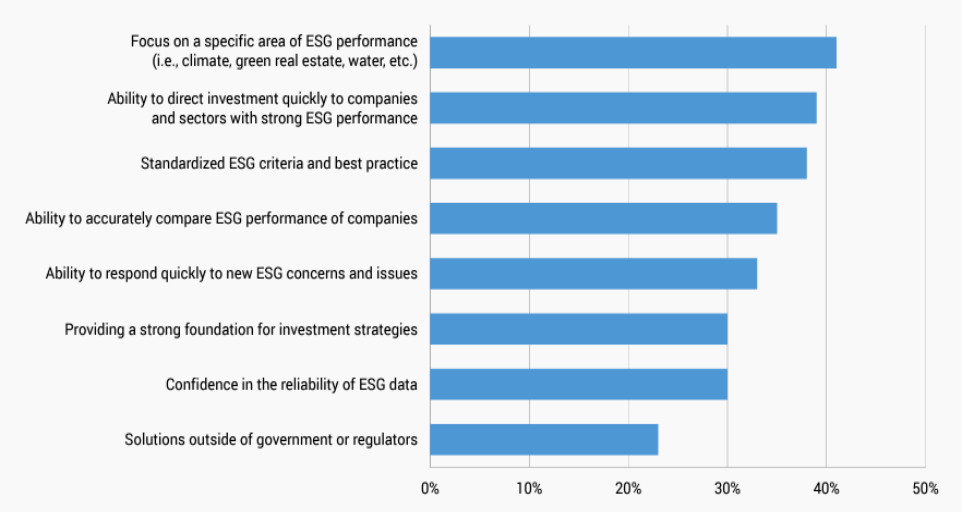
3.2 Benchmarks as facilitators of ESG investments

Benchmarks are increasingly used by asset managers both to facilitate asset selection and to assess portfolio performance.

The Index Industry Association's 2022 survey[14] confirms that benchmarks play an important role in ESG investment. Almost all respondents (99%) use benchmarks in some form: 41% (40% in 2021) use them for measurement and benchmarking purposes, and 31% (39% in 2021) use them for investment strategies. Just over a quarter of respondents (27%; 19% in 2021) use benchmarks for both measurement and investment strategies.

The survey also confirms that asset managers have confidence (95%) in benchmark providers as drivers of ESG factors in the financial industry; as much as in the regulators and the asset management industry itself. One of the most valued aspects of the benchmarks is their ability to facilitate ESG capital allocation decisions (see Figure 2), as well as their role in providing focus on a specific area of ESG performance (such as climate, water or social issues) and in streamlining the matching of investments to companies and sectors with a sound ESG performance.

Assessment of the aspects contributed by the ESG benchmarks FIGURE 2



Source: Index Industry Association (2022a). Results of the survey of 300 managers.

14 Index Industry Association (2022a).

Finally, respondents highlighted the need for more specialised benchmarks that focus on specific ESG aspects or components (41%); better ESG metrics (40%); more information on the underlying ESG data used in the benchmarks (39%), greater transparency in the way benchmarks are compiled (39%) and greater standardisation of metrics and methods across providers (29%).

3.2.1 Use of climate benchmarks by Eurosystem central banks

One of the most relevant examples of the use of EU climate benchmarks is the decarbonisation strategy for the pension fund portfolios of ECB staff.[15]

The ECB pursues a responsible and sustainable investment policy in the management of its non-monetary policy portfolios, in line with the common policy followed by the Eurosystem central banks.[16] These portfolios contain those assets held by central banks that are not related to monetary policy operations. These are euro-denominated investment portfolios and staff pension funds.

The ECB's staff pension fund is passively managed by two external asset managers who follow a responsible and sustainable investment policy based on certain exclusions and proxy voting guidelines, incorporating environmental, social and governance standards. By 2020, all conventional equity benchmarks tracked by the pension fund were replaced by their low-carbon equivalent benchmarks; reducing the carbon footprint of equity portfolios by more than 60%.

In early 2022, the ECB also replaced the conventional benchmark, tracked by its corporate bond portfolios, with a Paris aligned benchmark, making it one of the first central banks to adopt this practice. This PAB led to an initial 50% reduction in carbon emissions from the corporate bond portfolio and a further projected steady reduction of at least 7% per year is expected in the coming years, in line with the regulation of these benchmarks.[17]

The ECB, as noted in its 2021 annual report, will continue to explore a possible extension of low-carbon benchmarks to other fixed income asset classes within its pension fund to further contribute to reducing its carbon footprint.

Other Eurosystem central banks, such as the Bank of France, have also started to use the EU climate benchmarks to help fulfil the climate targets established for their non-monetary policy portfolios.

The Bank of France uses conventional benchmarks as a means of comparing the portfolios that make up its staff pension fund. Nevertheless, it has taken on board in its management the policy of fossil fuel exclusions followed by the PAB.[18]

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15 BCE (2022).

16 BCE (2021).

17 According to its regulation (Articles 7 and 11 of Delegated Regulation (EU) 2020/1818), the PAB shall reflect a GHG intensity, including Scope 1, 2 and 3 emissions, at least 50% lower than its investable universe and a decarbonisation trajectory of at least 7% per year, on average.

18 Bank of France (2022).

The equity portfolio of the Bank of France's staff pension fund had an average exposure to fossil fuels of 0.33% of its income at the end of 2021, compared to 0.98% for its conventional benchmark, down 43% from the previous year. This decrease reflects the Bank of France's decision to gradually align portfolios with the exclusion thresholds applied by the PAB. In doing so, the Bank will exclude companies that derive more than 10% of their revenues from oil, or more than 50% from gas.[19]

3.2.2 Use of climate benchmarks by European investment funds and CNMV-registered funds

Investment fund strategies also increasingly take into account the generation of social and environmental value in addition to returns. By the end of 2022, the number of Spanish investment funds registered with the CNMV, which state in their respective prospectuses that they follow investment strategies related to sustainability, represent 15% of the total, almost double the number registered in mid-2021. For the most part, these funds are classified as Article 8 products of the SFDR[20] and a small number (only 14) are associated with Article 9 (5 funds were classified as Article 9 products by mid-2021).[21]

In terms of assets managed under ESG criteria, if by the end of 2021 the assets of these funds amounted to €68.4 billion (20.3% of total assets), by the end of 2022 this proportion has grown by 15 percentage points (to 35%), reaching a figure of close to €100 billion (split between 34% for Article 8 funds and 1% for Article 9 funds).

At EU level, the market share of Article 8 and 9 funds is 53.5% of total assets at the end of September 2022, according to Morningstar data.[22] This market share is divided between 48.3% for Article 8 products and 5.2% for Article 9 products, according to the same publication.

This wider range of sustainability-aligned products seems to be the reason why one out of three investment fund participants acknowledges that their interest in ESG investment has increased, also due to the greater relevance of these criteria in society. This is one of the conclusions reached by the sixth edition of a study by the Inverco Observatory[23] which reveals that more than half of savers who are aware of ESG criteria take them into account when investing, and three out of ten even do so, even if it means giving up part of their return.

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19 The PAB regulation (Article 12 of Delegated Regulation (EU) 2020/1818) requires that companies deriving 1% or more of their revenues from the exploration for, mining, extraction, distribution or refining of anthracite, hard coal and lignite, for example, be excluded from the benchmark portfolio; those deriving 10% or more of their revenues from the exploration for, extraction, extraction, distribution or refining of liquid fuels; as well as those deriving 50% or more of their revenues from the exploration for, extraction, production or distribution of gaseous fuels.

20 Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 on sustainability-related disclosures in the financial services sector

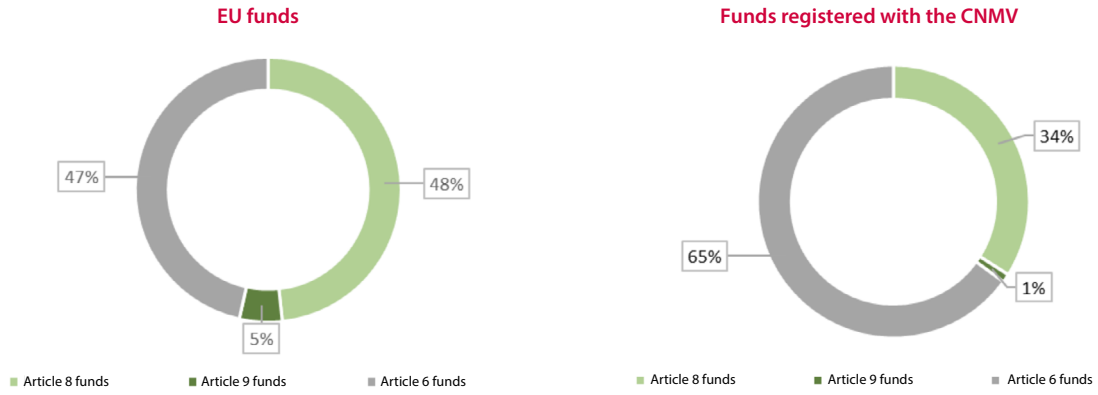
21 These articles indicate the pre-contractual disclosures that must be satisfied by financial products that promote environmental or social characteristics (Article 8) and financial products whose objective is sustainable investments (Article 9)

22 Morningstar (2022).

23 Inverco Observatory (2022).

Market share of ESG funds in the EU and registered with the CNMV at the end of 2022 (in terms of assets under management)

FIGURE 3



Source: Data from Morningstar and the CNMV. The different sources of data used may mean that some figures are not comparable.

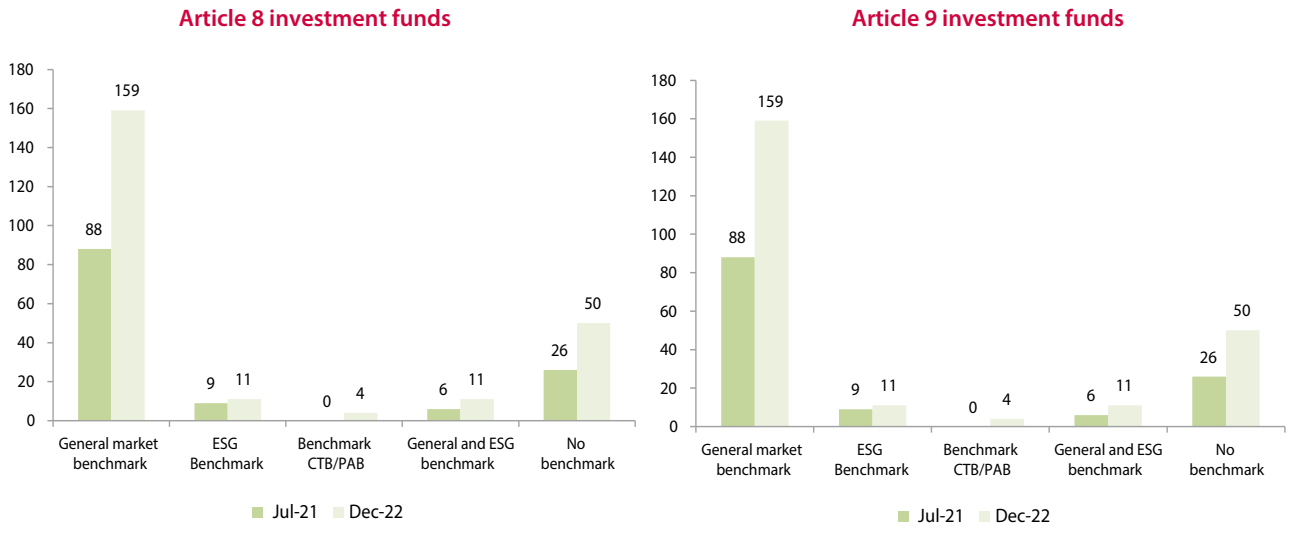
The use of climate and sustainability benchmarks has not, however, grown in proportion to the growth of investment funds claiming to follow sustainability strategies.

The vast majority of new investment funds registered with the CNMV, with an Article 8 or Article 9 classification of the SFDR, choose to benchmark their performance against a general market benchmark or have no benchmark (89% of Article 8 funds and 57% of Article 9 funds, as can be seen in Figure 4).

By the end of 2022, only four Article 8 investment funds use climate-specific benchmarks. The use of Article 9 funds remains the same as in mid-2021; only one fund.

Number of ESG investment funds registered with the CNMV based on the type of index used as a benchmark

FIGURE 4



Source: Own compilation based on data from the CNMV investment fund registry.

Although climate benchmarks have been regulated to facilitate the decarbonisation of portfolios and investments in companies with similar track records and commitments, their use is very limited, even among passively managed funds. Of the 9 investment funds following this ESG benchmark management model at the end of 2022, only one uses a CTB.[24]

Article 9(3) of the SFDR incentivises the use of climate benchmarks (whether CTBs or PABs) in funds and other investment products subject to the SFDR that aim to reduce carbon emissions; as, if such benchmarks are not used, the fund must provide a detailed explanation of how the ongoing effort to achieve the goal of reducing carbon emissions with a view to meeting the long-term global warming objectives of the Paris Agreement[25] is undertaken.

In the case of the Spanish market, of the 14 funds registered with the CNMV under Article 9, only one has the objective of reducing carbon emissions and, as mentioned, has a climate transition benchmark.

The low use of not only climate benchmarks but also ESG benchmarks in general may be due, in part, to the lack of consistency between the requirements and transparency obligations of ESG criteria in BMR and SFDR (discussed in Section 6); a situation that may be contributing to the fact that funds that claim to be «green» are not as «green» as they appear to be.

A recent study published by ESMA seems to conclude in this line[26] in which it analyses, for a universe of 3,000 funds classified under Articles 8 and 9 of the SFDR, the application of possible minimum investment thresholds aligned with taxonomy for the purposes of a possible «green» label. The study finds that if this threshold is set at 50% of the fund's portfolio, less than 1% of the sample would meet it; this percentage is reduced to 0.5% if certain exclusions such as exposure to fossil fuels are applied.

On average, only 11% of the value of the portfolios of the funds analysed would meet the requirements for alignment with the taxonomy. This percentage rises, as expected, in Article 9 funds, but only to 19.2%; and falls to 9.7% in Article 8 funds.

4 Incentive for companies to start the transition

In the previous section, it was concluded that despite the considerable growth of ESG investments and the increasing interest of investors in promoting social and environmental values, the use of ESG benchmarks and in particular of regulated

24 Refers to Abanca Renta Fija Transición Climática 360, Fondo de Inversión. Prospectus. 23 July, fund referred to in Section 6.2 of Gómez-Yubero and Gullón (2021).

25 According to the Commission's response to a question on products under Article 9 of the SFDR, if a PAB or CTB benchmark exists, a product with decarbonisation targets has to use this benchmark as a benchmark (although it does not specify whether actively or passively).

26 ESMA (2022c).

climate benchmarks in the EU is still limited, even though there is a considerable supply of benchmarks labelled as CTB and PAB.

Under this premise, it is possible to anticipate that its role as an incentive for companies to incorporate decarbonisation targets could also be limited. However, it is possible to relate the composition and return of the benchmarks to behavioural adjustments in emitters with a commitment to reduce their carbon footprint and to improve related disclosures (the latter is discussed in Section 5.1).

4.1 Composition and return of climate benchmarks

The range of EU climate benchmarks is close to 150 (see Section 2). These show different geographical or economic realities[27] with the common objective of reducing GHG intensity (or absolute emissions) by at least 7% per year on average.[28]

These benchmarks are formed either from a parent or base benchmark or from a universe of investable securities,[29] while retaining similar risk-return characteristics to the parent benchmark. This facilitates comparison of the performance of the overall portfolio with that of the benchmark, which incorporates extra-financial aspects, in this case environmental elements.

Due to the exclusion of companies or assets that do not meet the requirements defined by the benchmark, the number of constituent companies will normally be lower than the number of components of the base benchmark. On the other hand, due to the greater number of requirements demanded to form part of a PAB, these will be made up of a smaller number of companies, not only in relation to the reference-base benchmark, but also with their respective CTB.

Taking the Stoxx administrator's portfolio of climate benchmarks as an example, it can be seen that in December 2022, on average, 95% of the constituents of the benchmark-parent benchmarks are included in their respective CTB; while this percentage drops to 84% for those of the PABs.

In terms of sectorial composition, the CTB how minimal differences in relation to their base benchmark; less than 1%. In the PAB, these differences are more pronounced (up to 4%) because sectors of higher impact are under-represented (such as utilities, industrial goods and energy); while sectors currently considered to have a

27 These benchmarks can be distinguished between geographical benchmarks, which attempt to represent the reality of a given economic area, and dimensional benchmarks, which integrate companies according to their size. They are also classified by the types of assets they include: stocks or bonds. Most of these benchmarks are equity benchmarks. Each of these benchmarks is usually calculated and published in several versions, such as total return and net return, as well as using the major currencies of the financial markets.

28 Section 4.1 and Table 2 of Gómez-Yubero and Gullón (2021) provide a detailed description of the objectives and methodological requirements of the PAB and CTB benchmarks, as well as their similarities and differences.

29 The investable universe consists of all investable instruments in an asset class or group of asset classes.

low impact on climate change are over-represented (such as technology, health and financial services).[30]

Example of sectoral weight differences in Stoxx benchmarks TABLE 2

	Base benchmark (Stoxx USA 500)		PAB (Stoxx USA 500 PAB)		
Distribution by sectors	Number of participants	%	Number of participants	%	Absolute difference (%)
Technological	80	16	77	18	2
Sanitary	66	13	66	16	3
Utilities	28	6	6	1	4
Industrial goods and services	76	15	54	13	2
Financial services	25	5	24	6	1
Energy	23	5	3	1	4
Real estate	29	6	29	7	1
Travel and leisure	20	4	20	5	1

Source: Own compilation based on data from Stoxx.

Climate benchmarks outperform their base benchmarks in terms of historical performance. Moreover, PABs perform better than CTBs.

This conclusion can be illustrated by the example of the benchmarks provided by Stoxx and Solactive, as shown in Table 3.

Accumulated historical monthly profitability. Comparison of baseline, PAB and CTB TABLE 3

	Original universe	PAB	Months PAB has been published	Best-performing months of PAB benchmark	% of best-performing months of PAB benchmark	CTB	Months CTB has been published	Best-performing months of CTB benchmark	% of best-performing months of CTB benchmark
STOXX USA 900 index	45,3%	50,8%	56	31	55,4%	49,0%	56	31	55,4%
STOXX USA 500 PRICE USD	46,1%	50,1%	56	30	53,6%	48,9%	56	30	53,6%
STOXX EUROPE 600 USD PRICE	6,0%	10,5%	56	32	57,1%	7,9%	56	30	53,6%
Solactive GBS United Kingdom All Cap Index PR	4,3%	6,4%	13	5	38,5%	8,6%	13	5	38,5%
Solactive GBS Developed Markets Europe Large & Mid Cap USD Index PR	-10,4%	-8,4%	13	6	46,2%	-6,1%	13	7	53,8%
Solactive GBS Emerging Markets Large & Mid Cap USD Index PR	34,4%	55,4%	83	51	61,4%	37,4%	83	47	56,6%
Solactive GBS Developed Markets Europe Large & Mid Cap USD Index PR	-16,8%	-11,4%	11	7	63,6%	-9,6%	11	7	63,6%
EURO STOXX TOTAL MARKET USD	2,3%	5,3%	56	28	50,0%	4,1%	56	29	51,8%

Source: Own compilation based on data from Reuters.

Note: the accumulated historical performance has been calculated in each case for the number of months of existence of the PAB and CTB.

30 It should be clarified that the financial services sector is currently not included in the taxonomy and has therefore not been rated in terms of its degree of environmental sustainability. Although the financial sector is considered as one of the economic sectors that has the least direct impact on the environment due to its low GHG emissions, it has an indirect footprint since the bulk of its emissions are scope 3 emissions due to the wide range of sectors that participate in activities such as lending, investment, insurance underwriting and asset management.

Most of the PABs analysed (almost 2/3) offer higher cumulative returns, not only relative to the base benchmark, but also relative to the CTBs. On average, PABs outperform their base benchmark by almost 6 percentage points. In the case of CTBs, their performance is almost 4 percentage points higher than that of their base benchmark.

Not only has the historical performance been higher, but the monthly returns of both the PABs or CTBs beat those of their comparable universes in more than half of the months.

The analysis of annual returns shows that the start of monetary tightening from the end of 2021 to address inflationary pressures has hurt climate-labelled benchmarks the most. During 2022, most of these benchmarks underperformed compared to their base benchmarks, with PABs performing worse than CTBs.

This different behaviour may be justified by the increased costs associated with the investments and adaptations needed to meet climate objectives, in a context of rising interest rates and inflationary pressures. The current situation has created uncertainty about meeting climate targets; this, coupled with rising energy prices that benefit, at least in the short term, companies with exposure to fossil fuels and other sectors not included or under-represented in the climate benchmarks, may also explain this. In line with this idea, it is worth noting that the sectors whose capitalisation has performed best in 2022, in the national market, have been oil and energy (+2%); and basic materials, industry and construction (+18.3%), which are the most under-represented in the PABs.[31]

However, the weaker performance of these benchmarks in 2022 does not offset the better historical performance.

