

**TECHNICAL RULES FOR THE COMPOSITION, CLASSIFICATION BY
SECTORS AND CALCULATION OF THE IGBM FAMILY OF INDICES**

Version 10.0 (January, 2019)

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HISTORY OF CHANGES

- **January 2019:**
 - **Reorganization Sectorial and Subsectorial Indices due to changes in Spanish Exchanges Unified Sector Classification.**
 - **Adaptation of the Technical Rules for the Benchmark European Regulation compliance.**

TECHNICAL RULES FOR THE COMPOSITION, CLASSIFICATION BY SECTORS AND CALCULATION OF THE IGBM INDICES.

1.- INTRODUCTION

This document sets out the technical rules for the composition, classification by sectors and calculation of the Bolsa de Madrid General Index (IGBM), calculated by the Governing Body of the Bolsa de Madrid. The first draft of these rules is of January 2, 2002. Since that date the rules have been regularly updated.

These rules are for all the IGBM indices, both for price indices as well as profitability indices. Any changes to the rules have to be approved by the Board of Directors of the Governing Body of the Bolsa de Madrid, following a report to the IGBM Management Committee, and come into effect on the agreed date. The present Technical Regulations are reviewed periodically and at least every year.

The agreements taken at ordinary meetings will be made public and will come into effect on the first trading day of the natural six-month period, unless there has been an extraordinary meeting of the Management Committee from which arises a change in the composition. In this case, the new composition comes into effect on the agreed date, and will be then made public.

2. IGBM's Indices

The IGBM index family is designed to represent in a widely manner and in real-time the evolution of the stocks listed in the Spanish Stock Exchange and for its use as an underlying index for benchmarking in financial products. For these purposes, it constitutes an active market, when exchanging homogeneous goods, being a liquid market with transparent prices based on real transactions.

The IGBM indices are divided into two series: the first corresponds to all the series of price indices and the second to performance indices (i.e. taking into account reinvestments in the same stocks at the very time when dividends are distributed and capital increases take place). Composition and weightings are the same for price and performance indices.

- Price indices:

- A) IGBM
- B) Indices for sectors and subsectors:

- 1. *Oil and Energy*

- 1.1 Oil
 - 1.2 Electricity and Gas
 - 1.3 Water and others

- 2. *Basic materials, industry and construction*

- 2.1 Minerals, metals and conversion metallic products
 - 2.2 Manufacture and assembly of capital goods

- 2.3 Construction
- 2.4 Construction materials
- 2.5 Chemical industry
- 2.6 Engineering and others
- 2.7 Aerospace

3. *Consumer goods*

- 3.1 Food and beverages
- 3.2 Textile, clothing and footwear
- 3.3 Paper and graphic arts
- 3.4 Automobile
- 3.5 Pharmaceutical products and biotechnology
- 3.6 Other consumer goods

4. *Consumer Services*

- 4.1 Leisure, tourism and hotel trade
- 4.2 Commerce
- 4.3 Media and advertising
- 4.4 Transportation and distribution
- 4.5 Freeways and parking lots
- 4.6 Other services

5. *Financial Services*

- 5.1 Banks and Saving Banks
- 5.2 Insurance
- 5.3 Portfolio and holding companies
- 5.4 Investment services

6. *Technology and telecommunications*

- 6.1 Telecommunications and others
- 6.2 Electronics and Software
- 6.3 Technological hardware and equipment

7. *Real Estate Services*

- 7.1 Estate Agents and Others
- 7.2 SOCIMI (REITS)

- Performance Indices:

- A) Total IGBM
- B) Total sectorial and subsectorial indices

8. *Total Oil and Energy Index*

- 8.1 Total Oil Index
- 8.2 Total Electricity and gas Index
- 8.3 Total Water and others Index

9. *Total Basic Materials, industry and construction Index*

- 9.1 Total Minerals, metals and conversion of metallic products Index
- 9.2 Total Manufacture and assembly of capital goods Index
- 9.3 Total construction index
- 9.4 Total construction materials index
- 9.5 Total Chemical industry index
- 9.6 Total Engineering and others
- 9.7 Total Aerospace index

10. Total Consumer Goods Index

- 10.1 Total Food and beverages Index
- 10.2 Total Textiles, clothing and footwear Index
- 10.3 Total Paper and graphic arts Index
- 10.4 Total Automobile Index
- 10.5 Total Pharmaceutical products and biotechnology Index
- 10.6 Total Other consumer goods Index

