

# Comparative analysis of the representativeness, calculation methodology and transparency of the Ibex 35

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## Acronyms used

BME	Spanish Stock Markets and Financial Systems
BMR	Regulation (EU) 2016/1011, known as BMR (Benchmark Regulation)
EBITDA	Earnings before interest, tax, depreciation and amortisation
ESG	Environmental, social and governance
EU	European Union
GDP	Gross domestic product
IGBM	General Benchmark of the Madrid Stock Exchange
IOSCO	International Organization of Securities Commissions
SIBE	Electronic Stock Market Interconnection System
TAC	Technical Advisory Committee of the Ibex 35



# 1 Introduction

Stock benchmarks serve as tools to provide a concise and measurable representation of financial market performance, aiding investment decision-making and offering a crucial benchmark for evaluating the relative performance of portfolios and investment strategies.

The first modern stock market benchmark was the Dow Jones Transportation Average (DJTA), created by Charles Dow in 1884.<sup>1</sup> Since then, other stock market benchmarks have been developed to measure the performance of various market segments, including the S&P 500, the FTSE 100, and the Ibx 35, among others.

As financial markets continue to evolve and the complexity of investment instruments, products, and strategies linked to benchmarks increases, it is important to assess the accessibility and clarity of the information provided by stock benchmarks. Identifying areas for improving transparency can enhance investor confidence and improve the efficiency of financial decision-making.

This article focuses on the most representative benchmark of the Spanish stock market, the Ibx 35, and presents the results of a comparative analysis of its representativeness, methodology, and level of transparency. The comparison has been made with other stock market benchmarks in Europe and the United States, considering their significance in the main economic indicators they aim to represent. It also examines current practices regarding calculation methods, the inclusion and exclusion of securities, and the degree of transparency applied by benchmark administrators.

The aim of this analysis is not to verify whether the benchmarks comply with the requirements set by current regulations<sup>2</sup> and the IOSCO Principles,<sup>3</sup> but rather to identify areas where user understanding of the benchmarks' characteristics and potential use can be enhanced. The availability of benchmark that are representative of the financial markets, which are accessible, robust, transparent and competitive, contributes to strengthening and enhancing the capital markets and their role in business financing.

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1 Charles Dow was an American journalist and editor, best known for being the co-founder, along with Edward Jones and Charles Bergstresser, of Dow Jones & Company in 1882 and for being the creator of one of the oldest and most famous benchmarks, the Dow Jones Industrial Average (DJIA), which was launched in 1896. Borja (2022).

2 Regulation (EU) 2016/1011, known as BMR (Benchmark Regulation). This Regulation seeks to guarantee the integrity of the benchmarks used in the European Union's financial markets. This involves preventing their manipulation and ensuring that the determination processes are transparent and fair, so that the benchmarks are reliable and representative of the underlying markets. The Regulation establishes strict transparency requirements for benchmark providers, which must provide detailed information on the methodology used to calculate these, as well as data collection procedures and the disclosure of any conflict of interest. It also sets governance standards for benchmark providers and promotes effective oversight by competent authorities.

3 IOSCO (2013). IOSCO has played an important role in establishing international principles and standards that address aspects such as the integrity, transparency and governance of financial benchmarks. The IOSCO Principles can be considered a global reference for regulatory authorities and market participants seeking to ensure the integrity and proper functioning of financial benchmarks worldwide.

## 2 Definition of the Ibex 35 index and calculation methodology

The Ibex 35 is a benchmark<sup>4</sup> that was established in 1992. It comprises the 35 most liquid stocks traded on the Spanish Stock Exchange Interconnection System (SIBE), which includes the four Spanish stock exchanges. Exhibit 1 summarises the key factors that have influenced its development since its inception.

The benchmark is administered by Sociedad de Bolsas, S.A., an entity partly owned by Bolsas y Mercados Españoles, S.A. (BME) and part of the Swiss SIX Group. The CNMV approved its registration as an administrator of significant benchmark benchmarks<sup>5</sup> on 14 November 2019.

Currently, Sociedad de Bolsas manages over 200 benchmarks, which are grouped into the following categories: the Ibex family of benchmarks, equity strategy benchmarks, ESG benchmarks, Latibex benchmarks, benchmarks of the four Spanish stock exchanges, and fixed income and public debt benchmarks.

The Ibex 35 is denominated in euros and calculated in real-time during European trading hours. The data used for the benchmark calculation are the prices of trades executed by market members in the order book of the equity segment for the securities included in the benchmark.<sup>6</sup> These prices are weighted by the market capitalisation of the constituent stocks, adjusted for their free float, as detailed in Section 2.3. Therefore, the Ibex 35 is a capitalisation-weighted price benchmark.

### Performance of the Ibex 35 since its creation

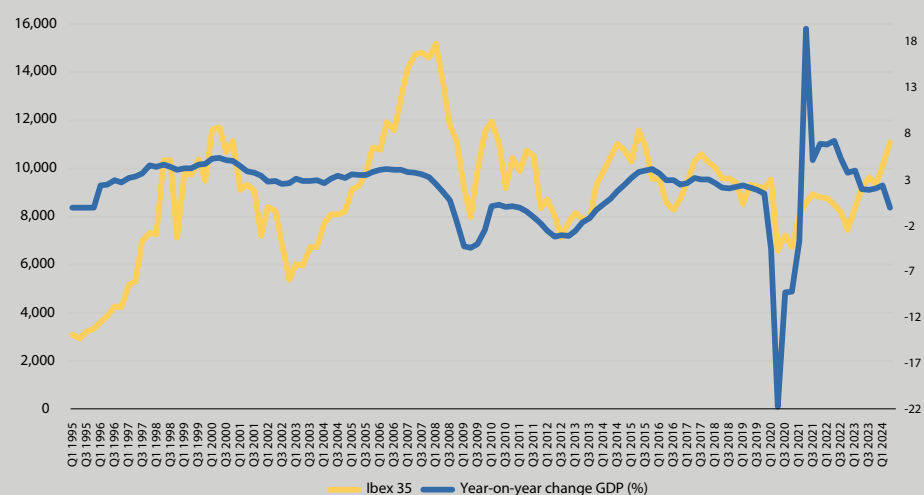
EXHIBIT 1

Since its inception in 1992, the performance of the Ibex 35 has been shaped by various economic, political, and financial factors at both the national and international levels. Some of the key milestones and trends in the evolution of the Ibex 35 are summarized below:

- 
- 4 Stock market benchmarks can be selective, such as the Ibex 35, which is calculated based on a selection of representative securities from a market. Alternatively, when they include all the securities in the market, they are considered all-share benchmarks, such as the Ibex Growth Market All Share or the Madrid Stock Exchange General Benchmark (IGBM).
  - 5 See the "Benchmark" section of the CNMV website.
  - 6 In accordance with benchmark regulations, it is classified as a regulated data benchmark (Article 17 of the BMR), because all the data used for its calculation come from a regulated market. This classification means that certain monitoring and record-keeping requirements applicable to benchmarks calculated using data inputs from contributors do not apply.



Historical performance of the Ibx 35 and year-on-year change in GDP FIGURE E1.1



Source: CNMV.

- **1990s:** Following its creation in 1992 with a base level of 3,000 points, the Ibx 35 experienced significant volatility during its initial years. Ten months after its launch, on 5 October 1992, it hit an all-time low of 1,873.58 points. The Spanish economy had entered a recession, and just three weeks earlier, the peseta was devalued by 5% amidst instability resulting from the European Monetary System (EMS) crisis. However, it also saw gradual growth driven by economic development in Spain and integration into the European Union.
- **Economic boom and financial crisis (2000–2010):** During the economic boom in the early 2000s, the Ibx 35 reached record levels, surpassing 15,000 points in November 2007. However, the global financial crisis of 2008 severely impacted financial markets, including the Ibx 35, which suffered significant losses. Its largest decline until then, over 9%, occurred on 19 October 2008 following the collapse of Lehman Brothers.
- **Recovery years (2010–2017):** After the financial crisis, the Ibx 35 went through a period of gradual recovery. However, economic uncertainty in the eurozone and financial issues in Spain, such as the sovereign debt crisis, caused market volatility.
- **Political and economic turmoil (2017–2021):** During these years, the Ibx 35 was affected by economic uncertainties, including issues related to the Catalan independence movement, and most notably, by the COVID-19 pandemic in 2020, which led to significant declines before a partial recovery. On 12 March 2020, coinciding with the announcement of the state of emergency to tackle the coronavirus, the Ibx 35 plunged by 14.06% to 6,390 points.

- **Post-COVID recovery (2021–2023):** With the implementation of economic stimulus programmes, an expansionary monetary policy, and the gradual rebound of economic activity, the Ibex 35 showed signs of recovery from 2021. However, uncertainty persisted due to concerns about inflation, monetary policies, and other factors such as increasing geopolitical risks. By the end of 2023, the Ibex 35 reached 10,102 points, with an accumulated gain of nearly 23% in 2023, a surge only comparable to the almost 30% increase seen in 2009.