Monthly cumulative returns per year of baseline, CTB and PAB

TABLE 4

Year	STOXX USA 500 PRICE USD	STOXX USA 500 Paris-Aligned Benchmark Price USD Index	STOXX USA 500 Climate Transition Benchmark Gross Return EUR Index	STOXX EUROPE 600 USD PRICE	STOXX Europe 600 Paris-Aligned Benchmark Price USD Index	STOXX Europe 600 Climate Transition Benchmark Price USD Index	Solactive GBS Emerging Markets Large & Mid Cap USD Index PR	Solactive ISS ESG Emerging Markets Paris-Aligned Benchmark TR Index	Solactive ISS ESG Emerging Markets Climate Transition Benchmark PR Index	EURO STOXX TOTAL MARKET USD	EURO STOXX Total Market Paris-Aligned Benchmark Price USD Index | Price History 30-Nov-2022 16:03	EURO STOXX Total Market Climate Transition Benchmark Price USD Index
2022	-18,2%	-23,1%	-21,7%	-17,7%	-18,1%	-18,1%	-22,6%	-9,9%	-12,8%	-19,3%	-19,7%	-19,5%
2021	22,6%	26,0%	25,9%	13,6%	12,9%	12,3%	-3,9%	8,4%	6,0%	12,1%	12,0%	11,4%
2020	21,5%	22,2%	20,8%	8,4%	10,9%	9,9%	16,7%	10,6%	6,5%	11,9%	12,9%	12,7%
2019	24,9%	26,1%	25,9%	17,7%	19,9%	19,1%	17,2%	21,1%	19,0%	17,3%	19,8%	18,8%

Source: Own compilation based on data from Reuters.

31 BME (2022c).

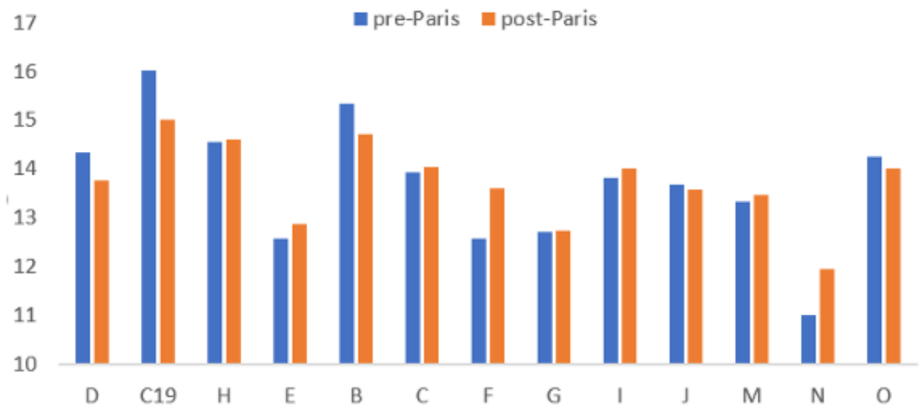
Factors such as the lower credit risk of companies with credible carbon transition targets and thus lower climate transition risk, as well as the lower impact on future economic performance – derived from carbon allowance prices – could be behind the historically better performance of labelled benchmarks.

Indeed, the study by Carbone, S. et al. (2021) shows that companies with higher GHG emissions are more exposed to transition risk and may have a higher probability of bankruptcy and thus higher credit risk, either now or in the future. Especially if they do not have a credible plan for the transition to a low-carbon economy. At the same time, the disclosure of emissions and the setting of forward-looking emission reduction targets are associated with lower credit risk and the impact of climate commitments will be greater the more ambitious the targets are – both in terms of percentage emission reductions and the speed of reduction.

Indeed, following the 2015 Paris Agreement, companies most exposed to climate transition risk saw their credit ratings deteriorate, while other comparable companies did not.

Average rating of European companies before and after the Paris Agreement by CNAE sector[1]

FIGURE 5



Source: Carbone, S. et al. (2021).

Note: Y axis: Alphanumeric rating after assignment of the rating scale to ordinal values ranging from 1 to 21, whereby a higher ordinal value indicates a better rating. X axis: CNAE sector: B – Extractive industries; C – Manufacturing industry; D – Supply of electricity, gas, steam and air conditioning; E – Water supply, sanitation activities, waste management and decontamination; F – Construction; G – Wholesale and retail trade, repair of motor vehicles and motorcycles; H – Transport and storage; I – Hostelry; J – Information and communications; M – Professional, scientific and technical activities; N – Administrative activities and auxiliary services; O – Public administration and defence: C19.

While the aforementioned work concludes that companies that are better prepared for the low-carbon transition have lower credit risk, it also recognises that the true extent of climate-related credit risks may still be underestimated, both by rating agencies and markets. This is due to existing limitations related to the reliability and comparability of climate transition risk metrics currently disclosed by

companies, and even more so when using (proxy) indicators by sector of activity (see Section 6).

Improved coverage, quality and comparability of GHG emissions disclosure and emission reduction strategies can be expected to provide better assessment and pricing of climate risk at company level.

Inclusion of companies in the CTBs and PABs requires the existence of a credible transition plan: a decarbonisation trajectory of at least 7% per year, measured in terms of GHG emissions or emissions intensities. Therefore, the conclusions drawn by Carbone, S. et al. (2021) are transferable to the behaviour of climate benchmarks.

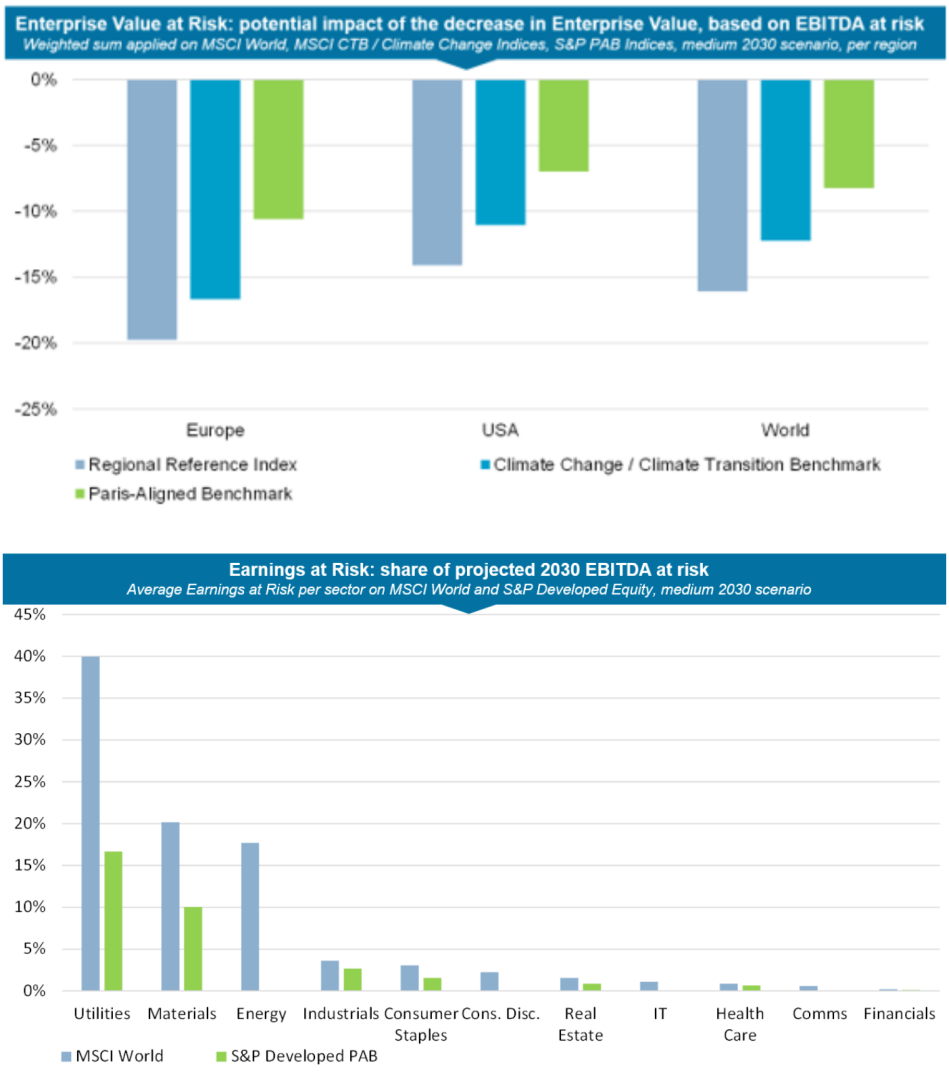
Another factor impacting on the appreciation of the value of companies is the price of current and future emission rights. Several studies[32] support that carbon prices could represent a significant risk to companies' bottom line, based on their current emissions and financial health. In sectors such as energy, materials and utilities, the expected increase in carbon prices could reduce the average sector EBITDA forecast for 2040 by up to 50%.

An Amundi study shows that PABs or CTBs, to the extent that they imply a minimum decarbonisation of the base portfolio of 50% and 30% respectively and put this portfolio on a carbon reduction trajectory over time of at least 7% per year, significantly reduce the carbon pricing risk. They therefore react better than their base benchmarks to changes in the carbon price, which has an impact on earnings and market value, due to the strong link between carbon emissions and the financial performance of a portfolio.

The expected improved returns from climate benchmarks, due to the factors outlined above, undoubtedly represent an incentive for companies to take on decarbonisation targets and greater commitment and credibility in the disclosure of their sustainability metrics and strategies. This will enable investors to better assess the transition-related credit risk in their portfolios and thus reduce the likelihood of mispricing of carbon transition risk by financial markets.

32 See, for example, Amundi ETF (2002).

Impacts on results and value of the companies included in climatic benchmarks FIGURE 6



Source: Amundi ETF (2022).

4.2 Incorporation of decarbonisation targets by Spanish companies

This section analyses the extent to which membership of the climate benchmarks is an incentive for the companies that comprise them to reduce their carbon footprint through the performance of the emissions of Spanish companies that are part of any of the CTB or PAB managed by Stoxx, from 2019 to 2021.

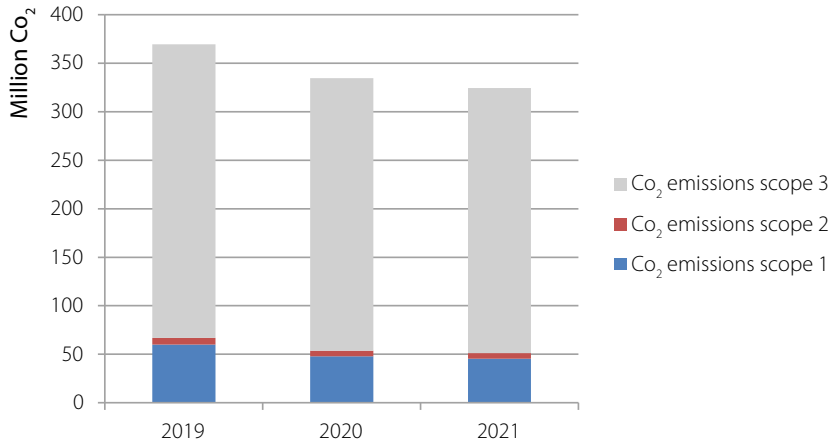
During this period, companies in the benchmarks reduce Scope 1 emissions by 24.50%, Scope 2 emissions by 13% and Scope 3 emissions by 9.7%. This significant decrease in Scope 1 and 2 emissions could be indicative of companies' strong efforts to reduce emissions on which they can have a direct impact.

Representation of Spanish companies in the climate benchmarks of the Stoxx administrator TABLE 5

	Original (%)	CTB (%)	PAB (%)
Eurostoxx	8.36	8.70	6.82
Stoxx Europe 600	3.99	4.18	3.73
Stoxx Global 1800	1.33	1.43	1.28

Source: Own compilation based on data from Stoxx.

Evolution of scope 1, 2 and 3 emissions of Spanish companies in Stoxx climate benchmarks FIGURE 7



Source: Own compilation based on data from Reuters.

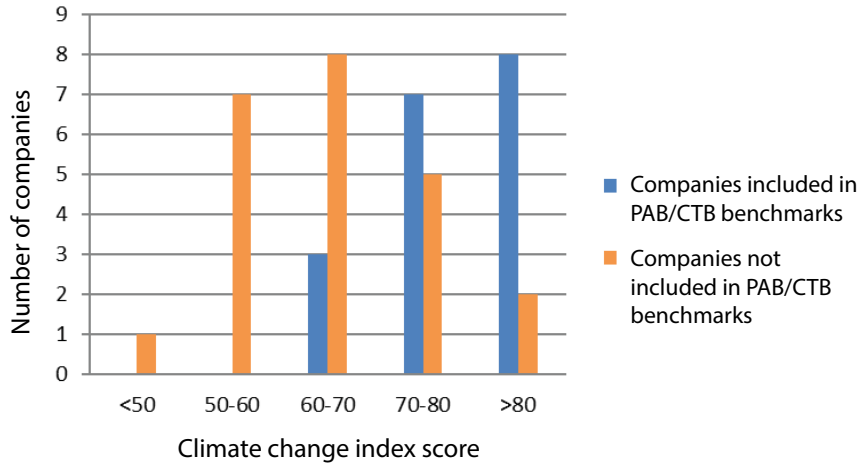
These reductions, however, are no greater than those seen in the Spanish companies analysed in the CNMV study.[33] The same conclusion can be reached if the performance of the issues of Spanish companies included in Stoxx benchmarks is compared with those of Eurostoxx companies not included in CTBs and PABs. Therefore, it is not possible to conclude that being part of the climate benchmarks is having a clear impact on emission reductions.

However, the analysis of the climate change indicator, constructed in the CNMV study (2023) for all the enterprises analysed and for companies belonging to climate benchmarks, yields results that are more favourable to corporations belonging to the benchmarks. This climate change index attempts to measure the degree to which the issuers have made progress in identifying the risks and opportunities of climate change and the efforts to reduce their GHG emissions.

Companies that are included in the CTBs and PABs have a better climate change index than corporations that are not. Companies included in climate benchmarks tend to score above 70, while enterprises not included tend to score lower.

33 CNMV (2023c).

Climate change index scores of companies in the climate benchmarks vs. companies not in the benchmarks FIGURE 8



Source: Compiled by the authors based on CNMV data (2023).

4.3 Case of the Ibex Gender Equality

It is worth dedicating this section to a benchmark developed in Spain which, despite its short history, serves as a clear example of the potential positive impact on companies' sustainability commitments and the quality of their disclosures.

Of the three administrators registered by the CNMV, only one of them so far offers an benchmark that takes ESG factors into account: the Ibex Gender Equality Index, which attempts to measure the gender equality of Spanish listed companies.[34]

Technical sheet of the Ibex Gender Equality Index TABLE 6

Eligible universe: IGBM (120 securities).

Index calculation: Companies have to meet two requirements simultaneously:

- Between 25% and 75% female presence on the Board of Directors.
- Between 15% and 85% in senior management.

Equilibrium index (which avoids the excessive weight of the Ibex companies). It is calculated in three versions: prices, dividends and net dividends.

Calculation data: data published by the CNMV on the presence of women on Boards of Directors and in senior management of listed companies.[35]

Source: BME (2022a).

34 According to its methodology, the index tries to measure the performance of Spanish companies based on their exposure to gender equality in Spain. In terms of sustainability factors, the index aims to promote gender equality in Spanish listed companies. BME (2022a).

35 CNMV. «Presence of women on Boards of Directors and in senior management of listed companies».

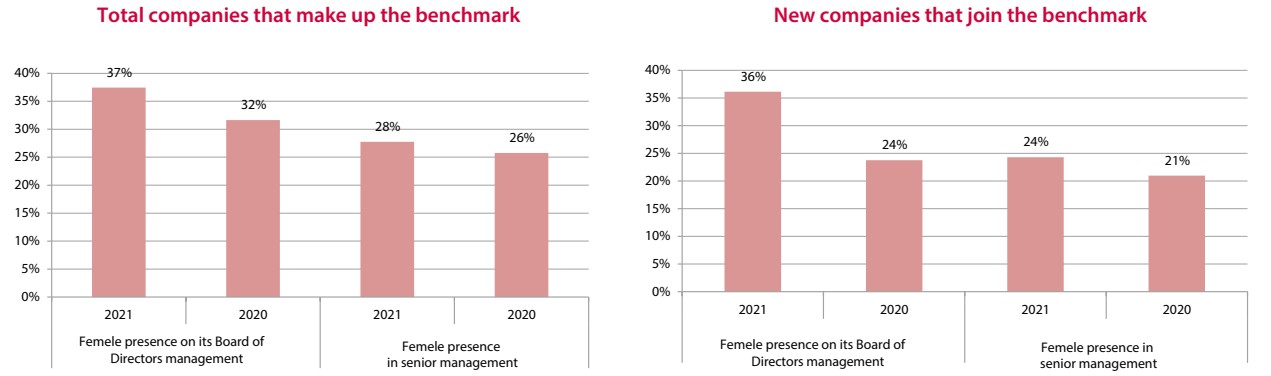
At the time of its launch on 30 November 2021, 30 companies were included in the benchmark.[36] At present, after the June 2022 review, it has 45 components (of which 20 are part of the Ibex 35, 12 of the Ibex Small Cap, 7 of the Ibex Medium Cap and 6 of the IGBM).[37] The share of stocks in the benchmark is equally weighted so that the weight of each of them is 2.2%.

This increase in the number of qualifying companies in less than 1 year may be a sign of the effectiveness of the benchmark in encouraging companies to adopt criteria for the presence of women on the Board and in senior management. In fact, the new companies joining the benchmark have made significant efforts, especially in the composition of the Board where the representation of women has increased by an average of 12 percentage points. Female managers have also improved their representation by 3 points to 24%.

As shown in the left panel of Figure 9, the presence of women on boards and in senior management of the companies in the benchmark has improved by an average of 5 and 2 percentage points, respectively, between 2020 and 2021. At the level of all listed companies, this improvement was respectively 4 and 0.5 percentage points over the same period. Furthermore, the proportion of female directors stood at 28.8% and the representation of female managers at 185%.[38]

The benchmark has also contributed to improving the quality of information published by institutions. In fact, in December 2021 its composition was extraordinarily revised to incorporate 3 companies that were initially not included because they had erroneously reported the information to the CNMV.[39] The launch of the benchmark led to the correction of the information by the entities.

Average female presence in the new companies of the Ibex Gender Equality Index FIGURE 9



Source: Own elaboration based on data published by the CNMV on the presence of women on the Boards of Directors and in the senior management of listed companies.

36 BME (2021a).

37 BME (2022b).

38 All representation indicators used in this section refer to the average of the corresponding percentages of women directors and managers in each company.

39 According to the notice published by the administrator, these companies were Global Dominion, Logista and Telefónica. BME (2021b).

5 Contribution to reducing the risk of greenwashing

Although there is no legal definition or consensus on the concept of greenwashing, it can be said to involve practices, intentional or not, whereby publicly disclosed sustainability information (with respect to an entity or an issuer, financial instrument, product or service) does not adequately reflect the underlying sustainability risks and characteristics; which may mislead consumers, investors or the general public.

The risk of greenwashing is possibly one of the most significant risks in regard to the orderly functioning of the markets, since it can also lead to inefficiencies in the formation of prices and favour the overvaluation of assets that are considered to be «green».[40]

This risk arises as a consequence of the rapid growth of ESG investments in a context of numerous legislative measures[41] which, while seeking to regulate them, are being drafted and implemented with some delay and lack of synchronisation, resulting in regulatory gaps and inconsistencies between different regulations.

At present, the European securities market, banking and insurance authorities are working, in a coordinated manner and under a mandate from the European Commission,[42] to find a single definition of the greenwashing phenomenon and to assess the problems of implementation of sustainability legislation as well as the supervisory response.[43]

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40 This can lead to the emergence of financial bubbles and what is known as the «green» risk premium or «greenium» in the markets, which can lead to lower funding costs for issuers, as investors seem to be willing to give up part of the return in exchange for the convenience of holding «green» assets. This behaviour may, in turn, incentivise issuers to resort to disclosures of untruthful sustainability targets, thereby exacerbating the cycle of overpricing and underweighting of poor quality information in investor decision-making.

41 In this regard, it suffices to mention the plethora of legislative initiatives that have been pushed through in the EU since the Commission announced its action plan on sustainable finance in 2018: Regulation on Taxonomy (2019); Sustainable Finance Disclosure Regulation (SFDR) (2019); Climate Transition Benchmarks Regulation (2019); Corporate Sustainability Reporting Directive (CSRD) (2022); Proposal for a Corporate Sustainability Due Diligence Directive (2022), Proposal for a Regulation on an EU Green Bond Standard (2021) and Green MiFID (2022).

42 The three European Supervisory Authorities (ESMA, EBA and EIOPA) published, in November 2022, a call for evidence (EBA, ESMA, EIOPA (2022) to gather information from stakeholders with the objective of improving the understanding of the concept of greenwashing, its key features, drivers and associated risks, as well as to collect examples of possible greenwashing practices.

43 Greenwashing is the most commonly used term, and a priori refers to environmental aspects, i.e. the letter «E» in the acronym ESG. However, it is important to underline that social and governance aspects, i.e. the letters «S» and «G», are also involved. In fact, terms such as «social washing» or «sustainability washing». With this in mind, the work of the European authorities will seek to address the concept broadly, covering all three aspects.

