S&P Dow Jones Indices

A Division of S&P Global

S&P Global iBoxx Global Economic Development Classification *Methodology*

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Introduction

The S&P Global iBoxx Global Economic Development Classification Methodology defines the quantitative methodology S&P Dow Jones Indices (S&P DJI) employs to classify countries and regions used in iBoxx indices into two categories: emerging and developed markets. S&P Global uses three out of the twelve indicators initially considered, with preference given to a smaller number of indicators and simple scoring functions to improve the ease of access and understanding for investors and other market participants. The three indicators assess each country on three different elements: national income, inflation, and the development of the money supply. Following the quantitative assessment, the results are submitted to the Index Committee.

The following chapters detail the country classification review process, quantitative indicators, scoring method, and the resulting scores and country classifications.

Classification Processes

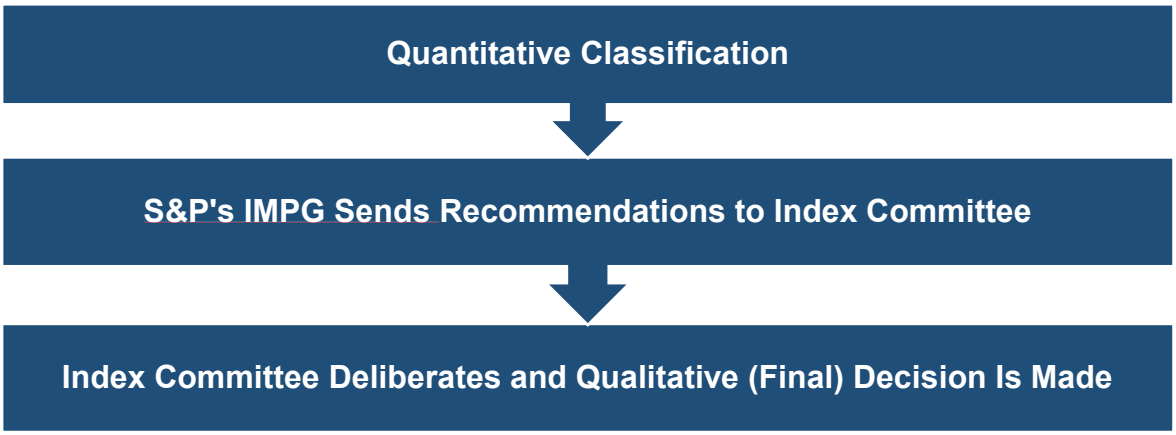
The country classification process has two primary steps:

- **Step 1: Annual Review of Country Scores.** The country scores are reviewed annually in August following the release of the updated World Bank (WB) income classification and Gross National Income (GNI) data. S&P Global updates each individual indicator and compiles the new country and regional scores. These, combined with previous years' scores, are analyzed.

  A list of countries as recommended by S&P Global (where relevant) is sent to the Index Committees to be further reviewed and discussed, detailing the main changes in the scores, announcing the countries whose scores have moved from one category to another, and providing updates on the countries for which a classification decision overruled the quantitative score last year.

- **Step 2: Analysis and Final Decision.** Following analysis and a review by the Index Committees, S&P Global uses the information to make a final decision on each country's classification. The decisions of the review are published by the end of September. All changes are implemented on October 31st each year.

Classification Process Overview



Quantitative Indicators

The classification methodology uses three indicators that reflect the state of the development of a country/territory's financial market, namely: GNI, inflation, and money multiplier. The descriptions of each of the three indicators below are complemented by the definition of the fourth derived indicator.

Indicator Descriptions

GNI. GNI measures the total economic income of a country/territory, expressed as the sum of Gross Domestic Product (GDP) and net income (income received from minus income paid to other countries). The inclusion of the cross-country income balance captures the full income of the country rather than simply the amounts of goods and services produced by counterbalancing the effects of high indebtedness in a country which might "inflate" GDP numbers. A high GNI is a prerequisite for greater economic development and wealth. The GNI per capita provides a measure for the typical living conditions of an average citizen of a given country/territory.