It is important to note that the Ibex 35 is merely an indicator of the Spanish stock market and does not necessarily reflect the overall economic situation of the country. However, its performance provides insights into investor confidence and financial market trends in Spain.

## 2.1 Benchmark components

The benchmark's composition and calculation follow the technical standards set by its administrator<sup>7</sup> (hereinafter referred to as the technical standards). The benchmark consists of the 35 most liquid securities listed on the SIBE during the six months preceding the ordinary review date of its composition. In the case of extraordinary reviews, this period may vary.

For a company to be included in the benchmark, its average market capitalisation must be greater than 0.30% of the benchmark's total capitalisation during the review period.

Additionally, for new securities on the SIBE, a minimum number of sessions equivalent to one-third of the review period is required. However, if the free float market capitalisation of a security ranks among the top 20 in the benchmark, it is considered eligible for inclusion even if it has not met the minimum required number of trading sessions.

To determine a security's liquidity, both the trading volume in euros on the order book market (general trading segment of the SIBE) and the quality of that trading volume are considered. The quality of trading is assessed based on factors such as the characteristics and size of trades executed in the market, statistics associated with trading volumes and features, and the quality of spreads, turnover, and other measures as applied at the administrator's discretion, in line with its technical standards.

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7 Sociedad de Bolsas (2024).

## 2.2 Calculation formula and determination of free float

As mentioned, the Ibex 35 is a price-weighted benchmark adjusted by market capitalisation free float. This means that companies with higher capitalisation have a greater influence on the benchmark, and accordingly fluctuations in their stock prices have a more substantial impact on the benchmark's overall movement.

The benchmark calculation uses the formula described in Exhibit 2. With a base value of 3,000 points, the Ibex 35 was first published on 14 January 1992.

At any given time  $t$ , the benchmark is determined by applying the change in the market capitalisation of the included companies to the benchmark value from the previous time  $(t - 1)$ , adjusted by a factor ( $J$ ) to account for the impact of certain financial operations.

### Formula for calculating the Ibex 35

EXHIBIT 2

The formula used for the calculation of the benchmark value:

$$\text{Ibex 35} = \sum_{i=1}^{35} P_i \times \text{Capi}$$

$$\text{Ibex 35}(t) = \text{Ibex 35}(t-1) \times \sum_{i=1}^{35} \text{Capi}(t) / [\sum_{i=1}^{35} \text{Capi}(t-1) \pm J]$$

Where:

Ibex 35( $t$ ) = value of the Ibex 35 benchmark at time  $t$  expressed in benchmark points.

$t$  = Time of benchmark calculation.

$i$  = Company included in the benchmark.

$S_i$  = Number of computable shares of the company  $i$  for the calculation of the benchmark value.

$P_i$  = Price of the company's shares  $i$  included in the benchmark at time  $t$ .

$\text{Capi}$  = Capitalization of the company included in the benchmark. This is calculated as:  $S_i \times P_i$ .

$\sum \text{Capi}$  = Sum of the capitalisation of all the companies included in the benchmark.

$J$  = Amount used to adjust the value of the benchmark for certain financial transactions such as capital increases or extraordinary dividends.

Source: Sociedad de Bolsas (2024).

The number of shares used to calculate a company's market capitalisation is based on its free float, adjusted by a coefficient related to the company's free float bracket.

Free float is calculated by subtracting from the total number of shares outstanding those holdings equal to or greater than 3% of the capital, as recorded in the CNMV's Register of significant shareholdings.<sup>8</sup>

Weighting factors are employed to adjust the representation of companies in the benchmark, ensuring that those with a larger number of shares in circulation, and thus greater market liquidity, may have a higher weighting in the benchmark. The adjustment factors applied to the number of shares based on free float brackets are as follows:

**Coefficients applicable based on free float**

TABLE 1

Floating capital tranche	Applicable coefficient (%)
Less than or equal to 10%	10
Greater than 10% and less than or equal to 20%	20
Greater than 20% and less than or equal to 30%	40
Greater than 30% and less than or equal to 40%	60
Greater than 40% and less than or equal to 50%	80
Greater than 50%	100

Source: Sociedad de Bolsas (2024).

Annex 1 reflects the Ibex 35 constituents as of 31 July 2023, as well as their current capitalisation and their adjusted capitalisation in accordance with the methodology described.

### 2.3 Dividend adjustment policy

The technical rules of the benchmark include provisions for adjustments related to specific corporate actions affecting its constituents. For ordinary dividends and other shareholder distributions similar to ordinary dividends, no adjustments are made. This simplifies the calculations and makes the benchmark easier for investors to follow, especially those who are primarily interested in tracking share price movements without considering dividends.

However, since dividends are a crucial element of the total return on equity investments and that long-term investors and those seeking a more comprehensive of their portfolio's performance often prefer benchmarks adjusted for dividends to obtain a more accurate picture of their investment, Sociedad de Bolsas also calculates the total return and net total return versions of the Ibex 35 (through the

<sup>8</sup> The CNMV's Register of Holders of Significant Shareholdings can be consulted at this link: <https://www.cnmv.es/portal/consultas/busqueda.aspx?id=7>

Ibex 35 with dividends and Ibex 35 with net dividends benchmarks), which include the reinvestment of dividends paid by the benchmark constituents, either on a gross or net of tax basis.

## 2.4 Fast entry/fast exit

Although not explicitly specified in its technical rules, the Ibex 35 has a fast entry and exit mechanism. This allows the inclusion of a recently listed security on the SIBE into the Ibex 35 without waiting for it to meet the usual requirements during the control period, provided its inclusion is deemed advisable.

In such cases, the security must have been traded for at least one third of the control period, unless its free float capitalisation ranks among the top 20 securities of the Ibex 35. The inclusion of these securities results in the exclusion of the corresponding security for reasons of liquidity.

This modification typically occurs during regular or periodic reviews, although this process is not clearly specified in the technical rules.

## 2.5 Governance and oversight function. The Technical Advisory Committee of the Ibex 35

According to benchmark regulations, the Ibex 35 is classified as a significant benchmark. Although it does not meet the threshold of €50 billion in referenced instruments (as estimated by its administrator), it lacks suitable alternatives, and its disappearance could have detrimental effects on market integrity, corporate financing, and even financial stability.<sup>9</sup>

This classification means that its administrator must adhere to more rigorous governance, internal control, and risk management requirements compared to those applicable to non-significant benchmarks, for reasons of proportionality.<sup>10</sup>

Among these requirements, the administrator must have a monitoring function to oversee all aspects of the benchmark's provision (Article 5 of BMR) and to ensure the adequacy and verifiability of input data, as well as the internal control procedures. This function should be carried out by a separate committee or another appropriate governance mechanism.

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9 The definition of a "significant benchmark" is established in Article 24 of the BMR. The Ibex 35 is also considered a main benchmark under the prudential requirements for credit institutions and investment firms (Implementing Regulation (EU) 2016/1646), which implies that the securities included in the benchmark receive more favourable treatment in terms of capital consumption.

10 The obligations of benchmark administrators are set out in Title II of the BMR. In this context, Sociedad de Bolsas, as the administrator of a significant benchmark, has decided not to take advantage of the exemptions provided in Article 25 of the BMR, and is therefore subject to all applicable provisions.

The administrator of the Ibex 35 has established an advisory body known as the Technical Advisory Committee (TAC). This committee is composed entirely of independent individuals and is responsible for oversight, as well as reviewing and approving any redefinitions of the benchmark.

The TAC, consisting of a minimum of five and a maximum of nine members, operates under a code of conduct designed to ensure impartiality, professionalism, and the prevention of conflicts of interest.<sup>11</sup>

The benchmark is reviewed at TAC meetings held quarterly, which can be of three types:

- Ordinary meetings, held in June and December, during which the benchmark is redefined for the upcoming period.
- Follow-up meetings, held in March and September. At these meetings, the benchmark constituents are changed only when securities have experienced a significant change in liquidity prompting the redefinition of indices for the following period.”
- Extraordinary meetings.

The review period (also known as the control period), for both ordinary and follow-up meetings, comprises the interval of six months prior to the date of the review. With regard to extraordinary reviews, the control period will be decided by the TAC at any given time.

**TAC meetings and control periods**

TABLE 2

Meeting	Type	Control period	Effective date (closing)
March	Follow-up	September-February	Third Friday in March
June	Ordinary	December-May	Third Friday in June
September	Follow-up	March-August	Third Friday in September
December	Ordinary	June-November	Third Friday in December

Source: Sociedad de Bolsas (2024).

### 3 Comparative analysis of representativeness

In this section, we examine whether the Ibex 35 accurately reflects the performance of the Spanish stock market, which is a key objective of this benchmark. Additionally, we assess its ability to represent the country’s economy.

<sup>11</sup> The Code of Conduct and the current composition of the TAC can be consulted at the following link to the administrator’s website: <https://www.bolsasmercados.es/bme-exchange/es/Benchmarks/Comite-Asesor-Tecnico/Miembros>

Traditionally, the performance of a national stock market benchmark has been considered an indicator of a country's economic situation. However, factors such as the internationalisation of companies, the limit on the number of companies included in the benchmarks, and the methods used to calculate the benchmarks, among other elements, can affect their ability to serve as a gauge of a country's economy.