5.1 Impact of benchmarks on the transparency and comparability of issuers' ESG reporting

According to data from PIMCO,[44] between 2005 and 2018, the term ESG was mentioned in less than 1% of global company earnings presentations. However, from 2019 onwards it increased by 5%, rising to almost 20% in 2021.

While this trend is indicative of the growing interest in ESG investing, transparency is essential to avoid a race for «green gold» that could lead to a loss of investor confidence in sustainable finance, capital allocation decisions contrary to their objectives and greenwashing practices.

The study conducted by the CNMV (2023)[45] includes an estimate of the potential greenwashing in companies that provide information on emissions and their alignment with the Paris Agreement. This estimate is carried out by comparing two ratings constructed by Refinitiv: one, based solely on information supplied by the company itself; and the other, which corrects the former using other public information that questions the information disclosed by the issuers themselves.

Although this estimate has important limitations that could condition its results, it suggests, on a purely approximate basis, that while most companies would not make extensive use of greenwashing, large companies could be more exposed to this risk given the information they provide to the stock markets.

If this same analysis is applied to Spanish companies included in the CTBs and PABs indices and compared with the rest of the companies not included in the benchmarks, we find that, in line with the previous conclusion, 33% of the former would have a possible risk of greenwashing as opposed to 14% of the companies not included. In both cases, this result could be explained by the higher media exposure of large companies, which are generally also those included in the benchmarks.

This section has analysed whether the inclusion of companies in climate benchmarks is an incentive to take on credible decarbonisation targets and to disclose reliable information and metrics. The performance of the Spanish companies included in these benchmarks has been studied to this end.

Currently, 24 Spanish companies are included in one or other of the CTB and PAB indices managed by Stoxx According to information available through Reuters, all of them publish information relating to Scope 1, 2, and 3 emissions. Only in the case of 3 companies, it has been found that the published figures generate some uncertainty on Scope 3 emissions, according to the data provided by the issuers themselves.

For the calculation of the carbon footprint there is an increasing homogenisation of the carbon footprint due to the increasing number of companies following the GHG

44 PIMCO (2021).

45 CNMV (2023c).

Protocol.[46] While in 2019, according to Reuters, no Spanish company reported in accordance with this protocol, in 2021, 54% of the Spanish companies included in the CTBs and PABs adhere to it in order to ensure greater homogenisation of the data, thus facilitating the comparability of the figures for investors.

Likewise, all but 3 of the Spanish companies included in some of the Stoxx sustainable benchmarks report clear emission reduction targets, in terms of dates, as well as carbon footprint reduction percentages.

Reliability of information is essential to mitigate the risk of greenwashing. However, unlike other types of information, the information provided by issuers on their GHG emissions is not easy to validate by third parties, which could, in turn, incentivise companies to provide information to the market that would bias their climate change efforts upwards.

Since the creation of the CTB and PAB labels in 2019, there has been a generalisation in audited ESG reporting. Prior to that date, only 4 of the 24 Spanish companies currently included in one of the Stoxx benchmarks were engaged in this practice.

In parallel, it is noted that companies that are not part of these climate benchmarks do not have the same degree of commitment. However, since the introduction of these benchmarks, there has been a progressive improvement in the level of transparency and sustainability commitments of these companies, which paves the way for their eligibility for inclusion in the climate benchmarks.

Out of 27 Spanish companies that are part of the Stoxx Europe 600, and that are not included in CTBs and/or PABs, it is observed that 37% did not calculate their Scope 1 and 2 emissions in 2018. This proportion rises to 59% for Scope 3 emissions. In 2020, only 4 companies reported using the GHG Protocol as a procedure to account for their emissions; however, by 2021, 15 companies were already using the GHG Protocol.

Finally, companies that are not included in the CTBs and PABs do not show clear emission reduction commitments, but here too, a gradual improvement can be observed. In 2019, 11 companies did not publish a carbon footprint reduction target. Only one year later, this number has been reduced to 5 corporations.

5.2 Risk of greenwashing through the benchmarks

There should be a consistency in the benchmark between the investment objective of such benchmark as stated by the administrator and the actual objective of the index itself. A discrepancy between the actual objectives and those stated by the administrators can lead to confusion for users and investors in general.

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46 The Greenhouse Gas Protocol (GHG-Protocol) provides standards, guidance, tools and training for companies and governments to measure and manage greenhouse gas emissions from operations, value chains and mitigation actions. The protocol was developed jointly by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). The GHG Protocol works with governments, industry associations, NGOs, businesses and other organisations.

The risk of greenwashing may also arise from the managers' disclosure of information on the impact of their benchmarks, when they focus on exclusionary policies that do not result in the selection of a fully sustainable investment universe; or if an ESG integration strategy is presented but no commitment is made to use ESG considerations in making decisions on the inclusion of companies in the benchmark.

The creation of benchmarks similar to those regulated under the PAB or CTB labels, but with minor adjustments to fall outside these legally recognised categories, can give the impression of a strong ESG profile. While the regulation of disclosure requirements for ESG benchmarks reduces the risk of greenwashing, the lack of methodological requirements allowing benchmark users to compare different benchmarks that claim to have a robust ESG profile is a factor that favours such risk.

The paper by Gómez-Yubero and Gullón (2021) also points out, due to the limited scope of application of the BMR, ESG benchmarks could be created that fall outside regulation, i.e. that do not meet any of the three requirements set out in the definition of a «benchmark» in Article 3.3 of the BMR. If this situation were to arise, it could put the entities that offer these benchmarks in a much more favourable competitive position than the administrators that offer benchmarks subject to BMR. Providing these benchmarks could also encourage greenwashing practices.

These examples are in the sights of regulators and will serve to improve the regulatory framework, introduce effective common supervisory standards and define effective supervisory responses to ensure consistent and comparable ESG disclosure.

ESMA, in its sustainability roadmap,[47] identifies the monitoring and evaluation of greenwashing practices as a horizontal objective. In addition, it identifies concrete actions to help improve and achieve regulation consistent with the whole sustainability legislative package. ESMA has also planned concrete actions with the aim of achieving convergence in the enforcement and effective supervision of both the climate benchmarks and the ESG transparency requirements for other benchmarks.

The CNMV also considers, as a cross-cutting priority of its supervisory activity, the monitoring and identification of possible greenwashing practices in the different areas of its competence, as well as their prevention through the provision of guidance and criteria to the market, and the establishment of clear supervisory expectations. In relation to benchmark benchmarks, the CNMV plans to review compliance with the ESG disclosure criteria set out in the BMR Regulation.[48]

47 ESMA (2022a).

48 CNMV (2023b).

6 Obstacles identified and proposed solutions

The rapidly evolving and complex legislative framework on sustainable finance has led to uneven coverage of the various links in the sustainable investment value chain and inconsistencies between different pieces of legislation, which is hampering the development and effective use of tools such as benchmarks.

This situation leads to differences in interpretation and practical application, which ultimately stimulates, voluntarily or involuntarily, greenwashing or, more generally, ESG laundering practices, thus threatening investor protection and the efficient functioning of the markets.

In the paper published in 2021, a number of issues were identified that needed clarification in order to improve the effectiveness of the benchmarks in contributing to the SDGs. These issues, which are still valid today, include the lack of a centralised registry of climate and sustainability benchmarks, as well as the absence of specific rules on usage in benchmark naming, which hinders the identification of benchmarks and thus their use and comparability by potential users. It is also proposed to adjust the general definition of benchmarks so that it is not possible to create ESG benchmarks outside BMR.

This section further analyses and identifies the main shortcomings that hinder the role of benchmarks as a catalyst for sustainable finance, in addition to identifying possible solutions. Many of these solutions are already being considered by the European authorities and their implementation has begun.

This section also takes into account the views of sustainability benchmark administrators and promoters obtained from a survey coordinated by ESMA and conducted in 2022.

6.1 Inconsistencies between different pieces of legislation

Among the most relevant inconsistencies are the concept of «do no significant harm» (DNSH) to other ESG objectives in the BMR Regulation, on the one hand, and the Taxonomy and Disclosure Regulations (SFDR) on the other; the differences between sustainable investments and activities in SFDR and in the Taxonomy Regulation; and the absence of this concept in BMR as well as the use of estimates and/or equivalent information in ESG metrics and the different definition of metrics to measure the same concepts.

The BMR Regulation mentions the concept of DNSH when referring to entities that may be included in climate benchmarks must do no significant harm to other ESG objectives; this translates into exclusions[49] applied to both the PABs[50] and, from

49 These exclusions are set out in Article 10 (for CTBs) and Article 12 (for PABs) of Delegated Regulation (EU) 2020/1818 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards minimum standards for EU Climate Transition Benchmarks and EU Paris-aligned Benchmarks.

50 Article 3(1)(23 *ter*) of the BMR Regulation (as amended by Regulation (EU) 2019/2089 amending Regulation (EU) 2016/1011 EU Climate Transition Benchmarks, EU Paris-aligned Benchmarks and sustainability-related disclosures for benchmarks.

2023, the CTBs.[51] These exclusions include, for example, companies whose revenues are derived from activities considered harmful, such as those related to controversial weapons or tobacco cultivation and production.

The SFDR Regulation captures the concept of DNSH by defining sustainable investments as «investments in an economic activity which contribute to the achievement of an environmental or social objective and which, in addition, do no significant harm to either of those objectives». This principle is closely linked to the disclosure of the principal adverse impacts (PAIs) of investment decisions on sustainability factors.[52]

Furthermore, Article 3 of the Taxonomy Regulation[53] sets out the requirements for an economic activity to qualify as environmentally sustainable. Among these requirements is the requirement not to cause significant damage to any of the environmental objectives set out in Article 9. The treatment of this concept in the Taxonomy Regulation refers only to environmental aspects; it establishes stricter criteria for assessing compliance.

The different approaches to what constitutes a harmful activity give rise to contradictory situations, such as, for example, that a tobacco company can be labelled as sustainable under the criteria of the SFDR Regulation, since tobacco is not included in any of the mandatory PAIs; yet the same company would be excluded from the climate benchmarks.

It is also possible that climate benchmarks include companies in their composition that do not qualify as sustainable under the SFDR. For example, it is currently possible for a CTB to hold fossil fuel companies that would be harmful in terms of the PAI on «exposures to companies active in the fossil fuel sector» or, similarly, for a PAB or CTB to be harmful in terms of the PAI on gender diversity, as this exclusion criterion is not foreseen in BMR.

These inconsistencies pose a major constraint on the use of climate benchmarks in products subject to SFDR; they are particularly relevant for SFDR Article 9 products that replicate or use climate indices as benchmarks.

In 2020, the European Commission set up the Sustainable Finance Platform, an expert group that advises the Committee on the development of the taxonomy and on policies related to sustainable finance in general, as foreseen in Article 20 of the Taxonomy Regulation. Among their work, they highlight the recommendations

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51 Article 19 *ter* of the BMR Regulation (as amended by Regulation (EU) 2019/2089 amending Regulation (EU) 2016/1011 as regards EU Climate Transition Benchmarks, EU Paris-aligned Benchmarks and sustainability-related disclosures for benchmarks.

52 Delegated Regulation 2022/1288 of 6 April 2022 supplementing Regulation (EU) 2019/2088 of the European Parliament and of the Council as regards regulatory technical standards specifying the details of the content and presentation to be met by information relating to the 'do no significant harm' principle, and specifying the content, methods and presentation for information relating to sustainability indicators and adverse sustainability impacts, as well as the content and presentation of information relating to the promotion of environmental or social characteristics and sustainable investment objectives in pre-contractual documents, on websites and in periodic reports, Annex I Tables 1, 2 and 3.

53 Regulation 2020/852, Article 9: the environmental objectives are: a) climate change mitigation; b) adaptation to climate change; c) sustainable use and protection of water and marine resources; d) transition to a circular economy; e) pollution prevention and control; f) protection and recovery of biodiversity and ecosystems.

contained in the Usability Report,[54] published in October 2022, which addresses the challenges faced by users of the taxonomy. The Platform's recommendations include a number of legislative amendments aimed at aligning the different sustainability regulations.

Table 7 contains a summary of the Platform's recommendations that affect the BMR Regulation. Among them, and to address the situations described above, the Platform proposes to align the definition of «harm» (contained in BMR for the climate benchmarks with that of the SFDR), taking into consideration the PAIs in the design of the benchmarks; and in turn, to homogenise the exclusions (including tobacco as a harmful activity, for example, in both SFDR and BMR) so that they are perfectly aligned.

Summary of the recommendations of the Platform on Sustainable Finance to the European Commission in relation to BMR TABLE 7

Recommendations	Description	Priority[1]
Subject 49	Take into account sustainability disclosures under the Benchmarks Regulation (BMR) when amending the SFDR's PAIs. Specifically: — Update ESG-based benchmark disclosure requirements for full alignment with SFDR PAIs. — Disclosure of information on ESG-based benchmarks should include alignment with the taxonomy. — SFDR PAIs on fossil fuel indicators should be updated to follow the same breakdown as the exclusions for PABs. — The exclusions of the SFDR PAIs and those of the PABs or CTBs should be aligned (e.g. both should consider the exclusion of tobacco).	High
Subject 50	Include tobacco exposure as a PAI and replace the UN Global Compact with the UN Guiding Principles on Business and Human Rights to achieve consistency between the two regulations.	High
Subject 51	CTBs should be aligned with the SFDR definition of «harm», in the sense that PAI indicators should be»considered» in their construction and with clear explanations on how PAIs are considered. Although PABs are already consistent with PAIs, in the vast majority of cases, a similar alignment is recommended for the sake of consistency between PABs and CTBs.	Medium
Subject 52	Consider developing a taxonomy of «always significant harmful activities» and, until then, include a short list of «always mainly adverse» social and environmental activities as part of the PAIs, to be used as screening criteria in BMR. Consider developing and implementing benchmarks aligned with SFDR targets for the remaining mandatory SFDR PAI indicators.	Low
Subject 53	Align the SFDR's PAI metrics more closely with those required under BMR once the PAIs are revised. Specifically, include energy consumption, discrimination incidents, executive diversity and CEO compensation in benchmark disclosure requirements to better align SFDR and BMR.	Medium
Subject 54	When an ESG rating is used in BMR reporting, consider making it mandatory to disclose the formal methodology used to create the rating.	Medium
Subject 55	Revise the EVIC inflationary adjustment to take into account each investee company within the benchmark.	Medium
Subject 56	Revise Delegated Regulation (EU) 2020/1818 to ensure that the base year is 2020 and a 7% year-on-year thereafter is evidenced; or that year 1 requirements for any new CTB or PAB are calculated using the 7% trajectory to 2020.	Medium
Subject 57	Revise Delegated Regulation (EU) 2020/1818 to allow benchmark providers to choose whether to treat financial and insurance sector equities as a high or low impact sector component.	Low

Source: Platform on Sustainable Finance (2022). *Platform Recommendations on Data and Usability*. 12 October.

1 Prioritisation of recommendations refers to the degree of urgency with which the Platform considers that they need to be addressed in the regulation, but not to their importance or impact, as all recommendations are considered equally necessary.

54 Platform on Sustainable Finance (2022). *Platform Recommendations on Data and Usability*. 12 October.

6.2 Different definition of the metrics

The second issue highlighted on the lack of consistency between transparency obligations in different standards relates to ESG metrics. Among the most relevant discrepancies are the fact that the standards use different types of sources to develop ESG metrics (company data, equivalent information and estimates); this leads to problems of comparability of information and also hinders the effective use of benchmarks as benchmarks in SFDR-regulated products.

However, it should be noted that the new sustainability reporting standards to be developed under the CSRD will help to address some of these problems of inconsistency between disclosures under the Taxonomy, Disclosure and BMR rules; this will reduce, to some extent, the reliance on equivalent estimates and information.

As for the use of estimates, there are currently no clear rules on what constitutes more or less robust estimates; this leads to large differences in their use in SFDR, BMR and the Taxonomy Regulation. Furthermore, there is also no specific regulation of external ESG data providers, with a consequent lack of transparency of the methodologies used. To help address this weakness, IOSCO[55] has published best practice recommendations that market participants can adopt in their selection of ESG data provider products and services that require estimates.

The Platform recommends that where a benchmark provider uses ESG ratings or scores in its BMR reporting, it should disclose the formal methodology used to create the rating or score.

The future regulation of data providers, such as ESG ratings, which the Commission is contemplating, will go a long way towards resolving this issue.[56]

Certain metrics, such as greenhouse gas (GHG) intensity, present methodological discrepancies, as the way they are calculated in SFDR and BMR is different. In the first case, the GHG intensity calculation formula uses revenue as the denominator of the absolute base, while the BMR formula uses the enterprise value (EVIC). This disparity can lead to difficulties in interpreting the GHG intensity for a given company or portfolio invested in; and can lead market participants to different conclusions about the GHG intensity of a given financial product or benchmark.

55 IOSCO (2022).

56 To this end, the Commission conducted a specific public consultation between April and June 2022 (European Commission, 2022a) on the functioning of the ESG ratings market in the EU and on the consideration of ESG factors in credit ratings as a step towards a possible regulatory initiative.

Difference in calculation of GHG intensity in BMR and in SFDR TABLE 8

GHG intensity = tCO_2e/EVIC	GHG intensity = tCO_2e/Revenue
Where: tCO_2e: equivalent tons of CO_2. EVIC: Enterprise value including cash, calculated as the sum of the market capitalisation of ordinary and preference shares, the book value of total debt and non-controlling interests without deducting cash. Revenue: total company revenue.	

Source: Compiled by the authors.

While the BMR metric has advantages – such as better applicability to both equity and fixed income investments, and less bias for or against any particular economic sector – it also has drawbacks, such as the sometimes high volatility of the EVIC and the difficulty of calculating this metric in the absence of market capitalisation.

In order to address these discrepancies, the Platform suggests in its report that the metrics for the benchmark disclosures reflect the ESG[57] factors so that they are fully aligned with the SFDR PAIs as well as the Taxonomy Regulation. The Platform also recommends that benchmarks and funds use the same metrics to report on the footprint, intensity and overall carbon profile of the financial product, and prefers SFDR requirements to BMR requirements.

A common and consistent regulation on the use of estimates and equivalent information, as well as on requirements for the disclosure of methodologies used to estimate certain key data – such as Scope 3 GHG emissions – is needed to improve the comparability of data under these three regulations.

In April 2023, the three European supervisory authorities (EBA, EIOPA and ESMA) published a public consultation[58] on amendments to the Sustainable Finance Disclosure Regulation (SFDR) Delegated Regulation (EU) 2022/1288 which addresses many of the inconsistencies in this and the previous section, including in relation to sustainability indicators, key adverse impacts and disclosure of GHG emission reduction targets.

6.3 Creation of climate benchmarks by administrators of significant benchmarks

The BMR Regulation requests EU significant benchmark administrators to make an effort to market one or more CTBs.[59] This effort was to materialise as of January 2022. And although there are three administrators in the EU that provide meaningful

57 BMR requires administrators to explain in the benchmark disclosure how environmental, social and governance (ESG) factors are reflected in each benchmark or benchmark family developed and published

58 EBA, ESMA and EIOPA (2023).

59 Article 19 of the BMR Regulation (as amended by Regulation (EU) 2019/2089.

benchmarks, none of them offer CTBs. Only one of these administrators, Euronext Paris, has launched a benchmark[60] that selects companies within the CAC benchmark universe with emission reduction targets in line with the Paris Agreement. However, although it considers decarbonisation targets, this benchmark does not exactly match the characteristics of the CTBs or PABs.

There are several reasons given by these suppliers to justify this situation, some of them already mentioned in the previous sections, such as inconsistencies in the identification of harmful activities and DNSH, the lack of alignment between BMR ESG factors and SFDR PAIs, as well as differences in the calculation of sustainability indicators such as GHG intensity.

The insufficient quality of the data needed, the cost of accessing estimated or equivalent information and the different disclosure requirements are also arguments holding back the launch of these products. In particular, although the inclusion in the calculation of Scope 3 GHG emissions for the PABs and CTBs occurs gradually, depending on the sectors,[61] administrators ask for more flexibility due to the current low coverage and availability of these data.

The diversity of data providers and methodologies in the market (many of them not very transparent), the lack of standardisation of sustainability ratings and the added cost of engaging an ESG data provider (to provide all the information needed to develop the CTB) are also seen as factors hindering their development.

Finally, some administrators also point to a lack of investor interest and a lack of demand for these benchmarks from issuers.

6.4 Creation of new ESG benchmark labels

The European Commission is exploring the possibility of introducing a new label for benchmarks covering all ESG factors as a complement to the current climate labels,[62] which would boost the channelling of capital flows towards more sustainable investments and further help to address ESG banking. The two currently regulated climate benchmarks focus very specifically on GHG emission reductions and the Paris Agreement targets and address only one aspect of the ESG universe. There is therefore scope for a new label covering the entire ESG spectrum.

Many investors currently rely on so-called ESG benchmarks to justify the sustainability-related feature of their portfolio or the investment products they offer. However, the comparability and reliability of these ESG benchmarks is affected by the

60 Euronext (2023).

61 Scope 3 GHG emissions data are included in phases according to the sector:
- December 2020: energy and mining.
- December 2022: transport, construction, buildings, materials and industry.
- December 2024: all other sectors.