Inflation. Inflation serves as a measure of the monetary stability demonstrating the extent to which losses in the real value of money in the economy occur. Low and stable inflation rates are a good indicator of the development of a financial system as well as the credibility of monetary policy and other regulatory instruments. Conversely, a persistently high or uncertain inflation rate is unlikely to be conducive to the development of the economy and the financial system. As a result, two indicators have been chosen: the average inflation rate and the inflation rate volatility.

Money Multiplier. The money multiplier used is not the traditional macroeconomic multiplier, but rather the ratio of M2 over M1. It shows the dynamic money growth in a given economy. Whilst the traditional economic multiplier is a theoretical construct, the money aggregates are readily observable. Therefore, the use of the money aggregates removes the need to model the money multiplier dynamics of every country.

The definition of money aggregates varies from country to country, but a general view is that M1 represents money in circulation (including highly liquid paper instruments) and M2 is comprised of M1 plus money-like instruments (e.g., savings deposits, time deposits, etc.). Therefore, the money multiplier calculated in the analysis measures the ability of the banking system to efficiently service the needs of the economy by generating money for use. The raw values of M1 and M2 are applied in the assessment, with no further adjustment to the composition of the money aggregates for each country and territory. Any such adjustment is deemed arbitrary without having a significant impact on the indicator score.

Empirical evidence shows that the money multiplier is higher for developed markets than for emerging markets, but there are a number of exceptions in both the developed world (especially within resource-rich countries like Australia and Norway) and in the emerging markets. For these reasons, the money multiplier has been allocated the lowest weight within the three indicators.

Regional Peer Group. The regional peer group score is derived from the three indicators outlined above. It is not an indicator-derived score in its own right, but it adjusts the indicator scores according to the region in which a country/territory is located. The rationale is to reflect that each country is perceived in relation to its peers, so that the question of whether a country is a developed market is influenced by the status of its neighbors. The best example to illustrate this is the boost in status that countries such as Greece, Portugal or Spain have received by being members of the Eurozone. On a standalone basis, these countries would in all likelihood not be considered as advanced as they now are. The calculation of the regional peer group score and its inclusion into the final scoring is given in more detail in subsequent *Quantitative Classification* chapter.

Data Sources

Table 1 below provides an overview of the data sources (and secondary sources where necessary) for the three indicators. Secondary sources are used if the primary source did not contain data for the respective country/territory. For instance, there is no fundamental data in the World Bank database on

Taiwan, so the local sources in Taiwan are used instead. The Secondary Sources presented in Table 1 are subject to change depending on the availability of the primary sources.

Table 1 — Input Data Overview

Final List of Selected Indicators	Primary Source	Secondary Source
GNI and GNI Per Capita	World Bank	UN data, National Statistics Office of Taiwan http://eng.stat.gov.tw/
Annual Inflation Rate	International Monetary Fund (IMF)	National Statistics Office of Taiwan
Annual Inflation Rate Volatility	Derived from annual inflation rate data	—
Money Multiplier (M2/M1)	IHS WMM	World Bank, Bank of England, National Statistics Office of Taiwan

Quantitative Classification

The selected indicators are transformed into scores on a scale from 0 to 100 and combined to form an aggregate score per country/territory. The quantitative classification assigns each country/territory into one of the following three categories:

- Developed Markets
- Emerging Markets
- Countries in Transition between Developed and Emerging Market.

The quantitative classifications are then submitted to the Index Committees for review.
The four steps of the quantitative classification process are outlined in the diagram below. The subsequent sections of this chapter describe each of the stages of the classification process.

Individual Indicator Scores

Each indicator measures fundamentally different aspects of a country/territory's economy. To make the scores comparable, all the data is translated into scores ranging from 0 to 100. The individual scoring approach varies from one indicator to another, but all are governed by the same calculation principle described further below.