In both instances, a comparative evaluation is conducted with other stock market benchmarks from European and Anglo-Saxon countries, as shown in Table 3.<sup>12</sup> In all cases, these are capitalisation-weighted regulated data benchmarks.

### Main data of the analysed stock benchmarks

TABLE 3

Table of contents	Reference country	Administrator	Launch date	Benchmark base
Ibex 35	Spain	Sociedad de Bolsas	14/01/1992	3,000
Dax 40 <sup>13</sup>	Germany	Stoxx Ltd (Deutsche Börse Group)	01/07/1988	1,000
Cac 40 <sup>14</sup>	France	Euronext Paris	31/12/1987	1,000
Mib 40 <sup>15</sup>	Italy	FTSE Russell	31/12/1992	10,000
PSI 20 <sup>16</sup>	Portugal	Euronext Lisbon	31/12/1992	3,000
FTSE 100 <sup>17</sup>	United Kingdom	FTSE Russell	3/1/1984	1,000
S&P 500 <sup>18</sup>	United States	S&P Dow Jones Benchmarks	4/3/1957	10

Source: Compiled by the authors.

To measure the representativeness of national stock market benchmarks, we analyse their weight in market capitalisation and GDP of each country, as well as their impact on employment. This section also considers their effect on employment and the degree of internationalisation of each benchmark.

From these analyses, we conclude that the Ibex 35 is comparable to its European and Anglo-Saxon counterparts, maintaining a level of representativeness and internationalisation similar to that of its peers selected for this study.<sup>19</sup>

12 Benchmarks representative of a specific market, such as the Ibex 35, Dax 30, Cac 40, FTSE 100, or S&P 500, which represent the most significant companies on the Spanish, German, French, UK, and US stock exchanges respectively, should be distinguished from general benchmarks that represent certain types of companies or sectors irrespective of the market on which they are listed. An example of this is the Eurostoxx 50, which represents the performance of the 50 largest companies across 19 major sectors by market capitalisation in 11 euro area countries. These general benchmarks are not considered comparable to the Ibex 35 and have therefore not been included in this analysis.

13 Deutsche Börse AG (2022).

14 Euronext NV Index Rule Book (2018).

15 FTSE Russell (2023).

16 Euronext NV (2021).

17 FTSE Russell (2023).

18 S&P Dow Jones Benchmarks (2022).

19 Due to the unavailability of disaggregated data for the components of the Mib 40, it has not been possible to include this benchmark in Sections 3.2, 3.3, and 3.4 of the comparative analysis on representativeness.

### 3.1 Market capitalisation weight

All the benchmarks analysed aim to reflect the performance of the leading companies listed on the stock markets of their respective benchmark countries.

To assess the representativeness of the selected benchmarks in relation to their respective stock markets, we compared both the capitalisation of each benchmark with the total capitalisation of the corresponding market and the number of companies included in these benchmarks relative to the total number of companies listed in each market.

**Weight of capitalisation of the benchmark with respect to total capitalisation of its market**

TABLE 4

%	Ibex 35	Dax 40	Cac 40	Mib 40	PSI 20	FTSE 100	S&P 500
Benchmark capitalisation/ market capitalisation	78	81	87	91	93	83	98
No. of benchmark companies/ No. of market companies	29	11	11	11	43	18	15

Source: GDP data at the end of 2023 obtained from the IMF. Capitalisation data obtained from Reuters.

The Spanish benchmark demonstrates a high level of market representativeness, although it does not reach the percentages achieved by the other benchmarks analysed. This level of representativeness is achieved with a significantly higher number of companies: almost a third of the total number of listed companies in the market, which is more than double that of the other selected benchmarks, except for the Portuguese benchmark. This feature of the Ibex 35 suggests that, despite the concentration in the top five stocks (see Table 14) – a characteristic shared with other benchmarks – the capitalisation of the remaining 30 companies is more evenly distributed than in the other selected benchmarks.

### 3.2 Degree of representativeness of the country's economy

#### Weight of capitalisation in GDP

The capitalisation of the Spanish benchmark amounted to 35% of GDP at the end of 2023, a figure higher than that of the other European benchmarks, with the exception of the French Cac 40.



## Weight of the capitalisation in GDP

TABLE 5

%

	Ibex 35	Dax 40	Cac 40	Mib 40	PSI 20	FTSE 100	S&P 500
Capitalisation / GDP	35	30	62	23	5	72	157

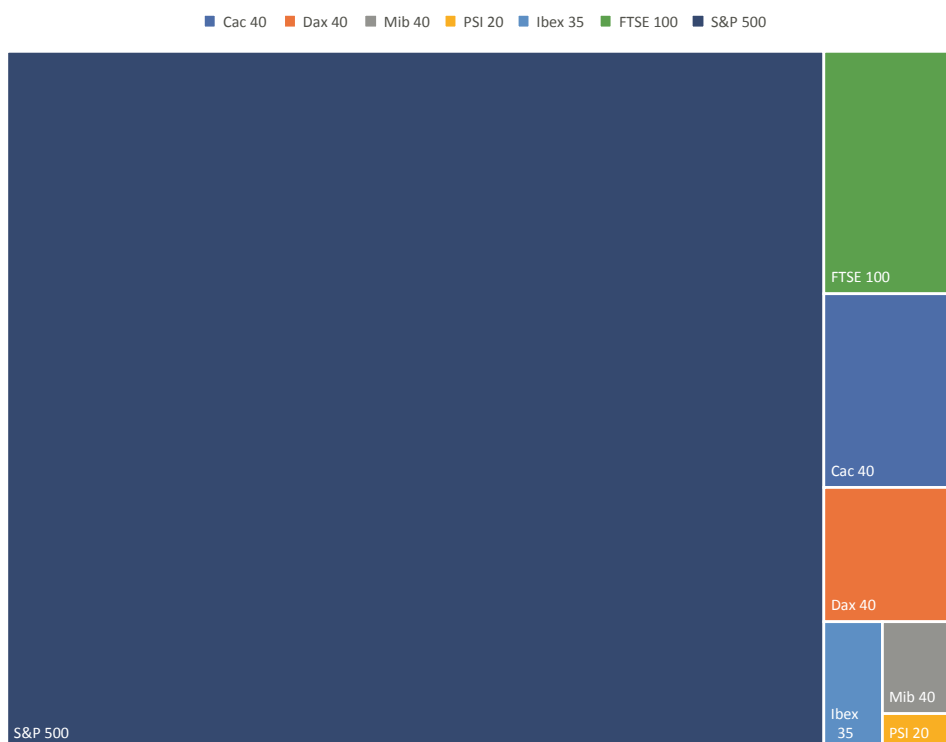
Source: GDP data at the end of 2023 obtained from the IMF. Capitalisation data obtained from Reuters.

It is worth noting that only the technical standards of the Cac 40 take market representativeness into account when selecting stocks. This could explain why the market capitalisation of the Cac 40 is 62% of French GDP, the highest percentage among European benchmarks with a similar number of constituents.

Anglo-Saxon benchmarks, such as the FTSE 100 and the S&P 500, exhibit a higher market capitalisation relative to GDP than their European counterparts, possibly due to the larger number of companies included. Additionally, US corporate culture typically favours reinvesting profits over distributing them as dividends and tends to prefer share buybacks, which directly contributes to the higher capitalisation of the S&P 500.

## Capitalisation of stock market benchmarks

FIGURE 1



Source: Compiled by the authors.

## Contribution of the constituent companies to GDP

To analyse the contribution of benchmark constituents to GDP, the sum of their EBITDA has been used as a proxy for gross operating surplus,<sup>20</sup> and compared with GDP. As shown in Table 6, the constituents of the analysed stock market benchmarks contribute between 6% and 14% to the GDP of each country, without considering the positive impact of the salaries paid by these companies on GDP.

The Spanish benchmark sits at the median of this metric, surpassed by the Cac 40, the FTSE 100, and the S&P 500, all of which include a greater number of companies.

### Gross operating surplus (EBITDA) over GDP

TABLE 6

%

	Ibex 35	Dax 40	Cac 40	PSI 20	FTSE 100	S&P 500
EBITDA / GDP	10	8	14	6	13	12

Source: 2023 GDP data obtained from the IMF. EBITDA data obtained from Reuters.

## Impact of companies on national employment

When analysing the extent to which these benchmarks represent their respective national economies, their relationship with employment is another important factor. For this analysis, the contribution of the total number of employees of each benchmark constituent to the overall employment in the country as of September 2023 has been considered. However, it is important to note that this figure is influenced by the fact that most companies in these stock market benchmarks are multinationals. Consequently, they have employment contracts not only in their home countries but also abroad. Additionally, the analysed figures do not take into account employment generated through outsourcing, which would increase the reported contributions.