62 To this end, the European Commission has carried out a public consultation (European Commission, 2022b) prior to a possible legislative proposal regulating the methodology of ESG benchmarks and their transparency.

lack of harmonisation of their methodologies and by investors' doubts about the level of ambition of the objectives pursued. Currently, the only regulatory requirements applicable to ESG benchmarks are disclosure requirements set out in the relevant delegated regulations,[63] which is insufficient to ensure an adequate level of harmonisation across benchmarks. Harmonising the methodology of these benchmarks is essential to ensure a seal of quality and a high level of investor protection.

In order to avoid the same flaws as the current regulation on climate benchmarks,[64] the timing of the creation of such labels needs to be coordinated and synchronised with other legislation on sustainable finance.

To ensure consistency between BMR and the Taxonomy Regulation, the European Commission is required to submit a report to the European Parliament and the Council on the adaptation of the minimum standards for climate benchmarks to the taxonomy (Article 54(4) of the BMR).

It should also report on the feasibility of «ESG benchmarks», taking into account the evolving nature of sustainability indicators and the methods used to measure them. The report shall be accompanied, where appropriate, by a legislative proposal (Article 54.5 of the BMR).

To this end, in terms of priority, it would be desirable to first define minimum standards for financial products classified under Articles 8 and 9 of the SFDR as product labels and then identify how they would interact with an ESG benchmark methodology.

New ESG benchmark labels could be structured by defining minimum thresholds for the different sustainability indicators, or by requiring a minimum improvement relative to the investable universe for each of the sustainability indicators, or a combination of both techniques. In order to facilitate implementation, the thresholds defining the label could gradually be raised to the final target. Therefore, the label is initially structured with relatively low thresholds in the sustainability indicators, so that its implementation is feasible. In addition, it is still costly and difficult to access sustainability information from companies, and the degree of implementation and scope of the taxonomy still has a long way to go.

In line with this proposal, it is worth mentioning the conclusions of the work published by ESMA (ESMA 2022c). This paper also highlights the need to carefully calibrate the possible thresholds that may be set in future label regulation, whether for

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63 Commission Delegated Regulation (EU) 2020/1816 of 17 July 2020 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards the explanation in the benchmark statement of how environmental, social and governance factors are reflected in each benchmark provided and published; and Commission Delegated Regulation (EU) 2020/1817 of 17 July 2020 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards the minimum content of the explanation on how environmental, social and governance factors are reflected in the benchmark methodology.

64 The regulation of climate benchmarks and disclosure requirements for benchmarks that consider factors or pursue ESG objectives was adopted prior to the publication of the Taxonomy Regulation; resulting in BMR ESG factors referring to companies whose activities are identified in CNAE when it would be more useful for users to have information on taxonomy-related activities.

funds or benchmarks, so that the credibility of the label is appropriately weighted to enhance investor protection and mitigate greenwashing risk, and its usefulness, so that it can be widely used by managers and investors.

As the scope and implementation of the EU taxonomy expands and an increasing number of companies initiate the transition, the proportion of activities aligned with the taxonomy will increase over time. The implementation of CSDR reporting obligations and the implementation of a centralised single access point to companies' sustainability information (discussed in the next section) will also help to ensure compliance with more stringent requirements that may be set for products and benchmarks to adhere to the labels. This procedure will also make it easier for these labels to meet the objective of streamlining investor decision-making with guaranteed compliance with regulated and harmonised «green» requirements.

One measure that would help to ensure greater effectiveness of the new ESG benchmarks would be the development of thematic benchmarks, as an alternative to labels, which jointly consider all ESG factors. Similar to the regulation of climate benchmarks that focus on decarbonisation targets, benchmarks aligned to specific targets (such as gender diversity or water pollution reduction) could be regulated, defining specific parameters with respect to the individual targets selected and the percentages of improvement with respect to their investable universe. In line with this proposal, the Platform on Sustainable Finance[65] also takes a position.

The need for more specialised benchmarks that focus on specific ESG aspects or components is the aspect most demanded by managers surveyed by the Index Industry Association (see Section 3.2 of this article).

The recently published study by the European Commission[66] on the feasibility of an EU ESG benchmark suggests the development, through various options, of a mandatory standard for ESG benchmarks complemented by a voluntary label similar to the EU's CTBs and PABs. The establishment of a mandatory standard for all EU ESG benchmarks is unlikely to be feasible, at least in the short term, and the study therefore proposes to implement both the mandatory standard and voluntary labels, as well as instruments that give automatic access for investment products subject to the SFDR that use them as a benchmark to qualify as SFDR Article 8 and 9 products, respectively.

In addition, given the feasibility constraints identified for all options in the short term, the study proposes a phased approach, which would start with voluntary labelling from 2025, when disclosure under the CSRD comes into force, with the option of being an automatic (but not the only) route for product access to Article 8 of the SFDR. In the medium to long term, taking into account the experience of voluntary use, the label could be transformed into a mandatory minimum requirement and complemented by a voluntary label for benchmarks with higher sustainability ambitions; this would facilitate the disclosure of information under Article 9 of the SFDR.

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65 See Section 5.2.3.5 *Self-Enhancing Benchmarks for Further Indicators* from its report Platform on Sustainable Finance (2022).

66 European Commission (2022c).

6.5 Additional enhancements that will also contribute to mitigating the risk of greenwashing

From the perspective of a supervisor who has to ensure investor protection and the proper and efficient functioning of markets, adequate transparency and correct pricing are of particular importance, as the opposite can lead to a loss of investor confidence in sustainable finance, to capital allocation decisions contrary to their objectives and to greenwashing practices.

To avoid or mitigate this risk, there is a need for comprehensive regulation on disclosure or transparency; uniform interpretative criteria by the institutions that have to apply them, and by the authorities that have to supervise them; and effective supervisory practices that discourage and correct any inappropriate practices that may be detected.

Therefore, irrespective of the outcome of the ongoing work of the European Supervisory Authorities, there are a number of measures whose adoption will contribute to reducing this risk, such as advancing the implementation of harmonised taxonomy and disclosure standards and developing a rigorous oversight of compliance.

Similarly, encouraging and facilitating the use of labels, such as those currently regulated for climate benchmarks and those foreseen in the Commission's plans for investment funds or green bonds, will improve confidence in investment products and services.

Arguably, the most important element in addressing sustainability – to discourage inappropriate behaviour and to encourage sustainable investments – is transparency, i.e. the provision of consistent, reliable and quality information, because only with information can market participants identify and quantify risks, incorporate them into prices and their investment decisions.

In the EU, the Non-Financial Reporting Directive (NFRD) introduced this obligation for large public interest entities with more than 500 employees. The draft CSRD, which revises the NFRD, will extend the scope of disclosure to all issuers of securities listed on regulated markets (except micro-companies) and will require a third party review of the information (which is already mandatory in Spain).[67]

For transparency to be truly effective, it needs to be easily accessible and processable. To achieve this, the Commision has launched a very ambitious and complex project for a European Single Access Point (ESAP).[68] This project will make it possible to have on a single platform, in digital format, all the financial and non-financial information published by listed companies, large companies that provide information on sustainability (whether listed or not), banks, insurance companies, investment funds and other financial market entities. This platform is expected to be able

67 Sections 3.2.2. and 3.3.2. of Gómez-Yubero (2022) refer to the implications of regulation on sustainability reporting by issuers.

68 Proposal for a Regulation of the European Parliament and of the Council establishing a European single access point providing centralised access to publicly available information of relevance to financial services, capital markets and sustainability.

to start in a preliminary phase as of December 2025; its final implementation will follow a gradual process until 2030. Sustainability information will be integrated in the first phase.

Reliable and comparable ESG ratings are essential for quality information. There is a new and growing market for providers of ESG ratings that provide an opinion on the sustainability profile or characteristics of a company or financial instrument, exposure to sustainability risks or impact on society or the environment. The European Commission has also launched a project to regulate this activity, as well as to ensure that credit rating agencies assessing the creditworthiness of a company or financial instrument incorporate relevant ESG risks into credit ratings.

The discipline of transparency also operates in the area of corporate governance, through the obligation to report on the extent to which the recommendations of the Code of Good Governance are being followed, to ensure that ESG factors are integrated into day-to-day management and that a long-term vision is fostered. In Spain, in 2020, the CNMV updated the Good Governance Code so that, among other measures, the elements related to sustainability[69] were strengthened.

The CNMV has been working on a code of investor and manager involvement (known as a stewardship code) which has recently been published.[70] This code aims to encourage long-term thinking by investors and managers, which will also help to promote this approach in the companies in which they invest.

Finally, convergence in the interpretation, application and monitoring of standards is essential at European level. In this area, ESMA plays a key role in ensuring the effectiveness of transparency and convergence in supervisory practices.

On the basis of its Strategy on Sustainable Finance, published in 2020,[71] ESMA has adopted a roadmap[72] to ensure the coordinated implementation of its sustainability mandate containing the priorities and concrete actions that it will put in place during the period 2022-2024 to achieve these objectives.

7 Conclusions

This paper analyses the effectiveness of benchmarks that consider or pursue ESG objectives and, in particular, those of climate benchmarks, in meeting the objectives for which they were created, and identifies the obstacles that may be hindering their development.

69 CNMV (2020).
70 CNMV (2023a).
71 ESMA (2020).
72 ESMA (2022a).

Although asset managers recognise the usefulness of benchmarks and increasingly report using them, our results suggest that despite the considerable growth of ESG investments and increasing investor interest, the use of ESG indices, and in particular climate benchmarks, regulated in the EU, is still limited. This is despite the fact that there is a considerable supply of indices labelled as CTBs and PABs.

Indeed, managers also recognise that they need more specialised benchmarks; with better ESG metrics; with more information on the underlying ESG data used in benchmarks, with greater transparency in the way benchmarks are compiled and greater standardisation of metrics and methods across providers.

On the company side, it is possible to relate improvements in the assumption of credible sustainability commitments and in the disclosure of reliable information and metrics to benchmark membership and better valuation and expected returns of the companies that make up these benchmarks. The analysis also highlights the positive impact that such benchmarks have had on the transparency of companies, while reducing the risk of greenwashing.

Improving the regulation of benchmarks themselves, introducing common supervisory standards and defining effective supervisory responses to ensure consistent and comparable ESG disclosure by administrators will also contribute to the reduction of voluntary or involuntary practices related to ESG laundering.

Moreover, an analysis seems to indicate that the CTBs and PABs have helped to shift capital towards more sustainable investments. However, inconsistencies between the three regulations – Taxonomy, SFDR and BMR – pose a major constraint to the use of climate benchmarks on products subject to SFDR. Progress needs to be made in implementing the taxonomy and harmonised disclosure standards so that the transparency obligations of benchmarks are consistent with those of investment product providers.

It can therefore be concluded that, while there has been remarkable progress in recent years in terms of regulation, especially in the EU (which is the leading jurisdiction in this area), there is still some way to go to make the tools available to provide access to transition finance truly effective.

Improvements across the sustainable investment value chain can ensure that benchmarks fulfil their role of facilitating ESG investment, encouraging companies to initiate the transition to sustainability and contributing to the reduction of greenwashing risk, which will help the virtuous circle to work effectively.

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III Legislative Annex

Since the publication of the *CNMV Bulletin* for the fourth quarter of 2022, the following legislative developments have taken place:

Spanish legislation

– Law 6/2023 of 17 March, on Securities Markets and Investment Services.

This Law is presented as the new "Framework Law" for the securities markets, replacing Royal Legislative Decree 4/2015, of 23 October, which approved the recast text of the Securities Market Act, the successor to Law 24/1988, of 28 July, on the Securities Market.

The purpose of this Law is to regulate the securities market and investment services and activities in Spain, and it refers, among other matters, to: the issue and offer of financial instruments; trading venues and systems for registration, clearing and settlement of financial instruments; the authorisation regime, operating conditions and prudential regime for investment firms; the provision of investment services and activities in Spain by third-country firms; the authorisation and operation of providers of data supply services; and the CNMV's supervisory, inspection and sanctioning regime.

Firstly, this Law transposes various European Union directives and, secondly, it was essential to purge the Securities Market Law of those precepts that had been regulating matters that have subsequently come to be regulated by directly applicable European regulations, such as the legal regime of central securities depositories or that of the providers of data supply services.

This Law entered into force 20 days after its publication in the Official State Gazette (*BOE*). Article 63 shall enter into force 6 months after its publication in the Official State Gazette. Articles 307 and 323 will enter into force when Regulation (EU) of the European Parliament and of the Council on crypto-asset markets and amending Directive (EU) 2019/1937 enters into force. Until the regulations implementing this Law are issued, the current regulations on securities markets and investment services shall remain in force, insofar as they do not conflict with the provisions of this Law.

The following is highlighted:

- Its regulatory and systematic technique is improved. This Law makes a major effort to simplify and reorganise the matters regulated at a statutory level. Accordingly, and following the observations made by the Council of State in various opinions, it aims to regulate, within the scope of the Law, only the essential characteristics of the securities markets, the basic obligations and rights of their agents and financial customers, and the supervisory and sanctioning regime of the CNMV.

- It addresses reforms aimed at improving the competitiveness of Spanish securities markets and strengthening retail investor protection.

- The Directive accompanying the Regulation on the temporary regime for market infrastructures based on distributed register technology (DRT) is transposed.

- Superfluous and redundant requirements for the admission of debt securities to trading are eliminated.

- The information obligations of participants in Spanish post-trading infrastructures are adjusted, eliminating procedures and information obligations that are already unnecessary due to the implementation of directly applicable European regulations. The obligation of the central securities depository to have an information system for the supervision of trading, clearing, settlement and registration of securities, which was established in compliance with the legal and regulatory provisions introduced in 2015, is removed.

- The rules on takeover bids applicable to regulated markets are extended to multilateral trading facilities. Multilateral trading facilities will also be subject to the rules on the voluntary withdrawal of a financial instrument from trading, which until now have only applied to regulated markets.

- Measures are incorporated to reinforce investor protection against firms offering investment services without the required authorisation from the CNMV. The digitalisation of society and the increased use of social networks and digital media as a means of accessing information, including financial information, make it necessary to strengthen supervisory powers in the area of advertising for entities offering their services without proper authorisation, in order to prevent financial fraud.

- The regime for listed companies for takeover purposes (SPACs - Special Purpose Acquisition Company) is developed. A SPAC consists of the incorporation of a listed company which seeks investment and whose exclusive corporate purpose is the identification of a company, usually unlisted and with a high growth potential, within a given period of time and which it finally acquires. It is therefore an alternative mechanism to the traditional IPO, and particularly interesting for growth companies, as it favours the diversification of funding sources. The creation of a SPAC could therefore encourage the securitisation of our economy and, consequently, reduce dependence on bank credit by making alternative sources of finance available to companies.

- In order to enhance the legal certainty of this instrument, specifics are laid down for SPACs in relation to takeover bids, legal grounds for separation and the treasury share regime and in relation to the requirements applicable to acquisitions for valuable consideration. It is also specified that the SPACs will have 36 months to formulate a takeover bid, which may be extended by a further 18 months if approved by the General Shareholders' Meeting. Finally, it introduces the CNMV's power to require a prospectus if, at the time of the merger with the target company, the transaction was exempt from publication in accordance with Regulation (EU) 2017/1129 of the European Parliament and of the Council of 14 June 2017.

- The system of penalties for those involved in the securities markets is improved and simplified: infringements and penalties are defined, in all their degrees, in a single article for each type of infringement. This new system not only considerably reduces the length of the sanctioning regime, but also significantly mitigates the risk of errors in future legal amendments and helps to improve the recipients' knowledge of the prohibited conduct and its consequences. It has also been decided in this new Law to group the various offences and sanctions according to the EU regulation from which they originate, which will help to better identify which conduct is prohibited by each of these EU regulations and the sanctions that could be applied.

Spanish National Securities Market Commission

– CNMV Agreement of 22 December 2022, on the delegation of powers.

– Correction of errors in the Agreement of 22 December 2022, of the Board of the CNMV, on the delegation of powers.

Other

– Order ETD/37/2023, of 17 January, which provides for the creation of State Debt during the year 2023 and January 2024.

– Circular 1/2023, of 24 February, of the Bank of Spain to credit institutions, branches in Spain of credit institutions authorised in another Member State of the European Union and financial credit institutions, on the information to be sent to the Bank of Spain on covered bonds and other loan mobilisation instruments, and amending Circular 4/2017 of 27 November to credit institutions on public and confidential financial reporting standards and model financial statements, and Circular 4/2019 of 26 November to credit financial institutions on public and confidential financial reporting standards and model financial statements.

– Resolution of 7 March 2023, of the Executive Committee of Bank of Spain, amending that of 25 January 2008, approving the general clauses applicable to the Interbank Deposit Settlement Service.

  Amendments are included in the general clauses applicable to the Interbank Deposit Settlement Service, approved by Resolution of the Executive Committee of the Bank of Spain on 25 January 2008, as a consequence of the completion of the T2-T2S consolidation project, TARGET-Bank of Spain - the Spanish payment system that is part of the new generation Trans-European Automated Real-time Gross settlement Express Transfer system (TARGET) managed by the Bank of Spain - which will become operational on 20 March 2023, when it will legally replace and succeed TARGET2-Bank of Spain. With the entry into operation of TARGET, there will be changes in the accounts in which the

transactions recorded in TARGET are settled: these settlements, which in TARGET2 were made on Payment Module accounts, will, with the entry into operation of TARGET, be made on the new dedicated cash accounts for the real-time gross settlement of large-value payments.

European Securities Market Authority (ESMA) / European Banking Authority (EBA)

– Guidelines on the data collection exercises regarding high earners under Directive 2013/36/EU and under Directive (EU) 2019/2034 (30/06/2022). European Banking Authority (EBA).

– Guidelines on standard forms, formats and templates to apply for permission to operate a DLT market infrastructure (08/03/2023). European Securities and Markets Authority (ESMA).

– Guidelines on stress tests scenarios under Article 28 of the MMF Regulation (21/03/2018). European Securities and Markets Authority (ESMA).

– Guidelines on transferability to complement the resolvability assessment for transfer strategies (27/09/2022). European Banking Authority (EBA).

EU legislation (in order of publication in the *OJEU*)

– Commission Delegated Regulation (EU) 2023/363, of 31 October 2022, amending and correcting the regulatory technical standards laid down in Delegated Regulation (EU) 2022/1288 as regards the content and presentation of information in relation to disclosures in pre-contractual documents and periodic reports for financial products investing in environmentally sustainable economic activities.

  Published in the *OJEU* (L) No. 50, of 17 February 2023, pp. 3-27.

– Commission Delegated Regulation (EU) 2023/450, of 25 November 2022, supplementing Regulation (EU) 2021/23 of the European Parliament and of the Council with regard to regulatory technical standards specifying the order in which CCPs are to pay the recompense referred to in Article 20(1) of Regulation (EU) 2021/23, the maximum number of years during which those CCPs are to use a share of their annual profits for such payments to possessors of instruments recognising a claim on their future profits and the maximum share of those profits that is to be used for those payments.

  Published in the *OJEU* (L) No. 67, of 6 March 2023, pp. 5-6.

– Commission Delegated Regulation (EU) 2023/451, of 25 November 2022, specifying the factors to be taken into consideration by the competent authority and the supervisory college when assessing the recovery plan of central counterparties.

  Published in the *OJEU* (L) No. 67, of 6 March 2023, pp. 7-16.

– Commission Delegated Regulation (EU) 2023/511, of 24 November 2022 supplementing Regulation (EU) No 575/2013 of the European Parliament and of the Council with regard to regulatory technical standards for the calculation of risk-weighted exposure amounts of collective investment undertakings under the mandate-based approach.

  Published in the *OJEU* (L) No. 71, of 9 March 2023, pp. 1-3.