11. Total Consumer Services Index

- 11.1 Total Leisure, tourism and hotel trade Index
- 11.2 Total Commerce Index
- 11.3 Total Media and advertising Index
- 11.4 Total Transportation and distribution Index
- 11.5 Total Freeways and parking lots Index
- 11.6 Total Other services Index

12. Total Financial Services Index

- 12.1 Total Banks and Saving Banks Index
- 12.2 Total Insurance Index
- 12.3 Total Portfolio and Holding Index
- 12.4 Total Investment Services Index

13. Total Technology and Telecommunications Index

- 13.1 Total Telecommunications and others Index
- 13.2 Total Electronics and Software Index
- 13.3 Total Technological hardware and equipment Index

14. Total Real Estate Services

- 14.1 Total Estate Agents and Others
- 14.2 Total SOCIMI (REITS)

3.- IGBM INDEX MANAGEMENT COMMITTEE

The Management Committee responsible for the IGBM Indices consists at least of five members, and their functions are as follows:

- 1°.- Ensuring that the Indices are calculated in accordance with prevailing technical rules.
- 2°.- Holding half-yearly meetings to decide on the composition of the IGBM for the following six months.

- 3°.- Holding extraordinary meetings, whenever necessary.
- 4°.- Drawing up a report, which must be approved by the Board of the Governing Body, if it is necessary to change the technical rules for calculating the IGBM indices.

The General Co-ordinator of the Management Committee is responsible for calling ordinary (every six months) or extraordinary meetings, in the week prior to the last one of the six months in the first case, and the date set in the event of an extraordinary meeting.

The Committee's decisions, at both ordinary and extraordinary meetings, are published no later than 48 hours before the date new composition begins, and come into effect on the first half of the natural six-month period, in the case of ordinary meetings, and on the date agreed, in the event of extraordinary meetings.

The Committee's members are appointed by the Board of the Governing Body of the Bolsa de Madrid. The Committee will be made of at least five members, who belong to different areas representative of the Spanish Stock Exchanges.

The task of the technician is to unify the technical supervision of the indices and thus ensure the correct working of the processes (both those that affect the calculation of Indices and the dissemination of information, as the information provided at the Bolsa de Madrid website). This person will co-ordinate everything to do with this group of indices with the various teams involved in the IT area.

4. COMPOSITION, CLASSIFICATION AND CALCULATION OF THE IGBM INDICES

4.1 Selection of the IGBM securities

All securities admitted to trading in Bolsa de Madrid may be eligible to be part of IGBM. This index is not made up of a fixed number of securities as its number varies. At each six-monthly meeting all those securities that fulfil all the requirements are admitted and those that no longer do so are excluded.

Selection criteria:

- A.- At each ordinary (six-monthly) meeting, all securities that meet the following liquidity criteria, with regard to the previous six months, will join the IGBM:
 - 1°.- Trading volume of more than EUR 3 million.
 - 2°.- Turnover velocity of more than 10% of capitalisation on an annual basis taken into consideration only the equity capital in free float.
 - 3°.- Trading frequency of more than 50% .
- B.- At the extraordinary meetings, those securities who, in the Committee's view, are likely to meet the requirements can join the IGBM before the next six-monthly definition. The Committee will particularly take into account:

- b.1.- The relative share of the security in the sector and subsector to which it belongs
- b.2.- Volume and dissemination of the placement, where appropriate.

The decisions will take effect as of the first day of trading in the six-month period (in the case of ordinary meetings) and on the date agreed (for extraordinary meetings).

The management committee will take decisions on admission or exclusion of companies when it deems convenient and under special circumstances which are not specified on the prior specifications. The management committee will then publish the corresponding reports.

4.2. IGBM calculation method

4.2.1 Calculation of weightings: capitalisation adjustments

The weighting of each company is calculated on the basis of the market capitalisation on the last day of the preceding six-month period. The following adjustments are taken into account:

A).- Capitalisation adjustment of Spanish securities in the IGBM:

From July 2008 onwards, in order to calculate the weighting of a security in the IGBM, the percentage of free-float will be taken into account, rounding it up to the higher tens (ex. If a company has a free-float value of 29, 23%, it will be adjusted to a weighting of 30% of its capitalisation in the IGBM). The resulting figure will be the adjusted capitalisation of the company.

In order to determine the “free-float” the Management Committee will take into account the Registry for Significant Shareholdings of the Spanish Securities Markets Supervisory Authority (CNMV). This Registry records the direct significant shareholdings that have been communicated to the Supervisor; those that are considered as indirect significant shareholdings and show special circumstances in the shareownership of the company; and relevant facts that involve changes in the free-float of the company.