In the case of Spain, although the companies that constitute the Ibex 35 contribute around 10% of Spanish GDP, placing it at the median among the benchmarks analysed, it has the least impact on national employment at 7.11%, with the exception of Portugal's PSI 20, which only contributes 6.17%. The smaller number of components of the benchmark, the importance of small and medium-sized enterprises in the Spanish economic framework, and a lower weight of the industrial sector might explain this aspect.

20 Component of GDP defined by the National Institute of Statistics (INE) as the surplus generated by operating activities once labour costs have been covered. See the "Glossary of concepts" at the following link: <https://www.ine.es/DEFine/es/concepto.htm?c=2210&op=30232&p=1&n=20#:~:text=El%20excedente%20bruto%20de%20explotaci%C3%B3n,menos%20los%20costes%20de%20personal>

## Weight of benchmarks in employment figures

TABLE 7

	<b>Ibex 35</b>	<b>Dax 40</b>	<b>Cac 40</b>	<b>PSI 20</b>	<b>FTSE 100</b>	<b>S&amp;P 500</b>
Total number of employees of the constituents	1,416,612	4,252,038	5,050,070	288,260	3,997,256	28,425,692
Total number of employees by country	19,925,000	39,908,000	27,215,000	4,672,000	32,880,000	16,1484,000
%	<b>7.11</b>	<b>10.65</b>	<b>18.56</b>	<b>6.17</b>	<b>12.16</b>	<b>17.60</b>

Source: Occupancy data by country obtained from the World Bank. Company employee data obtained from Reuters.

## Internationalisation of stock market benchmarks

In assessing the degree of internationalisation of the analysed benchmarks, both the nationality of the shareholders and the origin of the companies' revenues were considered.

Most shareholders of the European benchmarks are from European Union countries. This predominance of EU shareholders reflects the integration of European markets and the progress of the Capital Markets Union.

It is also noteworthy that the owners of the companies in the European benchmarks are predominantly non-nationals, unlike in the US benchmark, where the majority of owners are US nationals.

## Nationality of the shareholders in the constituents of the benchmarks

TABLE 8

%							
	<b>Shareholders</b>	<b>Ibex 35</b>	<b>Dax 40</b>	<b>Cac 40</b>	<b>PSI 20</b>	<b>FTSE 100</b>	<b>S&amp;P 500</b>
	Domestic	41	33	47	48	34	80
	European	28	30	26	24	15	15
	International (non-European)	31	37	27	28	51	5

Fuente: Reuters.

According to the latest statistics published by the World Bank, the European Union, and specifically the euro area, is the world's largest recipient of foreign direct investment, with the United States being the main investor. This is reflected in the significant presence of US investors in European stock markets.

## Net foreign direct investment flows

TABLE 9

% of GDP

Geographical area	2012	2013	2014	2015	2016
Arab world	1.8	1.7	1.6	1.5	1.6
East Asia & Pacific	2.5	2.8	2.8	2.8	2.4
Eurozone	5.1	4.1	2.1	4.7	4.0
Latin America and the Caribbean	3.4	3.2	3.3	3.8	3.5
Middle East & North Africa	1.8	1.7	1.5	1.7	1.8
South Asia	1.2	1.4	1.6	1.8	1.8
Sub-Saharan Africa	2.4	2.4	2.4	2.9	2.5

Source: World Bank.

In summary, nearly all the shareholders of the benchmarks analysed are Europeans and Americans (the United States). The only significant shareholding from countries outside these two blocs is found in the Portuguese PSI 20 benchmark, with a Chinese presence amounting to 7% of its capitalisation.

The growing global influence of China and Middle Eastern sovereign wealth funds is not yet reflected in significant shareholdings in the listed companies of the stock market benchmarks analysed.

## Shareholders' participation by geographical origin in capitalisation

TABLE 10

%

	Ibex 35	Cac 40	Dax 40	PSI 20	FTSE 100	S&P 500
Africa	0	0	0	1	1	0
Europe	69	73	63	72	49	15
Latin America	0	0	0	0	1	0
Asia / Pacific	3	1	3	10	6	2
North America	24	26	32	17	42	83
Middle East	3	0	2	0	2	0

Source: Reuters.

The largest investors are portfolio management companies, hedge funds, and corporations. The Ibex 35 stands out from its peers due to a higher participation of individual shareholders, largely attributable to the shareholding structure of one of its constituent, Inditex.

## Types of investors in the stock market benchmarks analysed

TABLE 11

% of capitalisation

	Ibex 35	Dax 40	Cac 40	PSI 20	FTSE 100	S&P 500
Portfolio management companies	21.0	31.0	26.0	14.0	37.1	42.0
Hedge funds	17.2	25.7	20.9	14.1	40.5	41.2
Private equity funds	3.3	0.0	0.0	0.0	0.5	0.0
Insurers	0.5	0.1	0.1	0.2	0.9	1.7
Banking and fiduciary services	0.2	2.5	0.4	0.1	1.6	2.5
Individual investors	21.9	6.9	2.4	6.8	1.1	2.6
Corporations	20.2	14.4	8.8	47.2	8.1	1.7
Pension funds	2.0	2.7	1.9	2.7	3.2	3.8
Other internal investors	2.4	1.1	30.3	0.0	0.0	0.0
Sovereign wealth funds	5.5	4.0	2.6	4.1	5.9	1.4
Foundations	0.0	0.0	0.0	0.0	0.0	0.2
Government agencies	0.7	6.7	3.8	6.5	0.6	0.0

Source: Reuters.

## Percentage of income obtained in the countries of origin by the five companies with the greatest weight in the benchmarks

TABLE 12

Ibex 35		Dax 40		Cac 40		PSI 20	
Companies	%	Companies	%	Companies	%	Companies	%
Iberdrola	43	SAP SE	15	Louis Vuitton	8	EDP-Energias de Portugal	43
Inditex	15	Siemens AG	19	L'Oreal	9	EDP Renovaveis	14
B. Santander	35	Airbus SE	20	Hermes International	9	Jeronimo Martins SGPS	24
BBVA	23	Deutsche Telekom AG	23	Total Energies	22	Galp Energia SGPS	82
Amadeus IT	6	Allianz SE	25	Sanofi	5	Banco Comercial Portugues	39
Total	24		21		16		49
Exports / GDP (World Bank)	41,6		50,3		34		50

Source: Reuters and financial statements.

According to the export-to-GDP ratio published by the World Bank,<sup>21</sup> a measure of a country's openness to international trade, the economies represented by these benchmarks are considered open to foreign trade.

21 World Bank (2023).

In the 2022 financial year, the revenues generated by the top five companies by market capitalisation in each benchmark were less than 50% from their home countries, dropping to 24% for the Spanish benchmark. In other words, the majority of these companies' revenues come from abroad.

The benchmarks analysed exhibit strong exposure to other European countries, which, as previously noted, is due to the ongoing integration of the European Union markets. In the case of Spain, there is significant exposure to Latin America, explained by the historical relationship with this region and the notable presence of Spanish companies there. Spanish exposure to the United States is also relevant, a characteristic shared with the Cac 40 and Dax 40 benchmarks. However, the Dax 40 stands out for its exposure to Asia, with Germany being the main European exporter to China, according to Eurostat.<sup>22</sup>

Furthermore, France, according to Eurostat, is the leading EU exporter to Africa,<sup>23</sup> which is reflected in the higher exposure of the Cac 40 benchmark to this region. For the PSI 20, there is a concentrated exposure to the European Union and Brazil, explained by the historical relationship with the latter country.

In summary, an benchmark is directly affected by economic and political developments both in its country of origin and in the countries where its constituents have a strong presence. Therefore, in principle, an economic slowdown in China would have a greater impact on the German benchmark, while the Spanish benchmark would be more influenced by shocks from Latin American countries.

## 4 Comparative analysis of calculation methodology and transparency level

A comparative analysis has been conducted on the methodology used by the Ibex 35 against those used for the calculation of the main selective benchmarks. The aim of this analysis is to determine the potential degree of discretion applied in the criteria for the eligibility and inclusion of securities in the benchmarks, as well as their level of transparency.

Annex 2 provides a detailed description of the results of the analysis for each of the aspects considered in this section. The main conclusions of this analysis are outlined below. Several areas for improvement have been identified and are evaluated in Section 5.

### 4.1 Criteria for the inclusion of securities

As mentioned earlier, the selection criteria for securities to be included in the Ibex 35 are based on their free float and incorporate some qualitative factors, such as the quality of liquidity, which are difficult to quantify.

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<sup>22</sup> Eurostat (2023).

<sup>23</sup> Eurostat (2019).

Most of the benchmarks analysed combine both market capitalisation and liquidity when selecting the companies that comprise them. The definition of both variables is generally clear and based on objective criteria.

For the Dax 40, the selection is made by establishing a ranking based exclusively on quantitative criteria. This methodological approach is similar to that used by the FTSE 100, the Mib 40, and the PSI 20. In the specific case of the Mib 40, an algorithm is employed, providing a high degree of automation to the stock selection process.