IV Statistics Annex

1 Markets

1.1 Equity

Share issues and public offerings[1]

TABLE 1.1

	2020	2021	2022	2022 I	2022 II	2022 III	2022 IV	2023 I
NO. OF ISSUERS								
Total	28	34	29	9	10	9	12	6
Capital increases	28	33	29	9	10	9	12	6
Primary offerings	1	1	1	0	0	1	0	0
Bonus issues	12	14	12	4	5	4	3	3
Of which, scrip dividend	10	10	11	4	5	4	2	3
Capital increases by conversion	2	4	4	0	1	1	3	2
For non-monetary consideration	1	4	3	1	0	0	2	1
With pre-emptive subscription rights	5	4	2	0	2	0	0	0
Without trading warrants	9	12	10	5	3	3	5	1
Secondary offerings	0	1	0	0	0	0	0	0
NO. OF ISSUES								
Total	40	52	56	10	12	9	25	9
Capital increases	40	51	56	10	12	9	25	9
Primary offering	1	1	1	0	0	1	0	0
Bonus issues	17	20	16	4	5	4	3	3
Of which, scrip dividend	15	16	15	4	5	4	2	3
Capital increases by conversion	2	4	14	0	1	1	12	4
For non-monetary consideration	2	5	5	1	0	0	4	1
With pre-emptive subscription rights	5	4	2	0	2	0	0	0
Without trading warrants	13	17	18	5	4	3	6	1
Secondary offerings	0	1	0	0	0	0	0	0
CASH VALUE (millions of euros)								
Total	15,098.0	21,351.6	6,777.9	1,818.2	1,134.4	1,923.1	1,902.1	1,039.5
Capital increases	15,098.0	19,151.3	6,777.9	6,194.9	1,134.4	1,923.1	1,902.1	1,039.5
Primary offerings	150.1	100.0	200.0	0.0	0.0	200.0	0.0	0.0
Bonus issues	6,194.9	5,478.1	3,591.5	872.1	780.3	1,610.8	328.3	1,025.6
Of which, scrip dividend	6,193.1	5,451.8	3,590.0	872.1	780.3	1,610.8	326.8	1,025.6
Capital increases by conversion	162.4	109.5	81.6	0.0	3.1	2.0	76.5	12.0
For non-monetary consideration[2]	233.0	3,525.3	1,381.2	17.4	0.0	0.0	1,363.8	1.9
With pre-emptive subscription rights	6,837.2	7,060.4	254.2	0.0	254.2	0.0	0.0	0.0
Without trading warrants	1,520.3	2,878.1	1,269.4	928.7	96.8	110.3	133.6	0.0
Secondary offerings	0.0	2,200.2	0.0	0.0	0.0	0.0	0.0	0.0
NOMINAL VALUE (millions of euros)								
Total	1,282.1	5,021.7	530.2	131.9	174.3	116.5	107.5	85.8
Capital increases	1,282.1	4,939.4	530.2	131.9	174.3	116.5	107.5	85.8
Primary offerings	7.8	5.4	0.8	0.0	0.0	0.8	0.0	0.0
Bonus issues	799.6	796.2	334.4	68.3	149.6	111.5	4.9	77.6
Of which, scrip dividend	799.6	774.9	332.9	68.3	149.6	111.5	3.4	77.6
Capital increases by conversion	1.7	46.3	6.5	0.0	0.0	0.1	6.4	8.1
For non-monetary consideration	68.0	3,289.0	19.3	8.7	0.0	0.0	10.6	0.0
With pre-emptive subscription rights	370.9	98.8	22.9	0.0	22.9	0.0	0.0	0.0
Without trading warrants	34.1	703.7	146.2	54.9	1.7	4.1	85.6	0.0
Secondary offerings	0.0	82.3	0.0	0.0	0.0	0.0	0.0	0.0
***Pro memoria*: transactions BME Growth[3]**								
No. of issuers	9	44	44	13	13	19	13	10
No. of issues	14	77	88	14	26	30	18	27
Cash value (millions of euros)	238.5	2,440.8	2,329.5	346.9	615.2	643.0	724.3	83.9
Capital increases	238.5	2,440.8	2,329.5	346.9	615.2	643.0	724.3	83.9
Of which, primary offerings	173.5	1,654.2	1,487.1	216.5	190.7	399.3	680.7	0.0
Secondary offerings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

1 Registered transactions at the CNMV. Does not include data from BME Growth, ETF or Latibex.
2 Capital increases for non-monetary consideration are valued at market prices.
3 Unregistered transactions at the CNMV. Source: BME and CNMV.

Companies listed[1]

TABLE 1.2

	2020	2021	2022	2022 I	2022 II	2022 III	2022 IV	2023 I
Total electronic market[2]	126	123	121	123	121	121	121	121
Of which, foreign companies	7	6	6	6	6	6	6	6
Second market	0	0	0	0	0	0	0	0
Madrid	0	0	0	0	0	0	0	0
Barcelona	0	0	0	0	0	0	0	0
Bilbao	0	0	0	0	0	0	0	0
Valencia	0	0	0	0	0	0	0	0
Open outcry	11	10	9	9	9	9	9	9
Madrid	3	3	3	3	3	3	3	3
Barcelona	6	6	6	6	6	6	6	6
Bilbao	2	2	2	2	2	2	2	2
Valencia	2	1	0	0	0	0	0	0
BME MTF Equity[3]	2,580	2,432	1,349	2,402	2,350	2,093	1,349	819
Latibex	19	19	19	18	19	19	19	20

1 Data at the end of period.
2 Without ETFs (Exchange Traded Funds).
3 Alternative Stock Market.

Capitalisation[1]

TABLE 1.3

Millions of euros

	2020	2021	2022	2022 I	2022 II	2022 III	2022 IV	2023 I
Total electronic market[2]	690,101.6	781,805.0	724,476.0	749,196.8	706,766.8	645,678.0	724,476.0	791,476.3
Of which, foreign companies[3]	113,478.9	147,213.9	141,178.4	143,841.7	121,487.2	115,485.5	141,178.4	155,953.6
Ibex 35	424,167.3	475,870.0	438,222.8	460,787.9	432,155.2	391,213.3	438,222.8	488,225.9
Second market	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Madrid	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Barcelona	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bilbao	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Valencia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Open outcry	1,053.6	1,319.3	1,227.9	1,222.1	1,118.0	1,153.2	1,227.9	1,305.4
Madrid	30.9	23.1	32.8	24.2	25.8	37.5	32.8	36.5
Barcelona	956.0	1,258.7	1,201.5	1,202.9	1,097.1	1,122.2	1,201.5	1,275.4
Bilbao	20.6	19.2	0.0	16.2	16.2	14.7	0.0	14.7
Valencia	76.0	45.3	0.0	0.0	0.0	0.0	0.0	0.0
BME MTF Equity[4, 5]	43,595.5	48,656.9	39,070.4	47,115.3	45,612.4	41,877.1	39,070.4	36,209.6
Latibex	177.2	196.1	228.5	281.9	187.1	203.4	228.5	239.3

1 Data at the end of period.
2 Without ETFs (Exchange Traded Funds).
3 Capitalisation of foreign companies includes their entire shares, whether they are deposited in Spain or not.
4 Calculated only with outstanding shares, not including treasury shares, because capital stock is not reported until the end of the year.
5 Alternative Stock Market.

Trading

TABLE 1.4

Millions of euros

				2022				2023
	2020	2021	2022	I	II	III	IV	I
Total electronic market[1]	422,786.4	372,972.8	356,572.7	108,728.0	100,601.9	68,491.7	78,751.1	88,218.7
Of which, foreign companies	4,273.8	4,343.6	4,770.9	2,167.5	1,268.4	660.4	674.6	885.9
Second market	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Madrid	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Barcelona	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bilbao	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Valencia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Open outcry	2.5	7.4	8.3	2.5	2.9	0.8	2.0	1.0
Madrid	0.1	0.1	0.6	0.4	0.1	0.1	0.0	0.0
Barcelona	2.4	7.4	7.7	2.1	2.9	0.8	2.0	0.0
Bilbao	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Valencia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BME MTF Equity[2]	3,929.0	3,559.2	3,837.3	932.7	984.9	759.0	1,160.7	996.8
Latibex	79.5	48.9	93.4	29.4	15.4	21.5	27.2	28.9

1 Without ETFs (Exchange Traded Funds).
2 Alternative Stock Market.

Trading[1]

TABLE 1.5

Millions of euros

				2022				2023
	2020	2021	2022	I	II	III	IV	I
Regular trading	405,120.5	355,841.2	342,364.3	106,941.7	95,453.0	66,656.5	73,313.2	86,581.5
Orders	278,516.1	237,430.5	247,439.8	77,695.7	64,453.9	52,307.0	52,983.3	65,236.4
Put-throughs	42,666.5	40,006.0	35,058.8	10,938.1	9,408.9	6,932.9	7,779.0	8,951.4
Block trades	83,938.0	78,404.7	59,865.7	18,308.0	21,590.2	7,416.7	12,550.9	12,393.7
Off-hours	4,174.3	4,890.0	3,873.0	964.2	1,772.6	343.2	792.9	807.9
Authorised trades	2,001.4	1,213.3	867.1	80.3	464.6	212.8	109.4	84.6
Art. 36.1 SMA trades	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tender offers	5,250.9	5,306.1	5,125.0	0.0	1,787.8	184.2	3,153.1	0.0
Public offerings for sale	967.8	1,723.2	467.5	75.0	172.5	220.0	0.0	0.0
Declared trades	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Options	3,369.1	2,787.7	2,458.4	327.2	599.7	551.1	980.4	442.1
Hedge transactions	1,902.4	1,211.5	1,417.5	339.5	351.9	323.9	402.2	306.6

1 Without ETFs (Exchange Traded Funds).

1.2 Fixed income

Gross issues registered at the CNMV

TABLE 1.6

	2020	2021	2022	2022 I	2022 II	2022 III	2022 IV	2023 I
NO. OF ISSUERS								
Total	47	34	29	13	10	7	11	23
Mortgage-covered bonds	14	7	8	6	3	1	2	6
Territorial-covered bonds	3	3	3	3	0	1	0	1
Non-convertible bonds and debentures	11	10	7	3	3	4	3	5
Convertible bonds and debentures	0	3	2	1	2	0	1	1
Backed securities	15	12	11	4	2	2	4	3
Commercial paper	8	7	7	5	5	6	6	7
Of which, asset-backed	0	0	0	0	0	0	0	0
Of which, non-asset-backed	8	7	7	5	5	6	6	7
Other fixed-income issues	2	1	0	0	0	0	0	0
Preference shares	2	3	0	0	0	0	0	2
NO. OF ISSUES								
Total	244	156	129	140	112	203	530	1,043
Mortgage-covered bonds	26	16	21	8	4	5	4	10
Territorial-covered bonds	6	3	4	3	0	1	0	1
Non-convertible bonds and debentures	143	81	45	4	10	8	23	11
Convertible bonds and debentures	0	4	4	1	2	0	1	1
Backed securities	52	41	53	11	13	15	14	15
Commercial paper[1]	11	7	2	113	83	174	488	1,003
Of which, asset-backed	0	0	0	0	0	0	0	0
Of which, non-asset-backed	11	7	2	113	83	174	488	1,003
Other fixed-income issues	4	1	0	0	0	0	0	0
Preference shares	2	3	0	0	0	0	0	2
NOMINAL AMOUNT (millions of euros)								
Total	132,120.7	101,170.7	124,391.4	42,857.7	17,204.1	24,694.5	39,635.2	38,035.9
Mortgage-covered bonds	22,960.0	28,700.0	31,350.0	14,300.0	7,000.0	6,000.0	4,050.0	12,130.2
Territorial-covered bonds	9,150.0	5,500.0	3,540.0	3,040.0	0.0	500.0	0.0	750.0
Non-convertible bonds and debentures	33,412.5	24,756.7	27,532.2	4,371.8	549.5	547.4	22,063.5	9,678.3
Convertible bonds and debentures	0.0	1,210.0	1,800.0	300.0	1,000.0	0.0	500.0	130.0
Backed securities	36,281.0	18,375.7	20,644.7	14,021.8	1,911.4	1,359.1	3,352.4	3,800.5
Commercial paper[2]	22,257.7	20,157.1	39,524.5	6,824.1	6,743.2	16,288.0	9,669.3	10,446.9
Of which, asset-backed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Of which, non-asset-backed	22,257.7	20,157.1	39,524.5	6,824.1	6,743.2	16,288.0	9,669.3	10,446.9
Other fixed-income issues	6,266.2	823.3	0.0	0.0	0.0	0.0	0.0	0.0
Preference shares	1,750.0	1,625.0	0.0	0.0	0.0	0.0	0.0	1,100.0
Pro memoria:								
Subordinated issues	14,312.1	4,599.5	2,326.3	951.3	745.2	345.1	284.7	1,651.0
Underwritten issues	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

1 Shelf registrations.
2 The figures for commercial paper refer to the amount placed.

Admisión al mercado AIAF[1]

TABLE 1.7

Nominal amount in millions of euros

	2020	2021	2022	2022 I	2022 II	2022 III	2022 IV	2023 I
Total	119,230.2	113,205.9	136,273.0	40,160.8	30,703.6	23,469.8	41,938.9	38,501.6
Commercial paper	22,293.8	20,190.1	39,334.4	5,272.3	8,029.1	13,566.4	12,466.6	10,446.9
Bonds and debentures	20,407.1	37,664.0	40,403.9	15,926.6	1,363.1	1,044.3	22,069.9	9,804.2
Mortgage-covered bonds	23,058.3	29,020.0	31,350.0	14,300.0	7,000.0	6,000.0	4,050.0	12,600.0
Territorial-covered bonds	9,150.0	5,500.0	4,540.0	3,040.0	0.0	1,500.0	0.0	750.0
Backed securities	36,281.0	18,375.7	20,644.7	1,621.8	14,311.4	1,359.1	3,352.4	3,800.5
Preference shares	1,750.0	1,625.0	0.0	0.0	0.0	0.0	0.0	1,100.0
Matador bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other fixed-income issues	6,290.1	831.0	0.0	0.0	0.0	0.0	0.0	0.0

1 Only corporate bonds are included.

AIAF. Issuers, issues and outstanding balance

TABLE 1.8

	2020	2021	2022	2022 I	2022 II	2022 III	2022 IV	2023 I
NO. OF ISSUERS								
Total	321	292	272	284	278	275	272	270
Corporate bonds	289	257	236	248	241	238	236	234
Commercial paper	8	40	6	6	6	5	6	7
Bonds and debentures	41	39	31	35	31	32	31	32
Mortgage-covered bonds	29	27	23	27	26	25	23	23
Territorial-covered bonds	8	6	4	5	4	4	4	5
Backed securities	222	198	187	192	190	187	187	183
Preference shares	5	5	5	5	5	5	5	5
Matador bonds	5	3	3	3	3	3	3	3
Government bonds	32	35	36	36	37	37	36	36
Letras del Tesoro	1	1	1	1	1	1	1	1
Long government bonds	1	1	1	1	1	1	1	1
Regional government debt	13	13	13	13	13	13	13	13
Foreign public debt	10	13	13	13	13	13	13	13
Other public debt	8	8	9	9	10	10	9	9
NO. OF ISSUES								
Total	2,610	2,451	2,353	2,415	2,391	2,337	2,353	2,332
Corporate bonds	1,655	1,465	1,370	1,401	1,375	1,334	1,370	1,338
Commercial paper	53	54	121	45	53	49	121	126
Bonds and debentures	589	481	367	440	411	380	367	334
Mortgage-covered bonds	200	183	156	181	177	174	156	156
Territorial-covered bonds	22	18	13	19	17	14	13	13
Backed securities	777	715	699	702	703	703	699	693
Preference shares	9	11	11	11	11	11	11	13
Matador bonds	5	3	3	3	3	3	3	3
Government bonds	955	986	983	1,014	1,016	1,003	983	994
Letras del Tesoro	12	12	12	12	12	12	12	12
Long government bonds	231	233	232	236	235	234	232	232
Regional government debt	167	171	155	170	167	165	155	158
Foreign public debt	533	558	560	572	574	564	560	565
Other public debt	12	12	24	24	28	28	24	27
OUTSTANDING BALANCE[1] (millions of euros)								
Total	6,297,532.5	6,261,335.6	6,036,311.1	6,311,600.3	6,191,763.7	6,099,991.9	6,036,311.1	9,452,238.5
Corporate bonds	464,170.7	456,613.9	384,144.5	419,260.8	421,386.1	409,648.5	384,144.5	383,888.8
Commercial paper	4,812.4	5,688.6	8,715.2	5,092.2	5,278.4	4,833.2	8,715.2	8,363.9
Bonds and debentures	53,696.1	68,584.8	37,838.3	39,352.9	36,685.9	37,359.7	37,838.3	42,406.7
Mortgage-covered bonds	199,054.1	199,681.7	175,698.3	206,148.4	202,387.6	200,556.4	175,698.3	174,231.5
Territorial-covered bonds	18,262.3	17,544.0	12,585.0	19,694.0	19,220.0	14,585.0	12,585.0	13,240.0
Backed securities	181,341.0	156,695.2	140,888.0	140,553.8	149,394.6	143,894.7	140,888.0	136,127.1
Preference shares	6,690.0	8,225.0	8,225.0	8,225.0	8,225.0	8,225.0	8,225.0	9,325.0
Matador bonds	314.8	194.6	194.6	194.6	194.6	194.6	194.6	194.6
Government bonds	5,833,361.8	5,804,721.7	5,652,166.6	5,892,339.5	5,770,377.7	5,695,638.7	5,652,166.6	9,068,349.7
Letras del Tesoro	79,765.7	79,409.6	74,881.0	79,174.4	76,799.5	76,859.5	74,881.0	72,577.0
Long government bonds	1,026,625.5	1,094,574.1	1,184,497.3	1,156,820.9	1,145,533.0	1,177,934.7	1,184,497.3	1,221,927.2
Regional government debt	32,775.5	36,131.2	35,109.3	36,099.7	36,134.3	40,889.9	35,109.3	37,120.9
Foreign public debt	4,692,674.9	4,592,786.5	4,339,951.8	4,579,819.9	4,470,006.7	4,359,064.7	4,339,951.8	7,698,245.0
Other public debt	1,520.2	1,820.2	17,727.1	40,424.6	41,904.1	40,889.9	17,727.1	38,479.6

1 Nominal amount.

AIAF. Trading

TABLE 1.9

Nominal amount in millions of euros

				2022				2023
	2020	2021	2022	I	II	III	IV	I
BY TYPE OF ASSET								
Total	140,509.4	47,659.3	18,782.9	5,178.6	6,219.2	3,222.3	4,162.8	6,036.6
Corporate bonds	170.2	174.3	106.7	32.1	30.9	18.4	25.4	28.7
Commercial paper	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bonds and debentures	169.4	174.3	105.8	32.1	30.9	18.4	24.5	27.0
Mortgage-covered bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
Territorial-covered bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backed securities	0.0	0.0	0.9	0.0	0.0	0.0	0.9	0.0
Preference shares	0.8	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Matador bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Government bonds	140,339.2	47,485.0	18,676.2	5,146.5	6,188.3	3,203.9	4,137.5	6,007.9
Letras del Tesoro	27,975.5	5,186.3	730.3	50.0	305.0	170.3	204.9	211.5
Long government bonds	83,478.8	21,997.4	5,623.7	1,996.3	2,238.3	501.4	887.6	1,967.5
Regional government debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Foreign public debt	28,884.9	20,301.3	12,322.3	3,100.2	3,645.0	2,532.1	3,044.9	3,828.9
Other public debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BY TYPE OF TRANSACTION								
Total	140,509.4	47,659.3	18,782.9	5,178.6	6,219.2	3,222.3	4,162.8	6,036.6
Outright	140,509.4	47,659.3	18,782.9	5,178.6	6,219.2	3,222.3	4,162.8	6,036.6
Repos	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sell-buybacks/Buy-sellbacks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AIAF. Third-party trading. By purchaser sector

TABLE 1.10

Nominal amount in millions of euros

				2022				2022
	2020	2021	2022	I	II	III	IV	I
Total	140,495.9	47,564.1	18,771.9	5,175.5	6,214.1	3,219.9	4,162.4	6,035.5
Non-financial companies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial institutions	140,495.9	47,564.1	18,771.9	5,175.5	6,214.1	3,219.9	4,162.4	6,035.5
Credit institutions	176.6	278.3	92.6	23.0	25.4	18.0	26.2	54.2
CIS, insurance and pension funds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other financial institutions	140,319.3	47,285.8	18,679.3	5,152.5	6,188.7	3,201.9	4,136.2	5,981.3
General government	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Households and NPISHs[1]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest of the world	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

1 Non-profit institutions serving households.

Equity markets. Issuers, issues and outstanding balances

TABLE 1.11

	2020	2021	2022	2022 I	2022 II	2022 III	2022 IV	2023 I
NO. OF ISSUERS								
Total	11	10	8	10	10	10	8	8
Private issuers	4	4	4	4	4	4	4	4
Non-financial companies	0	0	0	0	0	0	0	0
Financial institutions	4	4	4	4	4	4	4	4
General government[1]	7	6	4	6	6	6	4	4
Regional governments	2	2	2	2	2	2	2	2
NO. OF ISSUES								
Total	44	49	40	48	45	43	40	39
Private issuers	11	11	11	11	11	11	11	11
Non-financial companies	0	0	0	0	0	0	0	0
Financial institutions	11	11	11	11	11	11	11	11
General government[1]	33	38	29	37	34	32	29	28
Regional governments	18	26	24	26	25	25	24	24
OUTSTANDING BALANCES[2] (millions of euros)								
Total	6,158.4	8,399.3	7,717.5	8,397.0	8,206.2	7,886.8	7,717.5	7,685.8
Private issuers	366.3	319.4	273.3	307.9	297.3	283.4	273.3	256.6
Non-financial companies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial institutions	366.3	319.4	273.3	307.9	297.3	283.4	273.3	256.6
General government[1]	5,792.2	8,079.9	7,444.2	8,089.1	7,908.8	7,603.3	7,444.2	7,429.3
Regional governments	5,179.3	7,549.3	7,338.6	7,549.3	7,398.6	7,398.6	7,338.6	7,338.6

1 Without public book-entry debt.
2 Nominal amount.

SENAF. Public debt trading by type

TABLE 1.12

Nominal amounts in millions of euros

	2020	2021	2022	2022 I	2022 II	2022 III	2022 IV	2023 I
Total	120,706.0	174,959.0	100,432.0	28,045.0	26,974.0	20,829.0	24,584.0	47,188.0
Outright	120,706.0	174,959.0	100,432.0	28,045.0	26,974.0	20,829.0	24,584.0	47,188.0
Sell-buybacks/Buy-sellbacks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Others	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.3 Derivatives and other products

1.3.1 Financial derivative markets: MEFF

Trading on MEFF

TABLE 1.13

Number of contracts

				2022				2023
	2020	2021	2022	I	II	III	IV	I
Debt products	0	0	0	0	0	0	0	0
Debt futures[1]	0	0	0	0	0	0	0	0
Ibex 35 products[2, 3]	6,395,357	5,547,599	5,693,086	1,664,446	1,375,678	1,303,319	1,349,644	1,264,832
Ibex 35 plus futures	5,905,782	5,260,568	5,445,516	1,587,224	1,314,389	1,258,725	1,285,178	1,219,196
Ibex 35 mini futures	154,351	92,657	93,450	33,042	23,030	20,341	17,037	16,595
Ibex 35 micro futures	0	0	0	0	0	0	0	0
Ibex 35 dividend impact futures	91,571	45,450	19,708	4,320	1,240	1,650	12,498	5,015
Ibex 35 sector futures	0	0	0	0	0	0	0	0
Call mini options	104,132	69,667	42,485	11,728	11,292	9,023	10,441	8,517
Put mini options	139,521	79,257	91,927	28,131	25,727	13,580	24,490	15,509
Stock products[4]	30,313,892	25,434,719	25,333,109	6,925,765	4,746,892	5,283,881	8,376,571	9,785,272
Futures	10,968,411	11,346,047	10,313,726	3,919,655	956,444	1,549,644	3,887,983	6,057,018
Stock dividend futures	130,055	2,100	12,550	25	75	6,050	6,400	300
Stock plus dividend futures	7,752	20,800	13,510	9,040	0	0	4,470	4,090
Call options	8,564,019	6,131,488	7,900,379	1,499,642	2,069,208	1,969,545	2,361,984	1,842,611
Put options	10,643,655	7,934,284	7,092,944	1,497,403	1,721,165	1,758,642	2,115,734	1,881,253

1 Contract size: €100,000.
2 The number of Ibex 35 mini futures (multiples of €1) and micro futures (multiples of €0.1) was standardised to the size of the Ibex 35 plus futures (multiples of €10).
3 Contract size: Ibex 35, €10.
4 Contract size: 100 stocks.