In this way, distortion in the weighting and free float of companies will be avoided.

B).- Weightings of sectors and subsectors:

In order to calculate the weighting of sectors and subsectors in the IGBM, the adjusted capitalisation of IGBM companies is taken into account.

C).- Adjustments for foreign securities:

Companies that are listed, not just in the Spanish market but in another market, are given special treatment, according to the following cases:

- a) Most of the trading is in the Spanish market. When a security trades more than 50% of its total volume on shares in the Spanish market, the security is regarded as any other domestic securities.
- b) If the trading volume in the Spanish market is less than 50% of the total, the security is included in the IGBM provided the trading meets the minimum requirements but its weighting is limited to the percentage that its trading volume in Spain represents over the total world trading volume, whenever the percentage is no less than 1%. If the trading volumes are not expressed in a whole number, the figure will be rounded off to the following whole number and the percentages will be updated every six months coinciding with the extraordinary meeting of the IGBM Management Committee.

For example, if a foreign security fulfils the minimum requirements and the trading volume in Spain represents the 3.45% of the world trading volume, the company will be admitted in the index and the weighting of the company will be calculated by rounding off the percentage of its trading volume in Spain to the following round number, a 4% in this case.

4.2.2 Phases of the calculation of weightings:

1°.- Weighting of the security in the subsector: it is calculated as the corrected capitalisation, divided by the sum of all the corrected capitalisations of the subsector's companies selected to form part of the IGBM.

2°.- Weighting of the subsector in the sector: obtained by dividing the subsector's total capitalisation into that of the sector, on the basis of all the listed companies at that time.

3°.- Weighting of the sector in the IGBM: obtained by dividing the capitalisation of all the listed companies in the sector into the total capitalisation of the Bolsa de Madrid at that date.

The formulas for calculating the weightings are as follows:

$$Weighting_{i-en-SSj} = \frac{C_i}{\sum C_{SSJ-SELECTED}}$$

$$Weighting_{SSj-en-Sj} = \frac{C_{SSJ-IGBM}}{\sum C_{SJ-IGBM}}$$

$$\text{Weighting}_{i-en-Sj} = \frac{\text{Weighting}_{i-en-SSJ} * \text{Weighting}_{SSj-en-Sj}}{100}$$

$$\text{Weighting}_{Sj-en-IGBM} = \frac{C_{SJ-IGBM}}{C_{TOTAL-IGBM}}$$

$$\text{Weighting}_{i-en-IGBM} = \frac{\text{Weighting}_{i-en-SJ} * \text{Weighting}_{Sj-en-IGBM}}{100} = \frac{\text{Weighting}_{i-en-SSJ} * \text{Weighting}_{SSj-en-Sj} * \text{Weighting}_{Sj-en-IGBM}}{10000}$$

' where:

- Weighting_{i-in-SSj} : Weighting of security i in subsector j..
 C_i : Capitalisation of i
 C_{SSJ-SELECTED}: Capitalisation of the companies of subsector J, selected for the IGBM.
 Weighting_{SSj-in-SJ} : Weighting of subsector J in sector J.
 C_{SSJ-BM} : Total capitalisation of subsector J in the Bolsa de Madrid.
 C_{SJ-BM} : Total capitalisation of sector J in the Bolsa de Madrid.
 Weighting_{i-in-SJ} : Weighting of i in sector J.
 Weighting_{i-in-SSJ} : Weighting of i in subsector J.
 Weighting_{SSj-in-Sj} : Weighting of subsector J in sector J.
 Weighting_{Sj-in-IGBM}: Weighting of sector J in the IGBM.
 C_{TOTAL-BM} : Total capitalisation of all Bolsa de Madrid listed companies
 Weighting_{i-in-IGBM} : Weighting of i in the IGBM.

NOTE: In all cases – security, subsector, sector or IGBM – the capitalisation is the adjusted capitalisation.

4.2.3 Calculation of the IGBM

1°.- In order to calculate the IGBM on a daily basis, the daily indices of each IGBM listed security are used. The Index Value, with 100 base, is the quotient between the daily price and the so-called reference price, which is the price at the close of the day prior to the change in the composition of the IGBM (31/12 and 30/06 in the case of the Committee's ordinary meetings).

2°.- As a general reference, the price will be that at which the last transaction was completed on the Spanish Stock Exchange Interconnection System. Nonetheless:
 - The closing price of the securities will be the price established in the Regulations for Trading on the Spanish Stock Exchange Interconnection System.