Regarding the Cac 40, the selection is also based on a ranking that uses purely quantitative criteria. However, the Benchmark Advisory Committee has the discretion to select companies that have not achieved the required ranking, provided this is deemed justified in the interest of the benchmark users. In contrast, while the S&P 500 also uses quantitative criteria to assess capitalisation and liquidity, the final composition of the benchmark is subject to the discretion of its Advisory Committee, which may apply additional criteria such as sector diversity.

In 2020, Deutsche Börse, the administrator of the Dax 40, responded to the Wirecard<sup>24</sup> scandal by implementing significant changes to the governance and methodology of the benchmark. One of the key issues addressed was the revision of the criteria for the inclusion and exclusion of companies in the benchmark. These changes involved adjustments to financial, liquidity, and other relevant criteria for the selection of companies, as detailed in Exhibit 3.

#### Review of the Dax benchmark following the Wirecard case

EXHIBIT 3

In 2020, in response to the Wirecard scandal, the Dax benchmark administrator, Deutsche Börse, implemented significant changes to the benchmark's governance and methodology.<sup>1</sup> The most notable changes were:

- **Increased diversification of the benchmark.** One of the most significant measures was expanding the number of constituents from 30 to 40, thus renaming it from Dax 30 to Dax 40. This expansion considerably boosted the benchmark's market capitalisation by approximately €350 billion, raising the total value of the benchmark to over €2 trillion. It also enhanced the representation of the German economy within the benchmark. Furthermore, benchmark funds had to rebalance their portfolios, selling shares of the companies that were part of the former 30-member benchmark and purchasing shares of the 10 new companies that were added to the benchmark.
- **Increased focus on the quality and transparency of financial reporting.** Deutsche Börse implemented a stricter approach to the quality and transparency of financial information for companies considered for inclusion in the benchmark. As part of this initiative, new selection criteria were introduced for candidate companies that are not yet part of the benchmark but are eligible for inclusion. These companies must now show a positive EBITDA in their two most recent annual financial statements as an indicator of their financial stability and viability to be considered for the benchmark.

24 European Parliament (2021).

- **Enhanced oversight.** The oversight and monitoring of companies included in the benchmark were bolstered. This entailed greater scrutiny of accounting practices, financial reporting, and other relevant aspects to ensure the integrity and accuracy of the information provided by these companies. Among other measures, all companies within the Dax benchmark family are now required to publish audited annual financial reports and quarterly financial statements. Another change to the benchmark rules was to subject its composition to two major reviews per year (March and September), instead of the single annual review carried out previously.
- **Improved corporate governance.** The significance of robust and transparent corporate governance was stressed as a key criterion for inclusion in the benchmark. This entailed establishing stricter requirements regarding board independence and diversity, conflict of interest disclosure policies, executive compensation, and transparency and communication with shareholders. Specifically, all members of the Dax benchmark family were required to adhere to the recommendations of the German Corporate Governance Code.<sup>2</sup>

These changes were aimed at addressing the deficiencies identified following the Wirecard scandal and safeguarding the reputation and credibility of the Dax benchmark. The primary goal was to enhance the benchmark's integrity and trustworthiness by ensuring that the included companies adhere to high standards of transparency, governance, and financial reporting quality.

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1 Qontigo (2021).

2 Regierungskommission Deutscher Corporate Governance Kodex (2022).

## 4.2 Determination of free float

The 3% threshold used by Sociedad de Bolsas to calculate free float (for the purpose of deducting the holdings registered with the CNMV) matches the lowest threshold established in the current regulations on significant holdings in the share capital of a listed company.<sup>25</sup>

Among the benchmarks analysed, only the Ibex 35 uses this threshold. The PSI 20, Cac 40, and Dax 40 all adhere to a definition of restrictive shares similar to that outlined in European regulations on liquid markets,<sup>26</sup> which excludes holdings of more than 5% of the capital. This threshold is also employed by the US S&P 500 benchmark.

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25 Article 23 of Royal Decree 1362/2007, of 19 October, which implements Law 24/1988, of 28 July, on the Securities Market, concerning transparency requirements for information on issuers whose securities are admitted to trading on an official secondary market or another regulated market in the European Union.

26 Article 1.2 of Commission Delegated Regulation (EU) 2017/567, of 18 May 2016, which supplements Regulation (EU) No. 600/2014 of the European Parliament and of the Council, regarding definitions, transparency, portfolio compression, and supervisory measures related to product intervention and positions.



Neither the FTSE 100 nor the Mib 40 define specific thresholds above which a shareholding is considered restrictive shares. Instead, they assess the type of shareholder and the characteristics of their investment. As a result, investments with a minimum holding period and shares held by employees or public entities, among others, are excluded from free float.

The type of shareholder is also considered by the other benchmarks, which generally exclude from free float – regardless of the ownership percentage – shares held by public administrations, members of the Board of Directors, or investment or pension funds of a strategic nature.

Regarding the correction coefficients for free float, only the Ibex 35 applies correction factors; no similar systems have been identified in other benchmarks.

Once the free float of each company has been calculated, most benchmarks set limits on the maximum weight of a company in the total capitalisation of the benchmark, to avoid excessive concentration in a particular stock. The Dax 40 caps it at 10%, the Cac 40 and Mib 40 at 15%, the PSI at 12%, and the Ibex 35 at 20%. The methodologies of the FTSE 100 and S&P 500 benchmarks do not impose limits in this regard.

### **4.3 Dividend adjustment policy**

Dividend adjustment is a crucial aspect in the calculation of stock benchmarks, particularly to ensure consistency and comparability over time. Dividends paid by companies to their shareholders can significantly impact share prices and, consequently, stock market benchmarks.

The policy adopted by the managers of the analysed benchmarks regarding dividends is similar across the board, except for the Dax. All benchmarks, except the German benchmark, are affected by the ordinary dividends distributed by their constituent companies, while adjustments are made for extraordinary dividends.

For the Dax 40, its administrator reinvests the ordinary dividends in the benchmark calculation. This is similar to the methodology used by other administrator for calculating total return benchmarks.

The Spanish benchmark, along with the Italian Mib 40, offers the highest dividend yield. The deduction of the ordinary dividend when calculating the benchmark penalises its revaluation, thus affecting the benchmark's performance. In summary, a high dividend yield can make it more challenging for the benchmark to trend upwards.

The benchmark with the lowest dividend yield is the US S&P 500, due to a preference for shareholder remuneration through shares and profit reinvestment rather than cash dividends.

To accurately interpret and compare the performance of benchmarks, it is recommended to analyse them in their total return version.

**Dividend yield of the analysed benchmarks. September 2023**

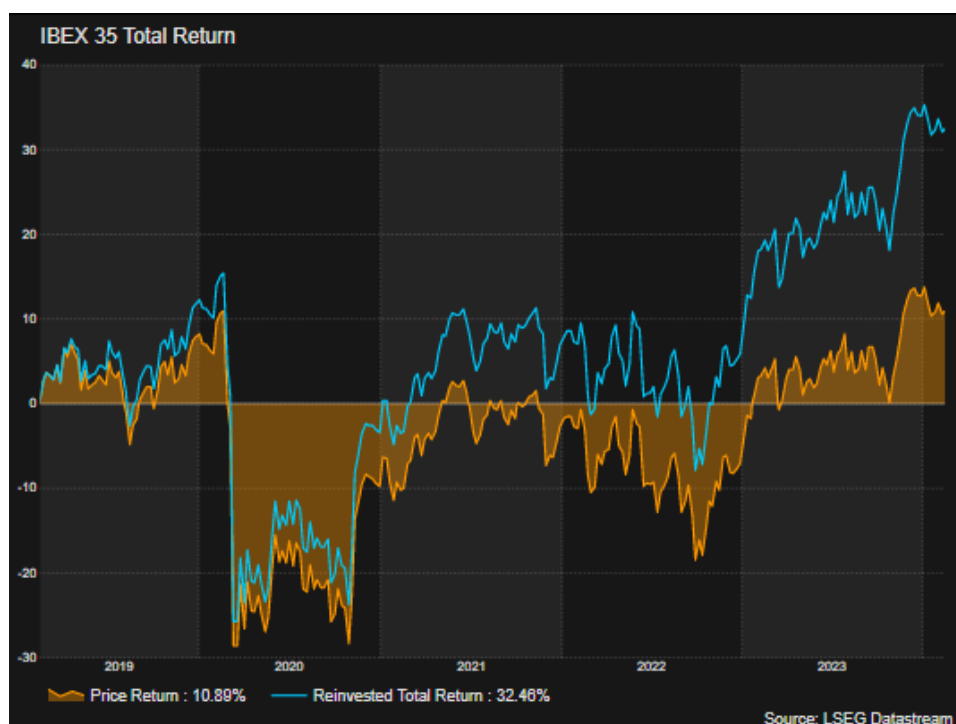
TABLE 13

Table of contents	Dividend yield (%)
Ibex 35	4.03
Dax 40	3.40
Cac 40	3.12
Mib 40	4.43
PSI 20	3.78
FTSE 100	3.82
S&P 500	2.05

Source: Reuters.

**Comparative performance of the Ibex 35 and the Ibex 35 Total Return**

FIGURE 2



#### 4.4 Fast entry/fast exit

All benchmarks offer the option to assess stock entries and exits at least quarterly.