1.3.2 Warrants, option buying and selling contracts, and ETF (Exchange-Traded Funds)

Issues registered at the CNMV

TABLE 1.14

				2022				2023
	2020	2021	2022	I	II	III	IV	I
WARRANTS								
Premium amount (millions of euros)	1,151.8	2,142.7	5,233.0	1,236.0	1,498.2	1,289.1	1,209.7	2,167.0
On stocks	429.7	792.8	1,595.9	289.7	575.7	344.1	386.3	344.5
On indexes	674.0	1,258.6	3,014.2	868.8	671.1	754.5	719.8	1,736.5
Other underlyings[1]	48.1	91.3	622.9	77.4	251.4	190.5	103.6	86.0
Number of issues	3,081	4,581	7,383	2,299	1,765	1,819	1,500	2,991
Number of issuers	5	3	2	2	2	2	1	2
OPTION BUYING AND SELLING CONTRACTS								
Nominal amounts (millions of euros)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On stocks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On indexes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other underlyings[1]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Number of issues	0	0	0	0	0	0	0	0
Number of issuers	0	0	0	0	0	0	0	0

1 It includes the following underlying: baskets of stocks, exchange rates, interest rates and commodities.

Equity markets. Warrants and ETF trading

TABLE 1.15

				2022				2023
	2020	2021	2022	I	II	III	IV	I
WARRANTS								
Trading (millions of euros)	319.7	289.2	599.6	106.0	159.7	161.4	172.4	112.6
On Spanish stocks	121.1	123.3	86.0	23.0	21.9	20.8	20.3	20.0
On foreign stocks	26.0	18.2	26.4	6.0	7.5	4.4	8.5	8.9
On indexes	161.7	143.4	436.8	73.6	114.4	119.8	129.1	81.1
Other underlyings[1]	10.9	4.3	50.4	3.4	15.9	16.5	14.6	2.6
Number of issues[2]	3,785.0	3,249.0	764.0	1,126	1,078	970	764	1,753
Number of issuers[2]	7	4	2	2	2	2	2	2
CERTIFICATES								
Trading (millions of euros)	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Number of issues[2]	1	1	0	0	0	0	0	0
Number of issuers[2]	1	1	0	0	0	0	0	0
ETFs								
Trading (millions of euros)	2,548.1	1,549.0	1,604.8	556.9	428.5	328.5	291.0	374.5
Number of funds	5	5	5	5	5	5	5	5
Assets[3] (millions of euros)	241.5	259.8	241.2	256.7	225.6	206.7	241.2	230.5

1 It includes the following underlying: baskets of stocks, exchange rates, interest rates and commodities.
2 Issues or issuers which were traded in each period.
3 Only assets from national collective investment schemes are included because assets from foreign schemes are not available.

2 Investment services

Investment services. Spanish firms, branches and agents

TABLE 2.1

	2020	2021	2022	2022 I	2022 II	2022 III	2022 IV	2023 I
BROKER-DEALERS								
Spanish firms	38	33	34	33	32	34	34	36
Branches in Spain	14	13	15	14	12	15	15	15
Agents operating in Spain	1,407	1,359	1,222	1,149	1,180	1,194	1,222	1,229
Branches in EEA[1]	8	4	5	4	4	4	5	5
Firms providing services in EEA[1]	25	20	23	21	21	21	23	23
Passports to operate in EEA[1, 2]	205	161	204	173	173	192	204	204
BROKERS								
Spanish firms	57	58	61	60	61	62	61	60
Branches in Spain	24	21	20	22	22	19	20	20
Agents operating in Spain	353	729	1,246	887	1,063	1,102	1,246	1,222
Branches in EEA[1]	0	4	6	6	5	6	6	6
Firms providing services in EEA[1]	30	30	32	32	32	34	32	32
Passports to operate in EEA[1, 2]	205	200	211	200	214	211	211	211
PORTFOLIO MANAGEMENT COMPANIES								
Spanish firms	1	0	0	0	0	0	0	0
FINANCIAL ADVISORY FIRMS								
Spanish firms	140	140	143	140	142	144	143	141
Branches in Spain	23	21	21	21	21	21	21	21
Branches in EEA[1]	2	1	0	1	1	0	0	0
Firms providing services in EEA[1]	27	26	23	26	25	25	23	23
Passports to operate in EEA[1, 2]	47	49	46	48	48	48	46	46
CREDIT INSTITUTIONS[3]								
Spanish firms	110	108	108	108	109	109	108	108

1 EEA: European Economic Area.
2 Number of passports to provide services in the EEA. The same entity may provide investment services in one or more Member States.
3 Source: Banco de España [Bank of Spain] and CNMV.

Investment services. Foreign firms

TABLE 2.2

	2020	2021	2022	2022 I	2022 II	2022 III	2022 IV	2023 I
Total	3,617	1,369	1,432	1,413	1,422	1,430	1,432	1,357
Investment services firms	3,131	952	974	963	971	974	974	897
From EU Member states	3,128	947	968	958	966	969	968	891
Branches	66	41	43	42	43	43	43	45
Free provision of services	3,062	906	925	916	923	926	925	846
From non-EU States	3	5	6	5	5	5	6	6
Branches	0	2	2	2	2	2	2	2
Free provision of services	3	3	4	3	3	3	4	4
Credit institutions[1]	486	417	458	450	451	456	458	460
From EU Member states	480	412	452	445	446	450	452	454
Branches	50	52	52	52	51	52	52	51
Free provision of services	430	360	400	393	395	398	400	403
Subsidiaries of free provision of services institutions	0	0	0	0	0	0	0	0
From non-EU States	6	5	6	5	5	6	6	6
Branches	4	3	3	3	3	3	3	3
Free provision of services	2	2	3	2	2	3	3	3

1 Source: Banco de España [Bank of Spain] and CNMV.

Intermediation of spot transactions[1]

TABLE 2.3

Millions of euros

				2021	2022			
	2020	2021[2]	2022	IV[2]	I[2]	II[2]	III[2]	IV
FIXED INCOME								
Total	3,782,640.8	2,594,772.6	2,901,223.2	481,348.1	835,352.9	805,570.9	624,759.1	635,540.3
Broker-dealers	3,345,439.9	2,585,400.6	2,890,878.3	478,402.3	832,258.2	803,336.2	622,580.6	632,703.3
Spanish organised markets	1,261,885.8	1,191,945.3	662,074.8	187,845.3	213,938.9	202,988.9	135,350.2	109,796.8
Other Spanish markets	1,721,922.5	910,070.8	1,289,213.6	186,135.9	461,075.2	360,096.8	230,319.1	237,722.5
Foreign markets	361,631.6	483,384.5	939,589.9	104,421.1	157,244.1	240,250.5	256,911.3	285,184.0
Brokers	437,200.9	9,372.0	10,344.9	2,945.8	3,094.7	2,234.7	2,178.5	2,837.0
Spanish organised markets	1,229.4	1,017.0	2,044.6	327.0	361.2	408.3	417.5	857.6
Other Spanish markets	405,199.7	66.4	454.6	19.0	31.3	84.9	130.5	207.9
Foreign markets	30,771.8	8,288.6	7,845.7	2,599.8	2,702.2	1,741.5	1,630.5	1,771.5
EQUITY								
Total	1,816,691.4	1,200,274.7	146,070.1	39,260.5	27,742.6	35,219.7	44,140.4	38,967.4
Broker-dealers	1,793,180.4	1,180,119.1	130,376.3	34,503.3	22,717.3	32,127.8	40,605.9	34,925.3
Spanish organised markets	261,188.7	76,177.3	38,170.8	11,773.3	9,841.7	11,921.0	7,398.6	9,009.5
Other Spanish markets	5,938.7	6,870.4	2,802.8	807.8	728.5	501.6	763.6	809.1
Foreign markets	1,526,053.0	1,097,071.4	89,402.7	21,922.2	12,147.1	19,705.2	32,443.7	25,106.7
Brokers	23,511.0	20,155.6	15,693.8	4,757.2	5,025.3	3,091.9	3,534.5	4,042.1
Spanish organised markets	7,137.8	6,622.8	5,978.1	1,980.6	1,748.9	1,246.1	1,378.8	1,604.3
Other Spanish markets	1,094.9	1,486.3	864.8	284.5	306.7	193.7	194.5	169.9
Foreign markets	15,278.3	12,046.5	8,850.9	2,492.1	2,969.7	1,652.1	1,961.2	2,267.9

1 Period accumulated data. Quarterly.
2 Data revised and corrected in April 2023.

Intermediation of derivative transactions[1, 2, 3]

TABLE 2.4

Millions of euros

				2021	2022			
	2020	2021[2]	2022	IV[2]	I[2]	II[2]	III[2]	IV
Total	11,557,923.7	9,485,119.1	9,792,568.5	2,198,610.6	2,626,200.1	2,502,567.8	1,905,425.4	2,758,375.2
Broker-dealers	11,261,186.5	9,350,998.3	8,817,459.1	2,188,370.5	2,453,713.6	2,348,805.3	1,578,581.7	2,436,358.5
Spanish organised markets	3,839,450.0	4,273,458.5	4,192,650.3	1,034,825.8	1,213,430.3	1,159,203.0	696,719.6	1,123,297.4
Foreign organised markets	5,884,599.5	4,122,054.3	4,451,806.6	1,054,400.7	1,177,845.3	1,132,031.8	864,404.5	1,277,525.0
Non-organised markets	1,537,137.0	955,485.5	173,002.2	99,144.0	62,438.0	57,570.5	17,457.6	35,536.1
Brokers	296,737.2	134,120.8	975,109.4	10,240.1	172,486.5	153,762.5	326,843.7	322,016.7
Spanish organised markets	12,975.9	6,858.9	9,075.1	63.7	2,985.4	2,274.4	1,210.0	2,605.3
Foreign organised markets	195,686.4	124,124.2	960,541.5	8,420.9	168,893.6	150,540.6	323,409.1	317,698.2
Non-organised markets	88,074.9	3,137.7	5,492.8	1,755.5	607.5	947.5	2,224.6	1,713.2

1 The amount of the buy and sell transactions of financial assets, financial futures on values and interest rates, and other transactions on interest rates will be the securities nominal or notional value or the principal to which the contract applies. The amount of the transactions on options will be the strike price of the underlying asset multiplied by the number of instruments committed.
2 Period accumulated data. Quarterly.
3 Data revised and corrected in April 2023.

Portfolio management. Number of portfolios and assets under management[1]

TABLE 2.5

	2020	2021	2022	2021 IV	2022 I	2022 II	2022 III	2022 IV
NUMBER OF PORTFOLIOS								
Total[2]	44,982	89,646	103,905	89,646	115,246	100,549	101,970	103,905
Broker-dealers. Total	3,585	19,317	21,914	19,317	38,571	21,949	22,161	21,914
CIS[3]	42	38	29	38	39	39	37	29
Other[4]	3,543	19,279	21,885	19,279	38,532	21,910	22,124	21,885
Brokers. Total	41,397	70,329	81,991	70,329	76,675	78,600	79,809	81,991
CIS[3]	82	64	38	64	63	60	64	38
Other[4]	41,315	70,265	81,953	70,265	76,612	78,540	79,745	81,953
ASSETS UNDER MANAGEMENT (thousands of euros)								
Total[2]	6,098,558	8,088,415	8,206,522	8,088,415	8,345,884	7,843,069	8,165,778	8,206,522
Broker-dealers. Total	2,687,786	2,907,767	2,901,726	2,907,767	3,056,177	2,714,109	2,834,296	2,901,726
CIS[3]	1,280,966	592,849	393,165	592,849	408,400	402,884	403,677	393,165
Other[4]	1,406,820	2,314,918	2,508,561	2,314,918	2,647,777	2,311,225	2,430,619	2,508,561
Brokers. Total	3,410,772	5,180,648	5,304,796	5,180,648	5,289,707	5,128,960	5,331,482	5,304,796
CIS[3]	1,256,276	1,125,208	1,276,836	1,125,208	1,083,627	864,387	1,231,823	1,276,836
Other[4]	2,154,496	4,055,440	4,027,960	4,055,440	4,206,080	4,264,573	4,099,659	4,027,960

1 Data at the end of period. Quarterly.
2 Only data on broker-dealers and brokers are shown.
3 It includes both resident and non-resident CIS management.
4 It includes the rest of clients, both covered and not covered by the Investment Guarantee Fund – an investor compensation scheme regulated by Royal Decree 948/2001.

Financial advice. Number of contracts[1, 2]

TABLE 2.6

	2020	2021	2022	2021 IV	2022 I	2022 II	2022 III	2022 IV
NUMBER OF CONTRACTS								
Total[3]	31,169	34,006	48,139	34,006	49,082	49,475	50,157	48,139
Broker-dealers. Total	8,721	9,727	20,133	9,727	17,009	17,300	17,502	20,133
Retail clients	8,670	9,674	20,076	9,674	16,950	17,243	17,442	20,076
Professional clients	45	48	43	48	54	48	52	43
Eligible counterparties	6	5	14	5	5	9	8	14
Brokers. Total	22,448	24,279	28,006	24,279	32,073	32,175	32,655	28,006
Retail clients	22,128	24,007	27,638	24,007	31,776	31,858	32,329	27,638
Professional clients	282	235	327	235	256	279	287	327
Eligible counterparties	38	37	41	37	41	38	39	41
***Pro memoria*: commission received for financial advice[4] (thousands of euros)**								
Total[3]	39,803	48,086	45,484	48,086	6,176	24,373	37,106	45,484
Broker-dealers	5,813	7,944	7,937	7,944	1,633	3,248	4,989	7,937
Brokers	33,990	40,142	37,547	40,142	4,543	21,125	32,117	37,547

1 Data at the end of period. Quarterly.
2 Quarterly data on assets advised are not available since the entry into force of CNMV Circular 3/2014, of 22 October.
3 Only data on broker-dealers and brokers are shown.
4 Accumulated data from the beginning of the year to the last day of every quarter. It includes companies removed during the year.

Aggregated income statement. Broker-dealers

TABLE 2.7

Thousands of euros[1]

				2022				2023
	2020	2021	2022	I	II	II	IV	I[2]
I. Interest income	35,957	41,565	66,519	2,543	28,205	43,362	66,519	3,566
II. Net commission	310,868	265,790	191,789	47,003	95,650	141,271	191,789	36,409
Commission revenues	525,812	481,945	293,594	73,205	147,660	218,557	293,594	52,540
Brokering	254,307	164,293	105,849	26,620	52,868	78,952	105,849	21,607
Placement and underwriting	5,279	86,324	7,881	2,640	5,384	7,358	7,881	1,213
Securities deposit and recording	39,260	36,880	32,979	9,711	18,425	25,234	32,979	4,684
Portfolio management	13,128	15,860	14,096	3,532	6,669	10,150	14,096	2,192
Design and advice	16,282	20,316	19,162	4,165	8,797	12,759	19,162	3,427
Stock search and placement	1,960	5,306	1,010	261	883	977	1,010	12
Market credit transactions	0	0	0	0	0	0	0	0
CIS marketing	50,985	64,608	63,402	15,977	31,693	47,478	63,402	11,182
Other	144,611	88,356	49,215	10,298	22,941	35,647	49,215	8,224
Commission expenses	214,944	216,155	101,805	26,202	52,010	77,286	101,805	16,131
III. Financial investment income	97,113	32,733	57,558	14,434	24,760	37,641	57,558	11,366
IV. Net exchange differences and other operating products and expenses	91,278	35,370	1,372	360	1,384	1,890	1,372	1,020
V. Gross income	535,216	375,458	317,238	64,340	149,999	224,164	317,238	52,362
VI. Operating income	124,993	88,966	90,039	12,537	46,277	67,909	90,039	15,066
VII. Earnings from continuous activities	102,928	93,481	82,156	12,478	45,703	66,992	82,156	13,996
VIII. Net earnings from the period	102,928	90,708	82,156	12,478	45,703	66,992	82,156	13,996

1 Accumulated data from the beginning of the year to the last day of every quarter. It includes companies removed during the year.
2 Available data: February 2023.

Results of proprietary trading. Broker-dealers

TABLE 2.8

Thousands of euros[1]

	2020	2021	2022	2021 IV	2022 I	2022 II	2022 III	2022 IV
TOTAL								
Total	221,894	108,249	122,542	108,249	17,333	54,477	83,012	122,542
Money market assets and public debt	23,229	3,039	-2,032	3,039	-442	-558	-467	-2,032
Other fixed-income securities	18,457	19,224	47,796	19,224	10,438	19,341	28,736	47,796
Domestic portfolio	11,796	4,920	7,462	4,920	2,586	5,475	7,203	7,462
Foreign portfolio	6,661	14,304	40,334	14,304	7,852	13,866	21,533	40,334
Equities	21,860	6,845	11,693	6,845	3,936	4,943	8,131	11,693
Domestic portfolio	22,859	5,281	7,200	5,281	3,310	3,757	5,855	7,200
Foreign portfolio	-999	1,564	4,493	1,564	626	1,186	2,276	4,493
Derivatives	28,367	-21,138	2,064	-21,138	351	646	1,010	2,064
Repurchase agreements	-6,851	-6,446	-21	-6,446	-21	-48	-83	-21
Market credit transactions	0	0	0	0	0	0	0	0
Deposits and other transactions with financial intermediaries	-6,207	3,177	9,394	3,177	1,146	2,643	5,065	9,394
Net exchange differences	-981	971	-273	971	102	485	1,158	-273
Other operating products and expenses	92,259	34,398	1,645	34,398	258	900	732	1,645
Other transactions	51,761	68,179	52,276	68,179	1,565	26,125	38,730	52,276
INTEREST INCOME								
Total	35,957	41,564	66,519	41,564	2,542	28,205	43,362	66,519
Money market assets and public debt	922	804	457	804	113	236	340	457
Other fixed-income securities	1,347	732	209	732	56	84	136	209
Domestic portfolio	556	81	76	81	18	30	43	76
Foreign portfolio	791	651	133	651	38	54	93	133
Equities	962	973	4,014	973	723	1,113	1,452	4,014
Domestic portfolio	766	539	630	539	131	292	528	630
Foreign portfolio	196	434	3,384	434	592	821	924	3,384
Repurchase agreements	-6,851	-6,446	-21	-6,446	-21	-48	-83	-21
Market credit transactions	0	0	0	0	0	0	0	0
Deposits and other transactions with financial intermediaries	-6,207	3,177	9,394	3,177	1,146	2,643	5,065	9,394
Other transactions	45,784	42,324	52,466	42,324	525	24,177	36,452	52,466
FINANCIAL INVESTMENT INCOME								
Total	97,113	32,734	57,557	32,734	14,436	24,762	37,642	57,557
Money market assets and public debt	22,307	2,235	-2,489	2,235	-555	-794	-807	-2,489
Other fixed-income securities	17,110	18,492	47,587	18,492	10,382	19,257	28,600	47,587
Domestic portfolio	11,240	4,839	7,386	4,839	2,568	5,445	7,160	7,386
Foreign portfolio	5,870	13,653	40,201	13,653	7,814	13,812	21,440	40,201
Equities	20,898	5,872	7,679	5,872	3,213	3,830	6,679	7,679
Domestic portfolio	22,093	4,742	6,570	4,742	3,179	3,465	5,327	6,570
Foreign portfolio	-1,195	1,130	1,109	1,130	34	365	1,352	1,109
Derivatives	28,367	-21,138	2,064	-21,138	351	646	1,010	2,064
Other transactions	8,431	27,273	2,716	27,273	1,045	1,823	2,160	2,716
EXCHANGE DIFFERENCES AND OTHER ITEMS								
Total	88,824	33,951	-1,534	33,951	355	1,510	2,008	-1,534
Net exchange differences	-981	971	-273	971	102	485	1,158	-273
Other operating products and expenses	92,259	34,398	1,645	34,398	258	900	732	1,645
Other transactions	-2,454	-1,418	-2,906	-1,418	-5	125	118	-2,906

1 Accumulated data from the beginning of the year to the last day of every quarter. It includes companies removed during the year.