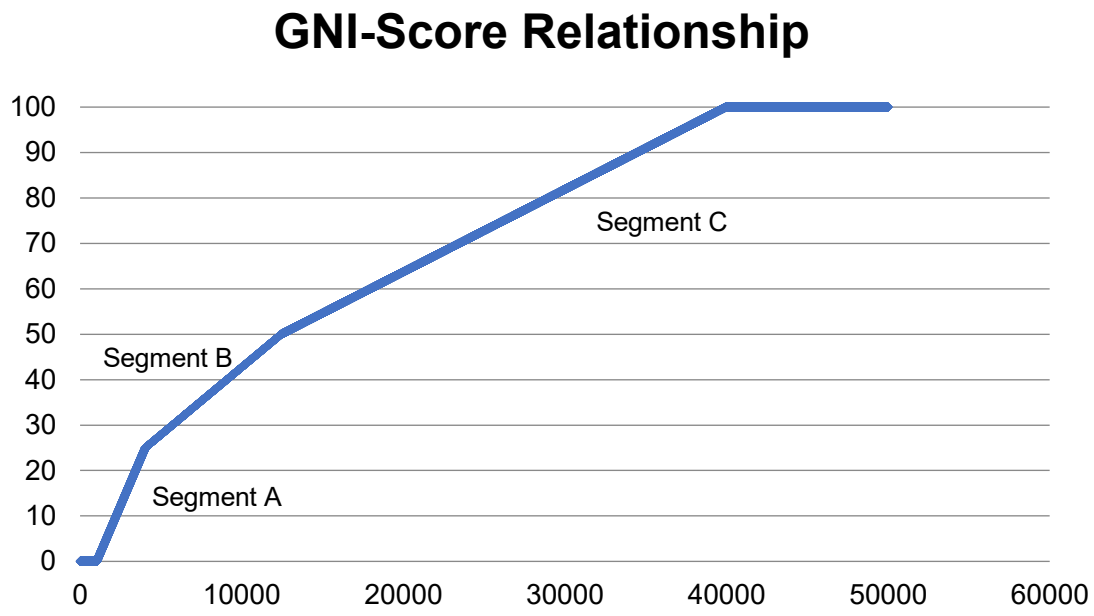
The raw data collected for each indicator is translated into a function that breaks the entire data sample into several segments. Graphically, the scores evolve linearly within each segment, but each segment's gradient can be different. The thresholds that define the edges of the curve's segments serve as borders to group countries with similar characteristics (GNI, inflation, or money multiplier).

For example, countries with similar wealth expressed by GNI (e.g., upper middle income countries) will be plotted on the same segment of the curve. The highest score is determined for G7 economies which have been selected as the benchmark for a developed market. The remaining scores are then calculated in relation to the benchmark.

Example. This approach is presented in a diagram below with all countries split in accordance with their translated GNI scores into three linear segments A, B and C.

- **Segment A** aggregates low income countries with the maximum raw GNI score for this segment being 1109 (2025 data) according to the 5-year moving average of WB thresholds for low income countries. On the other hand, the maximum possible score of 100 is assigned to the GNI of G7 countries that serve as a benchmark for Developed Markets (DM).
- **Segment B** includes lower and upper middle income countries.
- **Segment C** represents countries with the highest income per capita. The GNI data point for G7 countries is 45969 (2025 data).

Thus, 1109 and 45969 represent a floor and a cap, respectively, as shown by the kinks in the diagram below. Each linear segment of the scoring function can be viewed as a separate gradient with the steepness of each gradient increasing as G7 cap is approached.



The calculation details for each indicator score are detailed below. Although the essence of each calculation is the same, the precise derivation of each score is modified to reflect the different characteristics of each indicator.