In Europe, both the Dax 40 and the Ibex 35 have procedures for incorporating large companies that have recently started trading (fast entry).<sup>27</sup> However, these new additions do not occur automatically and are instead implemented during quarterly reviews.

<sup>27</sup> Although the technical rules of the Ibex 35 do not explicitly mention the concepts of fast entry/fast exit – unlike comparable benchmarks – the Ibex 35 does have similar mechanisms for incorporating newly listed securities.

The S&P 500 allows for the direct inclusion of companies that have conducted an initial public offering, without waiting for quarterly reviews.

For the Mib 40, a reserve list of stocks is prepared during the selection process for the benchmark. If any stock in the benchmark is removed, whether due to a corporate action or company bankruptcy, the administrator has the authority to replace it with a stock from the reserve list, without waiting for the quarterly reviews. Moreover, the administrator can conduct extraordinary reviews between the quarterly meetings to incorporate new securities.

#### **4.5 Independent committees**

All the benchmarks analysed have committees that perform the oversight function required by regulation. In all cases examined, except for the Cac 40 and the Ibex 35, these committees include members from the benchmark administrator itself. Only the committees of the Ibex 35 and the Cac 40 are composed exclusively of individuals independent of the administrator.

The degree of discretion these committees apply in their decisions varies, particularly regarding the selection of securities for inclusion in the benchmark calculation, as noted in

Section 3.3 above. The degree of discretion is virtually nil for the Dax 40, Mib 40, and PSI 20, whereas the advisory committees of both the Cac 40 and the S&P 500 exercise a greater degree of discretion, allowing them to select companies that are not strictly eligible based on the quantitative requirements.

## **5 Identification of possible areas for improvement in the Ibex 35 benchmark**

The results presented so far highlight some areas related to the determination of free float and the entry and exit criteria where improvements to the Ibex 35 benchmark could be beneficial to enhance its usefulness and comprehensibility for users. This section also explores potential improvements to the transparency of the benchmark.

### **5.1 Determination of free float**

In this area, possible enhancements have been evaluated regarding the accessibility of data needed for the calculation of free float, the potential alignment of participation percentages with those used by other benchmarks, and the advisability of using correction coefficients based on the tranche of free float in which the company falls.

## Data accessibility

As previously mentioned, the information that Sociedad de Bolsas uses to determine free float comes from the Register of Holders of Significant Shareholdings in Companies Issuing Securities, accessible through the CNMV's website.

Despite being sourced from an official register, this information has certain limitations regarding data accessibility. The primary drawback is the manual process the benchmark administrator must follow to obtain the information, which involves reviewing each company and each communication individually. This could potentially lead to calculation errors. Another significant issue is that this register does not allow digital links to be stored, necessitating the archiving of information in physical format.

The benchmark's technical standards also account for the reduction in free float due to direct shareholdings by members of company Boards of Directors, regardless of the number of shares. This data is also taken from the CNMV's Register of significant shareholdings. Currently, the administrator of the Ibex 35 no longer includes these holdings in the calculation of free float,<sup>28</sup> although it has not updated its technical regulations to reflect this change.

The technical challenges in obtaining the necessary information for calculating free float prevent the administrator from performing automatic rebalancing of the benchmark when capital increases occur, forcing a wait until the quarterly reviews. This automatic adjustment process is widely requested by market participants, as it benefits both passive management investors and issuers by maintaining the benchmark's representativeness and enhancing the visibility and liquidity of the company's shares. Therefore, there are opportunities for improvement in this area, particularly through further automation of the process.

## Thresholds for the consideration of significant shareholdings

The potential alignment of the threshold with European regulations, which define when a shareholding is considered significant, has been analysed for Ibex 35 companies as of July 2023. The analysis shows that out of the 14 companies with direct shareholdings between 3% and 5%, only one would change its range within the free float adjustment system. If the adjustment system maintains its current setup and excludes direct holdings below 5%, rather than below 3%, the benchmark capitalisation would be 0.07% higher compared to the current scenario. In other words, the benchmark capitalisation does not significantly change based on the threshold used for free float calculation.

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28 Since the entry into force of Law 5/2021, of 12 April, which promotes long-term shareholder engagement in listed companies and removes the obligation for Directors to notify transactions in shares or financial instruments – requiring them only to notify such transactions under the regime set by the Market Abuse Regulation – this information is no longer available through the CNMV Registry.

In this case, considering the variation in capitalisation is insignificant, the differences in the free float determination system do not appear to be crucial. Given that the current requirement for disclosing significant shareholdings is based on a 3% threshold as established by Royal Decree 1362/2007, the use of this benchmark by the benchmark administrator ensures the consistency and reliability of the information used to calculate free float, and consequently, the composition of the benchmark.

### Adjustment factors

Adjustment factors are another key component in the calculation of free float, unique to the Ibex 35 benchmark. These factors are designed to modify the weight of companies, increasing the weight of those with lower market capitalisation and decreasing the weight of those with higher market capitalisation.

To evaluate whether it would be beneficial to eliminate these adjustment factors, the current system has been compared with a calculation method based on actual free float, aligned with international standards (see Annex 1). The conclusions suggest retaining the adjustment factors, despite this not being a common practice among comparable benchmarks, as illustrated by the following results:

- The current system of adjustment factors in the Ibex 35 tends to boost the capitalisation of its constituents. Specifically, at the end of July 2023, the free float of the Ibex 35 under the current adjustment system was 34% higher than the actual free float.

At the company level, the use or elimination of the adjustment factor system has a significant impact. On one hand, the four largest companies would collectively see an increase of almost 4 percentage points in their benchmark weight under a system without adjustment factors, shifting from 48% to 52%. On the other hand, the use of adjustment factors increases the weight of an additional 25 companies, helping reduce the concentration of the benchmark in a few companies and enhancing the relative importance of smaller-cap companies.

By further reducing the weight of large-cap companies, the adjustment factor system aligns the Spanish benchmark more closely with the concentration levels observed in other European benchmarks. However, it still lags behind Anglo-Saxon benchmarks, which display lower corporate concentration. This difference is primarily due to the larger number of corporations included in the Anglo-Saxon benchmarks, which reduces the influence of individual companies and leads to a more equitable distribution of weight among them.

## Most capitalised companies by benchmark as of September 2023

TABLE 14

Ibex 35		Dax 40		Cac 40		PSI 20		FTSE 100		S&P 500	
Companies	%	Companies	%	Companies	%	Companies	%	Companies	%	Companies	%
Iberdrola	14	SAP SE	10	Louis Vuitton	16	EDP Energias	23	AstraZeneca	8	Apple Inc	7
Inditex	13	Siemens AG	7	L'Oreal	9	EDP Renovaveis	22	Shell	8	Microsoft	6
B. Santander	12	Airbus SE	7	Hermes	8	Jeronimo Martins	19	HSBC	6	Alphabet A	4
BBVA	9	Deutsche Tel.	6	Tot. Energ.	6	Galp Energia	13	Unilever	5	Alphabet B	4
Amadeus IT	6	Allianz	6	Sanofi	5	B. Com. Portugues	5	BP PLC	4	Amazon	3

Source: Reuters.

- The use of adjustment factors by the Ibex 35 has, as we have seen, a direct impact on the weight of companies in the benchmark and, consequently, on its sectoral composition.

The financial sector holds the greatest weight in the benchmark (20% of the companies making up the Ibex 35 are banks and insurance companies, accounting for more than 28% of its capitalisation). This characteristic results in a significant correlation between the performance of this sector and the overall benchmark performance. The adjustment factor system benefits companies in other sectors by decreasing the weight of the financial sector, thereby reducing this correlation. As shown in Table 15, the average difference between adjusted and real free float is 30% for companies outside the financial sector, whereas for financial services companies, this percentage is reduced to 22%.

## Sectoral distribution of the Ibex 35 as of July 2023

TABLE 15

Sector	Number of companies	Capitalisation with factors (euros)	Average weighting factor and actual free float (%)
Basic mats., industry and construction	8	78,475,517,389	30.82
Consumer services	4	31,217,981,812	35.34
Oil and energy	8	119,255,445,779	15.50
Financial services	7	141,979,179,863	22.06
Technology and telecommunications	3	50,868,392,850	32.29
Real estate services	2	6,512,993,284	35.38
Consumer goods	3	72,198,233,724	29.29

Source: Reuters.

The high concentration of the Ibex 35 around one sector is not a unique characteristic of the Spanish benchmark. In fact, some comparable benchmarks also display significant sectoral concentrations, such as the energy sector, which accounts for over 48% in the PSI 20, or the technology sector, which constitutes 42% of the S&P 500.

## Sectorial distribution of benchmarks as of September 2023

TABLE 16

%

Sector	Ibex 35	Dax 30	Cac 40	FTSE 100	S&P 500	PSI
Financial	24	15	8	19	7	5
Utilities	22	4	2	4	2	48
Consumer cyclical	19	19	33	8	12	0
Technology	13	27	6	3	42	2
Manufacturing	12	13	18	11	7	2
Commodities	4	8	5	12	2	8
Energy	4	1	6	12	4	13
Healthcare	2	11	9	13	12	0
Real estate	1	1	0	1	2	0
Consumer non-cyclical	0	2	13	17	9	21
<b>Most represented sector</b>	<b>24</b>	<b>27</b>	<b>33</b>	<b>19</b>	<b>42</b>	<b>48</b>

Fuente: Reuters.