Aggregated income statement. Brokers

TABLE 2.9

Thousands of euros[1]

				2022				2023
	2020	2021	2022	I	II	III	IV	I[2]
I. Interest income	932	454	960	72	975	960	960	35
II. Net commission	143,162	173,785	170,724	36,111	86,222	128,015	170,724	29,557
Commission revenues	165,094	202,333	198,293	43,561	100,861	150,324	198,293	34,684
Brokering	22,035	14,140	18,030	4,591	8,349	13,239	18,030	3,279
Placement and underwriting	2,157	1,481	1,187	15	362	428	1,187	252
Securities deposit and recording	754	425	286	80	155	219	286	44
Portfolio management	14,554	22,874	23,388	5,921	11,812	18,245	23,388	3,989
Design and advice	34,128	40,421	38,167	4,648	21,619	32,640	38,167	5,466
Stock search and placement	0	0	0	0	0	0	0	0
Market credit transactions	0	0	0	0	0	0	0	0
CIS marketing	62,134	91,375	94,339	22,325	45,929	68,553	94,339	15,151
Other	29,331	31,617	22,896	5,981	12,634	17,000	22,896	6,500
Commission expenses	21,932	28,548	27,569	7,450	14,639	22,309	27,569	5,127
III. Financial investment income	-5,562	666	-1,479	-658	-1,195	-1,861	-1,479	160
IV. Net exchange differences and other operating products and expenses	-968	-776	588	384	1,066	899	588	-308
V. Gross income	137,564	174,129	170,793	35,910	87,068	128,013	170,793	29,443
VI. Operating income	3,339	26,155	10,018	2,039	4,890	4,736	10,018	6,417
VII. Earnings from continuous activities	2,836	22,802	10,364	2,213	7,666	6,664	10,364	6,511
VIII. Net earnings of the period	2,836	22,802	10,364	2,213	7,666	6,664	10,364	6,511

1 Accumulated data from the beginning of the year to the last day of every quarter. It includes companies removed during the year.
2 Available data: February 2023.

Capital adequacy. Broker-dealers and brokers[1, 2]

TABLE 2.10

	2018	2019	2020	2021	2022
TOTAL[3]					
Own fund surplus (thousands of euros)	915,187	1,165,522	1,026,770	612,842	449,135
Surplus (%)[4]	429.56	486.61	277.64	541.03	363.05
Number of companies according to surplus percentage					
≤ 100%	20	23	26	25	34
> 100-≤ 300%	28	30	29	35	29
> 300-≤ 500%	10	10	12	12	10
> 500%	15	13	10	19	15
BROKER-DEALERS					
Own fund surplus (thousands of euros)	874,235	1,118,273	960,720	506,721	372,541
Surplus (%)[4]	464.51	520.42	285.14	654.90	431.57
Number of companies according to surplus percentage					
≤ 100%	7	7	9	4	9
> 100-≤ 300%	10	14	11	12	12
> 300-≤ 500%	7	4	8	5	3
> 500%	14	11	8	12	8
BROKERS					
Own fund surplus (thousands of euros)	40,952	47,249	66,051	106,121	76,595
Surplus (%)[4]	164.84	191.77	200.79	295.60	204.86
Number of companies according to surplus percentage					
≤ 100%	13	16	17	21	25
> 100-≤ 300%	18	16	18	23	17
> 300-≤ 500%	3	6	4	7	7
> 500%	1	2	2	7	7

1 From 2014 to 2020 this table only includes the entities subject to reporting requirements according to Regulation (EU) No. 575/2013, of the European Parliament and of the Council, of 26 June 2013, on prudential requirements for credit institutions and investment firms.

2 From II-2021 onwards there are no quarterly data available, due to regulatory changes made by Regulation (EU) 2019/2033 of the European Parliament and of the Council, of 27 November 2019, on the prudential requirements of investment firms; and Directive (EU) 2019/2034 of the European Parliament and of the Council, of 27 November 2019, on the prudential supervision of investment firms.

3 Only data on broker-dealers and brokers are shown.

4 Average surplus percentage is weighted by the required equity of each company. It is an indicator of the number of times, in percentage terms, that the surplus contains the required equity in an average company.

Return on equity (ROE) before taxes[1]

TABLE 2.11

	2020	2021	2022	2021 IV	2022 I	2022 II	2022 III	2022 IV
TOTAL[2]								
Average (%)[3]	18.71	13.68	19.39	13.68	9.81	19.33	17.89	19.39
Number of companies according to annualised return								
Losses	32	30	37	30	35	35	41	37
0-≤ 15%	15	20	17	20	15	10	15	17
> 15-≤ 45%	20	14	13	14	15	18	9	13
> 45-≤ 75%	9	9	7	9	11	7	11	7
> 75%	15	17	19	17	16	22	19	19
BROKER-DEALERS								
Average (%)[3]	19.72	11.48	20.42	11.48	10.34	20.26	19.58	20.42
Number of companies according to annualised return								
Losses	12	13	11	13	12	8	12	11
0-≤ 15%	6	8	10	8	8	9	10	10
> 15 -≤ 45%	9	6	5	6	7	7	3	5
> 45-≤ 75%	6	4	2	4	2	3	4	2
> 75%	2	1	5	1	3	4	4	5
BROKERS								
Average (%)[3]	12.48	23.97	14.91	23.97	7.71	15.23	10.41	14.91
Number of companies according to annualised return								
Losses	20	17	26	17	23	27	29	26
0-≤15%	9	12	7	12	7	1	5	7
> 15-≤45%	11	8	8	8	8	11	6	8
> 45-≤75%	3	5	5	5	9	4	7	5
> 75%	13	16	14	16	13	18	15	14

1 ROE has been calculated as:

$$ROE = \frac{Earnings\ before\ taxes\ (annualized)}{Own\ Funds}$$

Own Funds = Share capital + Paid-in surplus + Reserves – Own shares + Prior year profits and retained earnings – Interim dividend.

2 Only data on broker-dealers and brokers are shown.

3 Average weighted by equity, %.

Financial advisory firms. Main figures[1]

TABLE 2.12

Thousands of euros

	2018	2019	2020	2021[2]	2022
ASSETS UNDER ADVICE[3]					
Total	31,658,460	21,627,677	17,423,050	19,530,452	18,616,506
Retail clients	10,281,573	8,313,608	6,907,284	9,125,730	10,164,034
Rest of clients and entities	21,376,887	13,314,069	10,515,766	10,404,722	8,452,472
Professional	7,052,031	–	–	–	–
Other	14,324,856	–	–	–	–
COMMISSION INCOME[4]					
Total	62,168	56,963	45,782	56,823	56,757
Commission revenues	61,079	56,029	45,153	56,430	56,133
Other income	1,088	934	629	393	624
EQUITY					
Total	33,572	32,089	30,177	33,334	35,546
Share capital	6,894	5,770	5,454	6,151	6,971
Reserves and retained earnings	15,386	17,260	18,979	21,128	23,912
Income for the year[4]	10,626	8,172	4,837	6,517	3,708
Other own funds	666	888	907	-461	955

1 Annual frequency since 2015 (CNMV Circular 3/2014, of 22 October).

2 Data revised and corrected in April 2023.

3 Data at the end of each period. Since 2019, due to the entry into force of CNMV Circular 4/2018, there is no disaggregated information of non-retail clients.

4 Accumulated data from the beginning of the year.

3 Collective investment schemes[a]

Number, management companies and depositories of CIS registered at the CNMV

TABLE 3.1

				2022				2023
	2020	2021	2022	I	II	III	IV	I[1]
Total financial CIS	4,018	3,815	2,675	3,785	3,677	3,304	2,675	2,298
Mutual funds	1,515	1,452	1,484	1,455	1,450	1,447	1,484	1,493
Investment companies	2,427	2,280	1,091	2,244	2,140	1,770	1,091	695
Funds of hedge funds	7	10	8	10	9	8	8	8
Hedge funds	69	73	92	76	78	79	92	102
Total real estate CIS	5	4	4	4	4	4	4	4
Real estate mutual funds	2	2	2	2	2	2	2	2
Real estate investment companies	3	2	2	2	2	2	2	2
Total foreign CIS marketed in Spain	1,048	1,074	1,093	1,069	1,077	1,082	1,095	1,103
Foreign funds marketed in Spain	407	416	425	411	412	412	426	435
Foreign companies marketed in Spain	641	658	668	658	665	670	669	668
Management companies	123	123	123	123	123	122	123	123
CIS depositories	35	33	34	33	34	35	34	34

1 Available data: February 2023.

Number of CIS investors and shareholders

TABLE 3.2

				2022				2023
	2020	2021	2022	I	II	III	IV	I[1]
Total financial CIS	13,015,104	16,160,034	16,247,654	16,597,453	16,480,209	16,355,169	16,247,654	16,268,410
Mutual funds	12,654,439	15,810,134	16,115,864	16,306,045	16,268,335	16,180,878	16,115,864	16,141,498
Investment companies	360,665	349,900	131,790	291,408	211,874	174,291	131,790	126,912
Total real estate CIS[2]	798	691	593	691	691	690	593	592
Real estate mutual funds	483	482	482	482	482	482	482	482
Real estate investment companies	315	209	111	209	209	208	111	110
Total foreign CIS marketed in Spain[3]	4,312,340	6,073,537	6,412,067	6,120,550	6,377,747	6,510,617	6,412,067	–
Foreign funds marketed in Spain	592,053	776,206	830,870	782,936	846,890	872,941	830,870	–
Foreign companies marketed in Spain	3,720,287	5,297,331	5,581,197	5,337,614	5,530,857	5,637,676	5,581,197	–

1 Available data: January 2023.
2 Investors and shareholders who invest in different sub-funds from the same CIS have been taken into account once. For this reason, investors and shareholders may be different from those in Tables 3.6 and 3.7.
3 Only data on UCITS are included. From I-2018 onwards data are estimated.

a Information about mutual funds and Investment companies contained in this section does not include hedge funds or funds of hedge funds. The information about hedge funds and funds of hedge funds is included in Table 3.12.

CIS total net assets

TABLE 3.3

Millions of euros

				2022				2023
	2020	2021	2022	I	II	III	IV	I[1]
Total financial CIS	306,654.5	353,203.3	327,330.7	343,159.8	326,391.0	319,630.5	327,330.7	338,086.3
Mutual funds[2]	279,694.5	324,701.0	311,466.4	316,020.4	302,684.2	299,627.1	311,466.4	322,988.5
Investment companies	26,960.0	28,502.3	15,864.3	27,139.4	23,706.8	20,003.4	15,864.3	15,097.8
Total real estate CIS	1,218.0	1,224.3	1,279.0	1,258.6	1,262.9	1,291.5	1,279	1,282.2
Real estate mutual funds	310.8	311.0	314.8	312.5	312.6	313.4	314.8	314.7
Real estate investment companies	907.1	913.2	964.2	946.1	950.2	978.1	964.2	967.5
Total foreign CIS marketed in Spain[3]	199,419.3	276,231.9	201,058.7	227,194.6	209,314.4	204,425.1	201,058.7	–
Foreign funds marketed in Spain	27,355.5	36,662.6	27,630.3	32,253.8	30,442.1	29,612.8	27,630.3	–
Foreign companies marketed in Spain	172,063.8	239,569.4	173,428.3	194,940.8	178,872.3	174,812.3	173,428.3	–

1 Available data: January 2023.
2 Mutual funds investment in financial mutual funds of the same management company reached €9,032.4 million in December 2022.
3 Only data on UCITS are included. From I-2018 onwards data are estimated.

Asset allocation of mutual funds

TABLE 3.4

Millions of euros

				2021	2022			
	2020	2021[1]	2022	IV[1]	I	II	III	IV
Asset	279,694.5	324,701.0	311,466.4	324,701.0	316,020.4	302,684.2	299,627.1	311,466.4
Portfolio investment	256,257.2	299,434.9	291,188.2	299,434.9	291,983.4	280,372.8	280,711.5	291,188.2
Domestic securities	54,587.8	54,716.7	58,740.0	54,716.7	50,851.1	49,626.0	51,177.3	58,740.0
Debt securities	38,394.5	35,648.2	42,044.2	35,648.2	32,823.9	32,086.7	35,401.3	42,044.2
Shares	6,185.3	6,828.5	6,113.0	6,828.5	6,472.4	6,314.9	5,562.3	6,113.0
Collective investment schemes	8,511.0	11,396.8	9,927.7	11,396.8	10,499.3	10,141.3	9,616.3	9,927.7
Deposits in credit institutions	1,341.5	627.2	431.8	627.2	888.7	928.2	407.2	431.8
Derivatives	140.9	168.9	159.5	168.9	114.1	97.2	130.6	159.5
Other	14.6	47.1	63.8	47.1	52.8	57.7	59.6	63.8
Foreign securities	201,664.8	244,714.6	232,444.2	244,714.6	241,128.5	230,741.8	229,529.5	232,444.2
Debt securities	86,151.5	95,131.8	110,173.6	95,131.8	99,183.7	102,155.0	105,119.9	110,173.6
Shares	33,886.1	46,254.6	41,321.4	46,254.6	44,921.3	41,171.1	40,119.8	41,321.4
Collective investment schemes	81,358.2	103,089.6	80,592.6	103,089.6	96,972.6	87,306.3	84,093.3	80,592.6
Deposits in credit institutions	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Derivatives	268.0	238.0	356.1	238.0	50.2	108.8	196.0	356.1
Other	0.8	0.6	0.5	0.6	0.6	0.6	0.6	0.5
Doubtful assets and matured investments	4.6	3.5	4.0	3.5	3.8	5.0	4.7	4.0
Intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net fixed assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash	22,203.0	23,950.8	18,515.0	23,950.8	23,728.2	20,480.2	16,774.6	18,515.0
Net balance (Debtors - Creditors)	1,234.3	1,315.3	1,763.2	1,315.3	308.7	1,831.3	2,140.9	1,763.2

1 Data revised and modified in April 2023.

Asset allocation of investment companies

TABLE 3.5

Millions of euros

				2021	2022			
	2020	2021	2022	IV	I	II	III	IV
Asset	26,960.0	28,502.3	15,864.3	28,502.3	27,139.4	23,706.8	20,003.4	15,864.3
Portfolio investment	24,548.9	25,729.9	12,349.9	25,729.9	23,556.8	17,719.0	14,487.3	12,349.9
Domestic securities	3,419.9	3,525.2	2,583.6	3,525.2	3,637.6	3,828.0	3,118.1	2,583.6
Debt securities	734.3	734.3	773.6	734.3	972.8	1,510.1	1,044.9	773.6
Shares	1,601.2	1,633.7	819.9	1,633.7	1,541.6	1,260.8	928.7	819.9
Collective investment schemes	967.7	1,067.4	950.2	1,067.4	1,036.4	982.4	1,090.5	950.2
Deposits in credit institutions	47.7	19.1	1.4	19.1	19.5	15.4	4.1	1.4
Derivatives	3.2	-0.4	-0.8	-0.4	-1.2	-1.2	-1.0	-0.8
Other	65.9	71.1	39.3	71.1	68.4	60.5	50.9	39.3
Foreign securities	21,125.7	22,202.8	9,763.6	22,202.8	19,917.9	13,889.9	11,366.6	9,763.6
Debt securities	3,243.8	2,683.8	1,807.1	2,683.8	2,294.7	1,893.4	1,812.7	1,807.1
Shares	6,548.1	7,157.9	3,605.4	7,157.9	6,501.0	4,761.4	4,151.5	3,605.4
Collective investment schemes	11,297.4	12,335.3	4,325.7	12,335.3	11,085.2	7,212.2	5,383.9	4,325.7
Deposits in credit institutions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Derivatives	23.8	8.3	7.9	8.3	18.5	4.5	0.6	7.9
Other	12.6	17.5	17.4	17.5	18.5	18.5	17.8	17.4
Doubtful assets and matured investments	3.2	1.8	2.6	1.8	1.3	1.1	2.6	2.6
Intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net fixed assets	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Cash	2,219.3	2,476.4	2,962.6	2,476.4	3,239.8	5,592.3	5,176.0	2,962.6
Net balance (Debtors - Creditors)	191.4	295.5	551.3	295.5	342.2	395.0	339.7	551.3

Financial mutual funds: number, investors and total net assets by category[1, 2]

TABLE 3.6

	2020	2021	2022	2022 I	2022 II	2022 III	2022 IV	2023 I[3]
NO. OF FUNDS								
Total financial mutual funds	1,644	1,611	1,684	1,622	1,625	1,625	1,684	1,687
Fixed income[4]	276	266	293	264	268	274	293	294
Mixed fixed income[5]	174	181	171	180	175	168	171	172
Mixed equity[6]	186	192	206	195	198	197	206	206
Euro equity	104	94	86	92	89	85	86	86
Foreign equity	276	307	339	319	328	329	339	341
Guaranteed fixed income	55	43	49	43	42	46	49	49
Guaranteed equity[7]	133	114	102	111	102	101	102	102
Global funds	248	263	291	275	280	284	291	290
Passive management[8]	118	88	93	81	81	85	93	94
Absolute return	72	61	54	60	60	54	54	53
INVESTORS								
Total financial mutual funds	12,660,100	15,816,557	16,119,440	16,314,155	16,276,281	16,188,727	16,119,440	16,145,111
Fixed income[4]	4,135,294	5,476,096	5,539,272	5,483,985	5,517,117	5,530,370	5,539,272	5,587,373
Mixed fixed income[5]	1,203,280	1,459,004	1,216,179	1,412,031	1,222,259	1,256,457	1,216,179	1,208,954
Mixed equity[6]	745,112	721,346	696,718	731,053	715,504	705,131	696,718	695,573
Euro equity	530,107	778,138	836,711	864,790	875,675	852,841	836,711	831,877
Foreign equity	3,043,542	3,882,184	4,156,864	4,342,851	4,294,359	4,239,517	4,156,864	4,135,850
Guaranteed fixed income	135,320	77,430	141,717	74,099	81,826	99,959	141,717	147,802
Guaranteed equity[7]	356,439	265,043	209,188	235,945	202,655	204,133	209,188	208,723
Global funds	1,409,759	1,989,428	2,067,594	1,992,279	2,179,303	2,111,670	2,067,594	2,057,255
Passive management[8]	511,251	505,514	596,475	494,585	494,942	512,763	596,475	617,911
Absolute return	587,040	659,411	658,722	679,573	689,677	672,922	658,722	653,793
TOTAL NET ASSETS (millions of euros)								
Total financial mutual funds	279,694.5	324,701.0	311,466.4	316,020.4	302,684.2	299,627.1	311,466.4	322,988.5
Fixed income[4]	81,015.9	88,422.8	98,561.1	90,688.1	92,858.9	93,280.9	98,561.1	102,388.7
Mixed fixed income[5]	43,200.4	50,869.7	37,846.0	46,975.3	39,139.4	39,147.9	37,846.0	38,281.6
Mixed equity[6]	30,432.7	28,141.1	24,247.9	27,072.9	24,638.2	23,812.0	24,247.9	25,007.6
Euro equity	7,091.1	8,279.6	7,226.3	7,650.0	7,366.7	6,764.1	7,226.3	7,757.7
Foreign equity	37,722.5	51,222.2	45,588.9	50,254.2	45,344.7	44,650.5	45,588.9	48,178.6
Guaranteed fixed income	4,177.0	2,346.7	5,454.9	2,166.9	2,458.4	3,323.4	5,454.9	5,788.5
Guaranteed equity[7]	11,037.1	8,094.9	6,306.7	7,054.3	6,089.1	6,082.6	6,306.7	6,353.0
Global funds	40,944.5	67,591.0	63,717.0	65,204.9	66,365.4	64,401.4	63,717.0	65,109.1
Passive management[8]	14,014.3	12,500.4	15,935.0	11,570.7	11,336.4	11,470.4	15,935.0	17,490.2
Absolute return	10,057.4	7,231.2	6,582.5	7,382.7	7,086.8	6,693.5	6,582.5	6,633.6

1 Sub-funds which have sent reports to the CNMV excluding those in process of dissolution or liquidation.
2 Data on side-pocket sub-funds are only included in aggregate figures, and not in each individual category.
3 Available data: January 2023.
4 It includes: public debt constant net asset value short-term money market funds (MMFs), low volatility net asset value short-term MMFs, variable net asset value short-term MMFs, variable net asset value standard MMFs, euro fixed income and short-term euro fixed income.
5 It includes: mixed euro fixed income and foreign mixed fixed income.
6 It includes: mixed euro equity and foreign mixed equity.
7 It includes: guaranteed equity and partial guarantee.
8 It includes: passive management CIS, index-tracking CIS and non-guaranteed specific return target CIS.