For example, whilst GNI scoring function is monotonic as it can only increase, the inflation-based function achieves the highest score if the inflation rate of a country falls in between 1% and the average inflation of G7 countries (viewed again here as the proxy for DM). Thus, the score can fall to zero for inflation outside of this region 'punishing' countries for a too high inflation or deflation.

GNI Score. All countries are classified into five distinct segments or thresholds according to their income levels characterized by their individual GNI data. The five income categories include the following:

- low
- lower middle
- upper middle
- high-income countries below the G7 benchmark
- high-income countries above the G7 benchmark (cap)

Similarly, the lower middle income represents a floor in terms of the score values that the GNI scoring function returns. The first four income thresholds are calculated as the 5-year moving averages of the income thresholds defined by the WB on an annual basis. The G7 threshold represents the second lowest GNI per capita in G7 group. The low income countries are allocated the smallest score of zero and the highest score of 100 is assigned to countries with income level higher than the G7 threshold.

The table below provides an example of how income buckets determined by the WB translate into derived thresholds (including G7 group income level) and which values of X (segment score) and Y (base score) are applied at each classification level. The use of these values is described via formulae (1) following the table. The values of X and Y are fixed, and the derived thresholds are subject to annual changes.

Table 2 — Country Income Categorization

WB Income Classification	WB Income Threshold 2024, USD	Derived Threshold (λ) 2025, USD	Segment Score (X)	Base Score (Y)
Low Income	1134	1108	-	-
Lower Middle Income	1,135	1,109	25	0
Upper Middle Income	4,495	4,365	25	25
High Income	13,935	13,537	50	50
G7 income	45,374	45,969	0	100

The GNI per capita score (or GNI score) for each country *i* is calculated in accordance with formula (1) below:

$$GNI\_score_i = \frac{\overline{GNI_{i,\tau}} - \lambda_L}{\lambda_U - \lambda_L} \times X + Y \quad (1)$$

where:

$\overline{GNI_{i,\tau}}$ means the average GNI per capita of country i over a period τ, which constitutes the previous 5 years for the current year calculation.

λ_L means the nearest lower income threshold (the derived threshold) calculated as the 5-year average of the yearly income thresholds that are set by WB except for a separately defined G7 threshold (see further description below).

λ_U means the nearest upper income threshold (the derived threshold) calculated as the 5-year average of the yearly income thresholds set by WB except for a separately defined G7 threshold (see further description below).

X means the segment score that corresponds to the portion of the score assigned to the income segment (see Table 2).

Y means the base score that corresponds to the aggregate score of all segments with a lower income than the current classification segment (see Table 2).

Inflation Score. The calculation of the *I*-score (or, Inflation score) is an equal-weighted function of the average inflation rate score and inflation volatility score:

$$I\_score_i = (I_{i(A)} + V_{i(A)}) \times 50\% \quad (2)$$

where:

I_score_i means the *I*-score calculated for country *i.*

$I_{i(A)}$ means the average inflation score for country *i.*

$V_{i(A)}$ means the inflation volatility score for country *i.*

Both scores, the average inflation $I_{i(A)}$ and inflation volatility $V_{i(A)}$ scores, are calculated via scoring functions.

Average Inflation Score. All countries in the analysis are classified into five distinct inflation categories:

- **High Inflation or Deflation.** Negative inflation, or inflation that is twice as high as the upper threshold of the target inflation band.
- **Moderately High Inflation.** Inflation between 150% and 200% of the upper threshold of the target inflation band.
- **Moderate Inflation.** Inflation above the upper threshold for the target inflation band, but less than 150% of the threshold.

- **Target Inflation Band.** Inflation of between 1% and 2%, or the average G7 inflation, whichever is higher.
- **Zero Inflation.** Positive inflation below the lower end of the target inflation band.

Countries within the target inflation band get a score of 100, and countries with high inflation or deflation - a score of 0. Table 3 below provides an overview of the inflation categories and the corresponding variables applied in the scoring formula at each inflation level. The scoring formula follows after the table.