## 5.2 Possible improvements in benchmark transparency

The criteria for the inclusion and exclusion of securities are considered adequate. However, there is room for improvement in the public information provided by Sociedad de Bolsas regarding these criteria. Specifically, other benchmarks have adopted the good practice of including specific sections in their technical rules under the term “fast entry”, which outline the criteria for the inclusion of securities that have recently started trading, as well as the accompanying exclusions. This is a practice that the Ibex 35 administrator could consider adopting. Including examples, as done by other administrators, can also be seen as a good practice.

Since they are not practically considered, it is advisable to remove from the benchmark’s technical rules the consideration of the shareholdings of members of the management bodies in the calculation of free float.

Although the rules on the composition of the Ibex 35 include a clear and assessable quantitative criterion, the capitalisation metric does not clearly define the eligibility factors based on liquidity. This may lead to doubts about the degree of discretion exercised by the TAC in selecting the securities that comprise the benchmark. Reference could be made to the approach used by other benchmark administrators, such as the Mib 40, which in its methodological document details the step-by-step process for selecting the basket of securities that make up the benchmark. Additionally, considering the use of examples, as is done for the FTSE 100, could also be beneficial.

The administrator’s website could be enhanced to improve accessibility, navigability, and ease of finding the criteria and rules for benchmark calculation. Additionally, it would be beneficial to include content that aids understanding, such as clear, concise summaries of the criteria and technical rules for benchmark calculation.

This information can be presented not only in written form but also through other formats, such as short videos, to increase visibility and facilitate understanding and use.

Regarding the accessibility of data on significant shareholdings, the administrator could request that the CNMV provide this information in a digital, exportable, and easy-to-handle format. This would help reduce the risk of errors and the costs associated with manual processing. To ensure compliance with data protection regulations, it may be advisable to exclude personal information and restrict exportable data to just percentage shares. This can be achieved by assigning codes to holders instead of revealing their personal details. Such a measure would also facilitate the automatic or more frequent rebalancing of the benchmark.

Finally, to enhance investors' overall understanding of the Ibex 35, the benchmark of the Spanish stock market, educational materials could be published. These could take the form of fact sheets or quick guides and be made available in both print and audiovisual formats.

## 6 Conclusions

Based on the above, it can be concluded that the Ibex 35 is comparable to its European and Anglo-Saxon peers, maintaining a similar level of representativeness and internationalisation. Additionally, the sectoral diversification, market capitalisation of the companies included in the benchmark, market liquidity, and the weighting of the benchmark's shares show significant similarities with those of its European and Anglo-Saxon peers.

The benchmark's methodology is robust and aligns with that of other major comparable stock market benchmarks. However, there are certain areas for improvement, particularly with regard to the accessibility and clarity of the information and the technical standards used for its calculation.

Among the identified improvements, we propose actions to facilitate the collection and processing of data necessary for the benchmark's calculation, as well as to enhance the general understanding of the Ibex 35, the benchmark of the Spanish stock market, among investors.

This report and the proposals it contains form part of the CNMV's strategic efforts to enhance and strengthen capital markets. The objective is to improve the competitiveness and attractiveness of Spanish securities markets, thereby bolstering their capacity for corporate financing with maximum assurances for investors.



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## Annex 1 Securities forming part of the Ibx 35 as of 31 July 2023. Actual capitalisation and adjusted capitalisation

Company	Adjustment factor applied (%) (1)	Free float (%) (2)	Total number of shares (3)	Price per share (4)	Capitalisation calculated with actual free float (€) (2) * (3) *(4)	Capitalisation calculated with adjustment factors (€) (1) * (2) * (3)	Percentage difference between the two methods (%)
IBERDROLA	100	82.94	6,350,278,000	11.355	59,805,883,109	72,107,406,690	20.60
INDITEX	60	35.11	3,116,652,000	34.81	38,094,324,083	65,094,393,672	70.90
B. SANTANDER	100	91.88	16,184,146,059	3.684	54,782,248,130	59,622,394,081	8.80
BBVA	100	94.52	5,965,473,005	7.21	40,654,054,258	43,011,060,366	5.80
AMADEUS IT	100	74.24	450,499,205	65.22	21,811,987,324	29,381,558,150	34.70
CELLNEX	100	61.66	706,475,375	37.14	16,178,656,281	26,238,495,428	62.20
TELEFÓNICA	100	85.51	5,750,458,145	3.877	19,063,157,597	22,294,526,228	17.00
FERROVIAL SE	100	61.07	732,494,678	30.14	13,483,544,921	22,077,389,595	63.70
CAIXABANK	80	49.42	7,502,131,619	3.669	13,603,839,353	22,020,256,728	61.90
REPSOL	100	91.45	1,277,396,053	13.9	16,237,683,798	17,755,805,137	9.30
AENA	80	42.96	150,000,000	145.4	9,369,576,000	17,448,000,000	86.20
INT.AIRL.GRP	100	71.80	4,971,476,010	1.992	7,110,681,456	9,903,180,212	39.30
ACS CONST.	100	66.25	278,164,594	31.79	5,858,212,887	8,842,852,443	50.90
ENDESA	40	29.90	1,058,752,117	19.485	6,168,099,417	8,251,914,000	33.80
REDEIA	100	70.46	541,080,000	15.205	5,796,994,281	8,227,121,400	41.90
B. SABADELL	100	83.52	5,626,964,701	1.119	5,258,709,290	6,296,573,500	19.70
ACCIONA	80	41.86	54,856,653	136.35	3,131,303,549	5,983,763,709	91.10
GRIFOLS	100	57.27	426,129,798	13.35	3,257,937,658	5,688,832,803	74.60
NATURGY	20	15.03	969,613,801	27.74	4,042,901,123	5,379,417,368	33.10
BANKINTER	100	68.48	898,866,154	5.878	3,618,006,435	5,283,535,253	46.00
ARCELOR MITTAL	20	14.18	852,809,772	26.315	3,181,782,688	4,488,337,830	41.10
ENAGÁS	100	79.26	261,990,074	16.135	3,350,528,794	4,227,209,844	26.20
MERLIN PROPERTIES	100	67.56	469,770,750	8.47	2,688,144,406	3,978,958,253	48.00
MAPFRE	60	32.28	3,079,553,273	1.891	1,879,630,192	3,494,061,144	85.90
FLUIDRA	80	42.62	192,129,070	20.12	1,647,418,473	3,092,509,511	87.70
LOGISTA	80	41.74	132,750,000	25.32	1,403,111,851	2,688,984,000	91.60
COLONIAL	80	41.69	539,615,637	5.87	1,320,549,006	2,534,035,031	91.90
ACERINOX	100	73.00	259,724,345	9.572	1,814,814,583	2,486,081,430	37.00
INDRA	100	55.95	176,654,402	13.22	1,306,710,244	2,335,371,194	78.70
UNICAJA	80	45.51	2,654,833,479	1.06	1,280,707,599	2,251,298,790	75.80
SACYR	100	60.26	683,083,887	3.108	1,279,271,006	2,123,024,721	66.00
ACCIONA RENOVABLES	20	17.37	329,250,589	28.62	1,636,613,015	1,884,630,371	15.20
SOLARIA	80	49.62	124,950,876	14.225	881,976,660	1,421,940,969	61.20
ROVI	60	39.75	54,016,157	43.66	937,489,469	1,415,007,249	50.90
MELIÁ HOTELES	80	42.13	220,400,000	6.68	620,282,916	1,177,817,600	89.90

Source: BME and CNMV.



## Annex 2 Comparative analysis of the methodologies used to calculate the benchmarks

Benchmark name	Ibex 35	Dax 40	Cac 40	Mib 40	PSI 20	FTSE 100	S&P 500
Definition	Benchmark composed of the 35 most liquid shares traded on the Sistema de Interconexión Bursátil (SIBE), covering the four Spanish stock exchanges.	Benchmark featuring the top 40 companies listed on the Regulated Market of the Frankfurt Stock Exchange, based on market capitalisation and profitability.	Consists of the 40 leading companies by market capitalisation and liquidity, selected from those listed on Euronext Paris or those that, despite not having Euronext Paris as their primary market, meet specific criteria such as significant operations in France or substantial derivatives trading volumes in Paris.	Benchmark of the 40 largest and most liquid stocks listed on the Italian Stock Exchange.	Includes the 18 largest companies listed on Euronext Lisbon, along with up to two additional companies.	Benchmark of the 100 largest UK companies by market capitalisation, listed on the London Stock Exchange.	Comprises the 500 largest companies by market capitalisation in the United States, listed on one of the following markets: NYSE, NYSE Arca, NYSE American, Nasdaq Global Select Market, Nasdaq Select Market, Nasdaq Capital Market, Cboe BZX, Cboe BYX, Cboe EDGA or Cboe EDG.
Type of benchmark	Weighted by capitalisation.	Weighted by capitalisation.	Weighted by capitalisation.	Weighted by capitalisation.	Weighted by capitalisation.	Weighted by capitalisation.	Weighted by capitalisation.
Discretion of the Independent Committee	With decision-making power.	Does not make binding decisions.	Any decision to supplement, amend, review, or withdraw the benchmark rules requires approval.	Under certain conditions, there is some discretion to modify the composition of the benchmark. However, the term "exceptional circumstances" is not explicitly defined.	Any decision to supplement, amend, review, or withdraw the benchmark rules requires approval.	Does not make binding decisions.	With decision-making power.