Financial mutual funds: detail of investors and total net assets by type of investors

TABLE 3.7

	2020	2021	2022	2022 I	2022 II	2022 III	2022 IV	2023 I[1]
INVESTORS								
Total financial mutual funds	12,660,100	15,816,557	16,119,440	16,314,155	16,276,281	16,188,727	16,119,440	16,145,111
Natural persons	12,437,954	15,541,300	15,839,201	16,034,295	15,994,598	15,909,624	15,839,201	15,864,723
Residents	12,339,829	15,427,337	15,717,938	15,917,149	15,876,177	15,789,576	15,717,938	15,743,009
Non-residents	98,125	113,963	121,263	117,146	118,421	120,048	121,263	121,714
Legal persons	222,146	275,257	280,239	279,860	281,683	279,103	280,239	280,388
Credit institutions	1,403	746	883	903	907	872	883	914
Other resident institutions	219,849	273,421	278,246	277,849	279,658	277,116	278,246	278,370
Non-resident institutions	894	1090	1,110	1,108	1,118	1,115	1,110	1,104
TOTAL NET ASSETS (millions of euros)								
Total financial mutual funds	279,694.5	324,701.0	311,466.4	316,020.4	302,684.2	299,627.1	311,466.4	322,988.5
Natural persons	230,573.8	264,075.7	257,253.5	258,828.7	247,585.8	246,633.7	257,253.5	267,407.3
Residents	227,444.5	260,321.1	253,545.2	255,130.5	244,052.6	243,098.7	253,545.2	263,570.8
Non-residents	3,129.3	3,754.6	3,708.3	3,698.2	3,533.2	3,535.0	3,708.3	3,836.6
Legal persons	49,120.7	60,625.3	54,212.8	57,191.7	55,098.4	52,993.4	54,212.8	55,581.2
Credit institutions	480.0	472.5	351.8	518.5	324.7	291.4	351.8	375.5
Other resident institutions	47,995.2	59,288.6	53,052.7	55,835.3	53,941.7	51,901.1	53,052.7	54,330.6
Non-resident institutions	645.4	864.2	808.3	837.8	832.0	800.9	808.3	875.0

1 Available data: January 2023.

Subscriptions and redemptions of financial mutual funds by category[1, 2]

TABLE 3.8

Millions of euros

	2020	2021[3]	2022	2021 IV[3]	2022 I	2022 II	2022 III	2022 IV
SUBSCRIPTIONS								
Total financial mutual funds	113,265.7	149,397.2	162,843.5	35,064.2	41,176.0	41,415.0	27,024.0	53,228.4
Fixed income	51,487.7	58,255.2	89,725.6	15,696.2	18,575.6	19,905.2	14,439.8	36,804.9
Mixed fixed income	15,496.2	21,116.1	11,075.6	4,877.6	4,314.9	2,506.1	2,976.4	1,278.2
Mixed equity	8,861.2	11,113.2	6,933.1	3,029.9	2,478.3	1,658.0	1,141.0	1,655.8
Euro equity	2,232.1	3,005.8	2,989.1	553.0	786.1	1,235.3	587.2	380.4
Foreign equity	15,974.8	19,019.8	18,529.7	4,416.3	8,535.0	4,803.0	2,900.1	2,291.6
Guaranteed fixed income	424.7	9.0	3,751.3	1.3	2.1	437.5	1,033.7	2,278.0
Guaranteed equity	74.2	86.8	680.3	11.6	13.6	61.1	208.9	396.6
Global funds	11,391.1	30,193.0	17,969.3	4,954.4	4,239.9	8,438.0	2,262.3	3,029.1
Passive management	4,944.6	2,827.9	8,884.4	453.5	1,303.2	1,671.8	1,123.6	4,785.9
Absolute return	2,379.0	3,770.3	2,305.0	1,070.4	927.4	698.7	351.0	327.9
REDEMPTIONS								
Total financial mutual funds	112,634.4	121,859.1	145,802.6	31,465.5	39,216.8	37,376.8	24,555.9	44,652.8
Fixed income	47,611.0	49,850.1	74,352.0	13,217.9	14,617.7	15,545.9	12,540.9	31,647.5
Mixed fixed income	14,974.6	13,690.2	17,345.2	2,982.1	4,253.2	7,929.2	2,383.7	2,779.0
Mixed equity	7,667.5	14,639.8	7,440.1	1,603.1	2,101.3	2,274.2	1,474.8	1,589.8
Euro equity	4,205.3	2,979.1	3,205.0	668.8	846.7	1,031.8	633.0	693.5
Foreign equity	13,449.4	13,586.3	16,794.8	3,097.5	7,185.0	4,157.4	2,651.5	2,800.8
Guaranteed fixed income	1,030.6	1,720.9	335.2	997.6	122.8	91.8	40.3	80.3
Guaranteed equity	2,245.2	2,914.0	2,060.0	311.5	920.7	862.6	99.7	177.0
Global funds	12,743.7	15,234.6	17,670.9	6,679.7	6,935.7	3,680.6	3,293.5	3,761.0
Passive management	4,985.6	4,372.9	4,236.9	1,496.1	1,648.5	1,175.5	771.7	641.3
Absolute return	3,721.4	2,871.1	2,362.2	411.2	585.2	627.6	666.8	482.6

1 Estimated data.
2 Data on side-pocket sub-funds are only included in aggregate figures, and not in each individual category.
3 Data revised and modified in April 2023.

Change in assets in financial mutual funds: net subscriptions/redemptions and return on assets[1, 2]

TABLE 3.9

Millions of euros

				2021	2022			
	2020	2021[3]	2022	IV[3]	I	II	III	IV
NET SUBSCRIPTIONS/REDEMPTIONS								
Total financial mutual funds	660.3	27,583.3	16,977.9	3,602.6	1,952.9	3,943.9	2,503.9	8,577.2
Fixed income	2,062.6	7,674.2	15,171.0	2,480.2	3,801.7	4,461.7	1,708.7	5,198.9
Mixed fixed income	2,619.5	6,537.6	-8,999.8	1,691.9	-2,338.6	-5,840.5	743.9	-1,564.6
Mixed equity	1,601.4	-4,179.3	-686.9	1,632.7	132.2	-620.5	-284.2	85.7
Euro equity	-2,007.7	13.8	-335.9	-115.3	-164.4	202.8	-53.0	-321.3
Foreign equity	2,633.1	5,260.9	1,782.7	1,320.5	1,402.6	603.8	276.5	-500.2
Guaranteed fixed income	-707.4	-1,787.1	3,355.8	-996.8	-120.6	345.6	933.1	2,197.7
Guaranteed equity	-2,254.2	-2,949.3	-1,409.6	-299.9	-906.8	-831.3	108.8	219.6
Global funds	-1,501.2	22,755.0	3,824.2	-1,725.3	378.4	5,158.6	-983.4	-729.4
Passive management	-23.8	-2,700.6	4,551.5	-1,043.0	-523.0	516.6	412.2	4,145.7
Absolute return	-1,761.9	-3,041.9	-274.9	657.6	291.3	-52.8	-358.7	-154.7
RETURN ON ASSETS								
Total financial mutual funds	-310.6	17,471.5	-30,163.5	5,483.3	-10,623.0	-17,270.1	-5,549.2	3,278.7
Fixed income	371.5	-265.8	-5,031.3	-230.3	-1,536.0	-2,290.9	-1,285.8	81.4
Mixed fixed income	-220.0	1,160.1	-3,997.8	284.3	-1,549.8	-1,990.7	-731.3	274.1
Mixed equity	55.5	1,890.4	-3,204.9	538.5	-1,199.6	-1,814.0	-541.9	350.6
Euro equity	-1,044.9	1,176.4	-715.3	215.1	-464.8	-485.7	-548.7	783.9
Foreign equity	1,012.7	8,242.5	-7,412.1	2,687.0	-2,370.0	-5,511.9	-970.1	1,439.9
Guaranteed fixed income	75.2	-43.3	-247.6	-13.3	-59.1	-54.1	-68.1	-66.2
Guaranteed equity	62.2	7.2	-378.6	0.7	-133.9	-133.9	-115.3	4.5
Global funds	-595.3	3,894.8	-7,693.1	1,535.1	-2,764.3	-3,996.0	-980.6	47.8
Passive management	-28.7	1,192.9	-1,109.3	406.1	-404.5	-750.9	-272.9	318.9
Absolute return	1.7	216.5	-372.4	60.2	-139.8	-241.9	-34.6	43.8

1 Data on side-pocket sub-funds are only included in aggregate figures, and not in each individual category.
2 A change of category is treated as a redemption in the original category and a subscription in the final one. For this reason, and the adjustments due to deregistrations in the quarter, the net subscription/refund data may be different from those in Table 3.8.
3 Data revised and modified in April 2023.

Return on assets in financial mutual funds. Breakdown by category[1]

TABLE 3.10

% of daily average total net assets

	2020	2021[2]	2022	2021 IV[2]	2022 I	2022 II	2022 III	2022 IV
MANAGEMENT YIELDS								
Total financial mutual funds	0.85	6.75	-8.81	1.97	-3.14	-5.38	-1.58	1.29
Fixed income	0.99	0.15	-5.03	-0.15	-1.63	-2.41	-1.28	0.19
Mixed fixed income	0.50	3.37	-8.65	0.80	-3.04	-4.68	-1.61	1.02
Mixed equity	1.60	8.43	-11.32	2.35	-4.10	-6.75	-1.86	1.75
Euro equity	-12.72	16.30	-8.09	2.99	-5.64	-5.96	-7.11	11.21
Foreign equity	4.76	19.78	-14.02	5.85	-4.41	-11.10	-1.68	3.45
Guaranteed fixed income	2.18	-0.85	-7.98	-0.43	-2.51	-2.31	-2.47	-1.33
Guaranteed equity	1.00	0.59	-5.40	0.20	-1.70	-2.04	-1.77	0.19
Global funds	-0.30	7.92	-10.32	2.56	-3.85	-5.55	-1.15	0.38
Passive management	0.29	9.61	-8.63	3.38	-3.39	-6.63	-2.21	2.31
Absolute return	0.87	3.78	-4.81	1.04	-1.79	-3.23	-0.39	0.79
EXPENSES. MANAGEMENT FEE								
Total financial mutual funds	0.83	0.86	0.81	0.22	0.20	0.20	0.21	0.20
Fixed income	0.42	0.40	0.37	0.10	0.09	0.09	0.09	0.09
Mixed fixed income	0.88	0.88	0.87	0.22	0.21	0.22	0.22	0.23
Mixed equity	1.28	1.28	1.14	0.33	0.28	0.29	0.29	0.29
Euro equity	1.45	1.30	1.22	0.32	0.31	0.30	0.30	0.31
Foreign equity	1.31	1.31	1.15	0.34	0.29	0.29	0.29	0.29
Guaranteed fixed income	0.36	0.36	0.35	0.09	0.09	0.08	0.09	0.08
Guaranteed equity	0.44	0.44	0.40	0.11	0.10	0.10	0.10	0.10
Global funds	1.07	1.15	1.16	0.29	0.29	0.29	0.29	0.29
Passive management	0.41	0.37	0.34	0.09	0.09	0.09	0.08	0.08
Absolute return	0.78	0.68	0.51	0.14	0.13	0.13	0.13	0.13
EXPENSES. DEPOSITORY FEE								
Total financial mutual funds	0.08	0.07	0.07	0.02	0.02	0.02	0.02	0.02
Fixed income	0.06	0.06	0.06	0.01	0.01	0.01	0.01	0.01
Mixed fixed income	0.08	0.08	0.08	0.02	0.02	0.02	0.02	0.02
Mixed equity	0.10	0.09	0.09	0.02	0.02	0.02	0.02	0.02
Euro equity	0.10	0.09	0.09	0.02	0.02	0.02	0.02	0.02
Foreign equity	0.09	0.08	0.08	0.02	0.02	0.02	0.02	0.02
Guaranteed fixed income	0.05	0.05	0.05	0.01	0.01	0.01	0.01	0.01
Guaranteed equity	0.05	0.05	0.05	0.01	0.01	0.01	0.01	0.01
Global funds	0.08	0.09	0.08	0.02	0.02	0.02	0.02	0.02
Passive management	0.05	0.04	0.04	0.01	0.01	0.01	0.01	0.01
Absolute return	0.07	0.06	0.05	0.01	0.01	0.01	0.01	0.01

1 Data on side-pocket sub-funds are only included in aggregate figures, and not in each individual category.
2 Data revised and modified in April 2023.

Mutual funds, quarterly returns. Breakdown by category[1]

TABLE 3.11

%

	2020	2021	2022	2022 I	2022 II	2022 III	2022 IV	2023 I[2]
Total financial mutual funds	0.78	6.31	-8.95	-3.16	-5.38	-1.81	1.20	2.62
Fixed income	0.62	-0.31	-5.38	-1.71	-2.51	-1.39	0.14	0.85
Mixed fixed income	-0.03	2.49	-8.83	-3.18	-4.76	-1.80	0.69	1.88
Mixed equity	0.59	7.18	-11.37	-4.21	-6.81	-2.20	1.52	3.18
Euro equity	-8.75	16.72	-8.39	-5.62	-6.06	-7.55	11.77	8.57
Foreign equity	2.83	21.14	-13.14	-4.11	-10.67	-1.98	3.43	6.10
Guaranteed fixed income	1.68	-1.29	-8.43	-2.55	-2.35	-2.44	-1.36	0.66
Guaranteed equity	0.70	0.06	-5.44	-1.79	-2.08	-1.82	0.15	1.05
Global funds	-0.31	7.90	-10.53	-3.90	-5.61	-1.50	0.14	2.47
Passive management	0.44	9.82	-9.31	-3.38	-6.62	-2.53	3.13	3.59
Absolute return	0.94	3.02	-4.95	-1.88	-3.27	-0.52	0.67	1.21

1 Data on side-pocket sub-funds are only included in aggregate figures, and not in each individual category.
2 Available data: January 2023.

Hedge funds and funds of hedge funds

TABLE 3.12

	2020	2021[1]	2022	2021 IV	2022 I	2022 II	2022 III	2022 IV
HEDGE FUNDS								
Investors/shareholders[2]	7,961	8,786	8,817	8,786	9,033	9,444	9,538	8,817
Total net assets (millions of euros)	2,912.6	3,543.4	3,894.0	3,543.4	3,543.1	3,435.3	3,451.6	3,894.0
Subscriptions (millions of euros)	454.5	845.0	1,257.1	307.6	271.5	241.6	169.8	574.2
Redemptions (millions of euros)	407.2	405.3	603.3	125.9	157.3	170.7	88.4	186.9
Net subscriptions/redemptions (millions of euros)	47.3	439.7	653.9	181.7	114.3	70.9	81.4	387.2
Return on assets (millions of euros)	27.7	193.1	-300.8	9.7	-114.4	-177.6	-64.8	56.1
Returns (%)	1.75	6.47	-7.71	0.46	-2.92	-4.89	-1.95	1.94
Management yields (%)[3]	2.35	7.39	-7.21	0.57	-2.99	-4.80	-1.58	1.91
Management fees (%)[3]	1.43	1.47	0.85	0.34	0.21	0.22	0.21	0.20
Financial expenses (%)[3]	0.02	0.14	0.28	0.05	0.08	0.04	0.05	0.11
FUNDS OF HEDGE FUNDS								
Investors/shareholders[2]	2,858	5,385	5,347	5,385	5,379	5,309	5,330	5,347
Total net assets (millions of euros)	652.8	834.0	741.3	834.0	889.6	681.3	727.6	741.3
Subscriptions (millions of euros)	32.4	237.8	110.1	160.5	41.7	8.6	32.8	27.0
Redemptions (millions of euros)	3.1	121.8	225.1	18.5	0.8	222.8	0.0	1.5
Net subscriptions/redemptions (millions of euros)	29.3	116.0	-115.0	142.0	40.9	-214.2	32.8	25.5
Return on assets (millions of euros)	56.8	65.2	22.2	15.9	14.6	5.9	13.5	-11.8
Returns (%)	3.71	9.35	3.04	1.94	1.63	0.92	1.93	-1.43
Management yields (%)[4]	4.24	11.46	4.67	2.74	2.24	1.60	2.41	-1.64
Management fees (%)[4]	1.39	1.41	1.32	0.37	0.39	0.59	0.42	-0.08
Depository fees (%)[4]	0.06	0.07	0.06	0.02	0.02	0.01	0.01	0.02

1 Data revised and modified in April 2023.
2 Data on sub-funds.
3 % of monthly average total net assets.
4 % of daily average total net assets.

Management companies. Number of portfolios and assets under management

TABLE 3.13

	2020	2021	2022	2022 I	2022 II	2022 III	2022 IV	2023 I[1]
NUMBER OF PORTFOLIOS[2]								
Mutual funds	1,515	1,452	1,484	1,455	1,450	1,447	1,484	1,491
Investment companies	2,421	2,275	1,086	2,239	2,135	1,765	1,086	851
Funds of hedge funds	7	10	8	10	9	8	8	8
Hedge funds	69	72	91	75	77	78	91	93
Real estate mutual funds	2	2	2	2	2	2	2	2
Real estate investment companies	3	2	2	2	2	2	2	2
ASSETS UNDER MANAGEMENT (millions of euros)								
Mutual funds	279,694.5	324,701.0	311,466.4	316,020.4	302,684.2	299,627.1	311,466.4	322,988.5
Investment companies	26,564.8	28,049.3	15,468.1	26,710.5	23,307.8	20,687.9	15,468.1	14,675.7
Funds of hedge funds	652.8	831.0	741.3	889.6	681.3	727.6	741.3	–
Hedge funds	2,912.6	3,543.4	3,431.8	3,543.1	3,288.6	3,279.7	3,431.8	–
Real estate mutual funds	310.8	311.0	314.8	312.5	312.6	313.4	314.8	314.7
Real estate investment companies	907.1	913.2	964.2	946.1	950.2	978.1	964.2	967.5

1 Available data: January 2023.
2 Data source: registers of CIS.

Foreign Collective Investment Schemes marketed in Spain[1]

TABLE 3.14

	2020	2021	2022	2021 IV	2022 I	2022 II	2022 III	2022 IV
INVESTMENT VOLUME[2] (millions of euros)								
Total	199,419.3	276,231.9	201,058.7	276,231.9	227,194.6	209,314.4	204,425.1	201,058.7
Mutual funds	27,355.5	36,662.6	27,630.3	36,662.6	32,253.8	30,442.1	29,612.8	27,630.3
Investment companies	172,063.8	239,569.4	173,428.3	239,569.4	194,940.8	178,872.3	174,812.3	173,428.3
INVESTORS/SHAREHOLDERS[2]								
Total	4,312,340	6,073,537	6,412,067	6,073,537	6,120,550	6,377,747	6,510,617	6,412,067
Mutual funds	592,053	776,206	830,870	776,206	782,936	846,890	872,941	830,870
Investment companies	3,720,287	5,297,331	5,581,197	5,297,331	5,337,614	5,530,857	5,637,676	5,581,197
NUMBER OF SCHEMES[3]								
Total	1,048	1,074	1,095	1,074	1,069	1,077	1,082	1,095
Mutual funds	407	416	426	416	411	412	412	426
Investment companies	641	658	669	658	658	665	670	669
COUNTRY[3]								
Luxembourg	472	501	498	501	497	498	497	498
France	225	222	222	222	220	219	219	222
Ireland	222	231	248	231	232	240	246	248
Germany	45	50	53	50	50	52	53	53
United Kingdom	23	0	0	0	0	0	0	0
The Netherlands	3	3	3	3	3	3	3	3
Austria	32	33	34	33	33	33	33	34
Belgium	5	5	3	5	5	3	3	3
Denmark	1	1	1	1	1	1	1	1
Finland	13	14	14	14	14	14	14	14
Liechtenstein	4	5	4	5	5	5	4	4
Portugal	3	0	6	0	0	0	0	6
Sweden	0	9	9	9	9	9	9	9

1 Only data on UCITS are included.
2 Investment volume: participations or shares owned by the investors/shareholders at the end of the period valued at that time.
3 UCITS (funds and societies) registered at the CNMV.

Real estate investment schemes[1]

TABLE 3.15

	2020	2021	2022	2022 I	2022 II	2022 III	2022 IV	2023 I[2]
REAL ESTATE MUTUAL FUNDS								
Number	2	2	2	2	2	2	2	2
Investors	483	482	482	482	482	482	482	482
Assets (millions of euros)	310.8	311.0	314.8	312.5	312.6	313.4	314.8	314.7
Return on assets (%)	0.47	0.07	1.20	0.47	0.04	0.22	0.47	-0.05
REAL ESTATE INVESTMENT COMPANIES								
Number	3	2	1	2	2	2	1	1
Shareholders	315	209	111	209	209	208	111	110
Assets (millions of euros)	907.1	913.2	964.2	946.1	950.2	978.1	964.2	967.5

1 Real estate investment schemes which have sent reports to the CNMV, excluding those in process of dissolution or liquidation.
2 Available data: January 2023.