- Where a security is suspended from trading for whatever reason (takeover bid, etc.), the valid price to be taken for the calculation of the Index shall be the price at which the last transaction was made prior to the suspension of the security in question. Following the closing of the market, the closing price will be calculated in accordance with the above paragraph.

- In market stress situations that affect all or part of the constituent securities, the Index will be calculated as established in the preceding paragraphs.

3°.- The indices of the subsectors are the sum of the indices of companies weighted by their share in the subsector.

4°.- The sector's index is the sum of the subsectors' indices weighted by the share of each subsector in the sector.

5°.- The IGBM is the sum weighted by the share of each sector in the IGBM of the sectorial indices.

This gives an IGBM figure with a 100 base, which is then linked to the series of the corresponding index.

In the sequence of calculations, the following formulas are applied:

$$I_i = \frac{P_i}{P_{REF-i}} * 100$$

$$ISS_j = \sum I_i * Weighting_{i-en-j}$$

$$IS_j = \sum ISS_j * Weighting_{SSj-en-Sj}$$

$$IGBM = \sum IS_j * Weighting_{j-en-IGBM} = \sum \frac{P_i}{P_{REF-i}} * Weighting_{i-en-IGBM}$$

'where:

I_i :	Index of company i
P_i :	Price of i
P_{REF-i} :	Reference price of i
ISS_j :	Subsector index J
$Weighting_{i-in-SSj}$:	Weighting of i in subsector j.
$Weighting_{SSj-in-Sj}$:	Weighting of subsector j in sector j.
IS_j :	Index of sector j
$Weighting_{Sj-in-IGBM}$:	Weighting of sector j in the IGBM.
$Weighting_{i-in-IGBM}$:	Weighting of i in the IGBM.

4.2.4 Daily adjustments for operations that affect IGBM listed companies

With reference to corporate actions that may be carried out by companies with securities listed on IGBM, dividends paid by companies will not be taken into account for the daily calculation of the index. However, capital increases, or merges and acquisitions between two IGBM companies belonging to the same subsector, or splits will be taken into account for the daily calculation of the index.

If a corporate action carried out by one or more IGBM companies requires adjustments not described on these Technical Rules, the Management Committee may approve new adjustments.

4.2.4.1. Dividends

The index is not adjusted for dividends

4.2.4.2. Adjustments for capital increases

$$EDS = \frac{P_a}{P_d}$$

The reference price of the company, which has carried out a capital increase, is corrected by the effect of the subscription right, through the following calculations:

$$V_{tco} = N * \frac{(P_a - P_n - d)}{(N + V)}$$

$$P_d = P_a - V_{tco}$$

With;

ESR: Effect of the Subscription Right

P_a : Price before the capital increase

P_d : Price after the increase

V_{tco} : Theoretical value of the subscription.

P_n : Price of the new share

d : difference of dividends between the old and new shares

N : Number of new shares

V : Number of old shares

The new reference price, as of the day when the market discounts the price of the theoretical value of the subscription right, is the reference price of the previous day divided by the effect of the subscription right.

$$P_{R-N} = \frac{P_{R-A}}{EDS}$$

N_{R-P}: New reference price
 ORP: Old reference price
 ESR: Effect of subscription right

4.2.4.3 Adjustments for merger/absorption of companies:

Both in the case of mergers between two or more companies as well as the absorption by one company of others, at least for technical purposes, one of them is always regarded as the dominant party. In both cases, there is an identical technical adjustment of the Index, and the weighting of the resulting security is the sum of the previous

$$Weighting_{REF-N} A = \frac{P_A * (Weighting_A + Weighting_B)}{\left(\frac{Weighting_A * P_A}{P_{REF} A}\right) + \left(\frac{Weighting_B * P_B}{P_{REF} B}\right)}$$

weightings of the two securities. The new reference price of the dominant security is:

where:

A: Absorbing company
 B: Absorbed company
 P_{REF-N} A: New reference price of A.
 P_{REF} A: Former reference price of A.
 P_{REF} B: Former reference price of B.
 P_A: Price of A.
 P_B: Price of B.
 W_A: Latest weighting of A.
 W_B: Latest weighting of B.

Depending on the former sector/subsector of the securities involved, the following cases can arise:

A.- All companies belong to the Index:

A.1.- *The companies belong to the same sector/subsector:*

The weighting of the resulting company is the sum of the weightings that the securities involved had before the merger. The weightings of the securities in the subsector change, although the sum remains 100, and the share of the subsectors in the sector and the sectors in the IGBM remain unchanged.