Benchmark name	Ibex 35	Dax 40	Cac 40	Mib 40	PSI 20	FTSE 100	S&P 500
Composition of the Independent Committee	Composed of a minimum of five and a maximum of nine members. They are all independent.	Composed of four members belonging to the Deutsche Börse Group and 5 members representing Stoxx Ltd. (of which 2 have no voting rights).	Composed of a minimum of five and a maximum of twelve members. For their selection, their independence is assessed.	Its members include the Head of Regulatory Compliance and Risks and the FTSE Legal Department.	Composed of four persons belonging to Euronext (Head of Risk and Compliance, and three other members preferably belonging to the Regulatory/ Government Affairs, Compliance and Finance departments).	Its members include the Head of Regulatory Compliance and Risks and the FTSE Legal Department.	All committee members are full-time, professional employees of S&P Dow Jones Benchmarks.
Benchmark admission criteria	<ul style="list-style-type: none"> <li>- The average market capitalisation of the security must exceed 0.30% of the average market capitalisation of the benchmark during the control period.</li> <li>- Liquidity quality is assessed based on trading volume, trade characteristics and sizes, statistics related to volumes and trading activity, spread quality, turnover rates, and other liquidity measures.</li> </ul>	<p>Companies traded on the German Xetra platform are selected if they meet the following criteria:</p> <ul style="list-style-type: none"> <li>- The company must have a minimum free float of 10%.</li> <li>- The security must have been listed for at least 30 trading days.</li> </ul>	<p>A ranking of companies traded on the Euronext Paris platform (which may also trade on other platforms) based on the following criteria:</p> <ul style="list-style-type: none"> <li>- Capitalisation at the time of the review.</li> <li>- Trading volume over the last 12 months.</li> <li>- Stock turnover should exceed 20% or 30%, depending on the review, and for companies already included in the benchmark, it should be at least 10%.</li> </ul>	<p>The securities will be selected by creating a ranking based on the following criteria:</p> <ul style="list-style-type: none"> <li>- Market capitalisation of the company on the review date. A requirement to have a free float greater than 5%.</li> <li>- Voting rights held by shareholders considered as part of the free float.</li> <li>- Liquidity assessed based on the trading volume of the shares over the last six months and the number of trading days during the review period.</li> </ul>	<p>Companies with a trading volume of at least 15% of their free float will be eligible, although this threshold may be reduced to 10% in certain cases. A ranking of companies meeting this criterion will be compiled based on:</p> <ul style="list-style-type: none"> <li>- The market capitalisation of the companies on the review date.</li> </ul>	<p>To be included in the benchmark, the following conditions must be met:</p> <ul style="list-style-type: none"> <li>- The share price must be accurate and reliable.</li> <li>- At least 5% of the voting rights must be held by non-permanent shareholders.</li> <li>- The company must have a free float of at least 10% for UK companies and 25% for foreign companies. Any company with a free float of 5% or less will not be eligible.</li> </ul>	<p>Benchmark values will be selected based on the following parameters:</p> <ul style="list-style-type: none"> <li>- Capitalisation. A minimum access capitalisation is not defined.</li> <li>- Liquidity assessed based on the closing price of the security by the trading volume divided by the capitalisation of the company. This parameter must exceed certain thresholds. However, the composition of the benchmark is subject to the discretion of the Committee, which will also take into account factors such as sector diversity.</li> </ul>

Benchmark name	Ibex 35	Dax 40	Cac 40	Mib 40	PSI 20	FTSE 100	S&P 500
Benchmark admission criteria		<ul style="list-style-type: none"> <li>- Minimum liquidity criterion: If a company is not currently included in the benchmark, its trading volume must exceed €1 billion or it must have a turnover ratio of at least 20%. For companies already in the benchmark, the trading volume must exceed €800 million over the last 12 months or show a turnover ratio of 10%.</li> <li>- Companies must regularly publish specific financial information.</li> <li>- For companies not yet part of the Dax, a positive EBITDA is required for the two most recent fiscal years.</li> </ul>	If justified by user interest, companies that do not meet the ranking criteria may still be included in the benchmark.	An algorithm has been developed to compile this ranking.	<p>The 18 largest companies from the developed ranking will be selected, provided their market capitalisation exceeds €100 million. Additionally, the 2 highest-ranked companies from positions 19 to 22 in the ranking will be selected, with preference given to companies that are already part of the benchmark.</p> <p>If fewer than 20 eligible companies meet the minimum liquidity and capitalisation criteria, the benchmark will consist of only 18 companies.</p>	<ul style="list-style-type: none"> <li>- A minimum share turnover is required. For those companies that meet the above requirements, a ranking will be made based on market capitalisation.</li> </ul>	

Benchmark name	Ibex 35	Dax 40	Cac 40	Mib 40	PSI 20	FTSE 100	S&P 500
Benchmark admission criteria		For all companies that meet the above criteria, a ranking is created based on: – The average market capitalisation over the last 20 trading days (30 days for newly listed companies on the Frankfurt Stock Exchange).					
Benchmark reviews	Quarterly.	Quarterly. – There is the possibility of an extraordinary review in the event that a company, due to insolvency, no longer meets the minimum criteria.	Quarterly.	Quarterly.	Quarterly.	Quarterly.	Quarterly.



Benchmark name	Ibex 35	Dax 40	Cac 40	Mib 40	PSI 20	FTSE 100	S&P 500
Benchmark fast entry and exit	Yes, but not expressly defined in the technical rules.	Yes.	Yes.	Yes. If a company exits the benchmark (due to acquisition, bankruptcy, etc.), its replacement can be carried out outside the quarterly reviews. During these reviews, a reserve list of stocks is created for such situations. Additionally, there is a fast-track entry procedure into the benchmark, but this must wait until the quarterly reviews. In exceptional cases, extraordinary reviews may be conducted to incorporate a new security.	Yes.	Yes.	Yes.
Captive capital	Captive capital is considered to include: – Direct stakes of 3% or more of the capital. – Direct stakes held by members of the Board of Directors, regardless of their size.	Capital held by shareholders with at least 5% of the capital, except for asset managers, pension funds, and other investment firms.	Capital held by shareholders with at least 5% of the capital, unless they are collective investment schemes, in which case they are considered captive capital if they hold 5% or more and have representation on the Board of Directors. Additionally, the following are also considered captive capital:	Generally, there are no specific thresholds defining captive capital, but the focus is on the type of shareholder and the nature of their investment. Investments with a minimum holding period and shares held by employees (including family members and direct relations) or by public entities are excluded from the free float.	As a general rule, a holding exceeding 5% of the share capital is considered captive capital, unless held by collective investment schemes, in which case it is considered captive capital if they hold 5% or more and have representation on the Board of Directors. Captive capital is considered to include:	Generally, there are no specific thresholds defining captive capital, but the focus is on the type of shareholder and the nature of their investment. As a result, investments with a minimum holding period and shares held by employees or public entities, among others, are excluded from free float.	A captive shareholding is considered to be one held by any natural person greater than 5%. The methodology lists the subjects that could be considered strategic shareholders, whose shares should be excluded, although this list is not limited.

Benchmark name	Ibex 35	Dax 40	Cac 40	Mib 40	PSI 20	FTSE 100	S&P 500
Captive capital			<ul style="list-style-type: none"> <li>- Groups of shareholders who collectively hold at least 5% of a company's shares.</li> <li>- Employee share ownership schemes and employee pension plans, individual employees, managers, or Board members of the company in question where their combined shareholding is 5% or more.</li> <li>- Shares held by the company itself when they represent at least 5%.</li> </ul>		<ul style="list-style-type: none"> <li>- Groups of shareholders who collectively hold at least 5% of a company's shares.</li> <li>- Employee share ownership schemes and employee pension plans, individual employees, managers, or Board members of the company in question where their combined shareholding is 5% or more.</li> <li>- Shares held by the company itself when they represent at least 5%.</li> </ul>		
Weighting	No single security can represent more than 20% of the benchmark's capitalisation.	No single security can represent more than 10% of the benchmark's capitalisation.	No single security can represent more than 15% of the benchmark's capitalisation.	No single security can represent more than 15% of the benchmark's capitalisation.	No single security can represent more than 12% of the benchmark's capitalisation.	There is no limit to a company's exposure to the benchmark.	There is no limit to a company's exposure to the benchmark.