The adjustment of the index will take effect the day following the corporate action.

A.2.- The companies belong to the same sector, but to a different subsector:

The dominant company determines the subsector of the resulting company. This, logically, changes the weightings of the companies of both subsectors and of the subsectors in the sector, but not that of the sector in the IGBM.

A.3.- The companies belong to different sectors:

The dominant company will determine the sector/subsector of the resulting company. This, logically, changes the weightings of the securities of both subsectors and of the subsectors in the sectors, as well as that of the sectors in the IGBM.

B.- One company belongs to the Index and not the other:

The resulting company logically forms part of the IGBM and is classified in the sector/subsector of the former company.

In cases A.2, A.3 and B, the IGBM Management Committee will decide the date for the technical adjustment of the index.

4.2.4.4 *Adjustments for splits or reversal splits:*

When the split becomes effective, the base reference price for calculating the company's index is multiplied by the inverse of the factor or the proportion of the split. When the reversal split becomes effective, the base reference price for calculating the company's index is multiplied by the factor or the proportion of the split.

4.2.4.5 *Suspension or exclusion from trading:*

When a security belonging to the IGBM is suspended or excluded from trading, during the time of the suspension, in the first case, or until the next revision, in the second, it will be used the price at which the last transaction was completed, and following the closing of the market, the closing price will be used for calculating the Index and the corresponding weighting.

4.3 Calculation method for the Bolsa de Madrid Total Index

The method for calculating the Total Indices is the same as that for prices, except for corrections made when reinvesting dividends paid in the same company, at the price discounted by the dividend, and equally for capital increases with the value of the subscription right.

4.3.1 Calculation of the dividend yield:

- Dividend reinvestment:

$$FR_A = 1 + \frac{d_A}{(P_A - d_A)} = \frac{P_A}{P_A - d_A}$$

The new total reference price is the result of dividing the old reference price by this reinvestment factor:

$$PR_{NTA} = \frac{PR_A}{\left(\frac{P_A}{P_A - d}\right)}$$

This is the treatment for any financial operation that involves a repayment of cash to shareholders.

4.3.2 Calculation of the yield from capital increases:

- First carry out the adjustment for discounting the theoretical value of the right described in the General Index.
- Then the reinvestment of the theoretical right, in the same way as for dividends:

$$FR_A = 1 + \frac{V_{TCO-A}}{(P_A - V_{TCO-A})} = \frac{P_A}{P_A - V_{TCO-A}}$$

The new total reference price is again the result of dividing the old reference price by this reinvestment factor:

$$PR_{NTA} = \frac{PR_A}{\left(\frac{P_A}{P_A - V_{TCO-A}}\right)}$$

Once the company indices are calculated, the other phases are the same as those for the General Index.

4.4 Base value of the IGBM Group of Indices

The General Indices, both for prices as well as yields, do not change their base, and the calculations are linked to the current series with the 1985 base = 100.

The base value of sectorial and subsectorial indices first introduced is 1000 at the closing of the market, December 31, 2004.

The base value of the sectorial and subsectorial indices introduced later on is 1000 at 31 December of the year before the actual year they were introduced.

4.5 Complaints about the calculation of indices

Complaints about the calculation and dissemination of the information of IGBM price indices, sectorial and subsectorial indices, as well as those for yields, must be made in writing, including electronic media established for this purpose to the General Coordinator of the IGBM Management Committee. The complaints will be resolved in a reasonable and fair time, according to the complaints procedure available to these effects.

5. INFORMATION ON INDICES

Information for calculating these indices will be made public through the Bolsa de Madrid's website, at least one day before any change comes into effect. The information will be on:

- Definitions of sectors and subsectors: criteria for including a company in a sector or subsector.
- Companies in each sector/subsector
- Calculation formula
- History of the companies that have entered and left the Index and their dates
- Historic series and statistical tables

6. CLASSIFICATION BY SECTORS OF SECURITIES IN THE IGBM's INDICES

The unified sectorial and subsectorial classification for Spanish Exchanges (BME) established on January 1, 2005, applies to all IGBM companies. The definition of those economic activities included in each sector or subsector is available on the document "Stock Exchange Sectorial Classification". General description and specifications by subsector" published by the four Spanish Exchanges (Bolsa de Madrid, Bolsa de Barcelona, Bolsa de Bilbao and Bolsa de Valencia) and Sociedad de Bolsas.