Table 3 — Inflation Categorization

Inflation Category	Condition	λ_U	λ_L	Segment Score (X)	Base Score (Y)
Lower Inflation	≥ 0% and ≤ G7(L)	0	1%	100	0
Low Inflation	> G7(L) and ≤ G7(U)	$I_{G7(U)}$	1%	0	100
Moderate Inflation	≤ 1.5G7(U)	1.5 x $I_{G7(U)}$	$I_{G7(U)}$	75	25
Moderately High Inflation	≤ 2G7(U)	2 x $I_{G7(U)}$	1.5 x $I_{G7(U)}$	25	0
Inflation Too High or Deflation	> 2G7(U) or < 0%	—	0	0	0

The average inflation score $I_{i(A)}$ ranging from 0 to 100 is calculated by the formula (3) below:

$$I_{i(A)} = \frac{\bar{I}_{i,\tau} - \lambda_L}{\lambda_U - \lambda_L} \times X + Y \quad (3)$$

where:

$\bar{I}_{i,\tau}$ means the smoothed average inflation for country i over a period τ calculated as a moving average over a period τ equal to 10 years according to the formula (4):

$$\bar{I}_{i,\tau} = \frac{\sum_{\tau=1}^{10} I_{i,\tau} - \overset{\tau=1}{\underset{10}{min}}(I_{i,\tau}) - \overset{\tau=1}{\underset{10}{max}}(I_{i,\tau})}{\tau - 2} \quad (4)$$

where:

$I_{i,\tau}$ means the inflation rate of a country i in year τ

λ_L means the nearest lower inflation threshold defined at each inflation category as per Table 3 above.

λ_U means the nearest upper inflation threshold defined at each inflation category as per Table 3 above.

X means the segment score that corresponds to the portion of the score assigned to the inflation segment (see Table 3).

Y means the base score that corresponds to the aggregate score of all segments with a worse inflation than the current classification segment (see Table 3).

$I_{G7(U)}$ means the upper inflation threshold calculated as follows:

$I_{G7(U)}$ = max {$I_{G7(A)}$, 2%}

where:

$I_{G7(A)}$ means the average of the smoothed average inflation rates for all G7 Countries.

Inflation Volatility Score. The inflation volatility across all countries in the analysis can be categorized similarly to inflation levels. The proxy used to determine the ranges is the maximum of 1% or the 10-year moving volatility of G7 countries, and the resulting four ranges are characterized by low, moderate, moderately, and high inflation volatility. Countries exhibiting inflation volatility lower than the G7 group are allocated the highest score of 100 and constitute the low volatility range. The

moderate and moderately high inflation volatility levels are observed 1.5 and 2 times away, respectively, from the G7 volatility. Countries with inflation volatility of more than twice the G7 level are deemed as highly volatile and are allocated the score of zero. Table 4 provides an overview of the inflation volatility ranges along with the variables used in the volatility scoring function as per the formula (5) following the table:

Table 4 — Inflation Volatility Categorization

Volatility Category	Condition	λ_U	λ_L	Segment Score (X)	Base Score (Y)
Low Volatility	≤ G7 Volatility	V_{G7}	0	0	100
Moderate Volatility	≤ 1.5 times G7 Volatility	$1.5 \times V_{G7}$	V_{G7}	75	100
Moderately High Volatility	≤ 2 times G7 Volatility	$2 \times V_{G7}$	$1.5 \times V_{G7}$	25	25
High Volatility	> 2 times G7 Volatility	—	—	0	0

The average inflation volatility score $V_{i(A)}$ ranging from 0 to 100 is calculated by the formula (5) below:

$$V_{i(A)} = -\frac{V_{i,\tau}-\lambda_L}{\lambda_U-\lambda_L} \times X + Y \quad (5)$$

where:

$V_{i,\tau}$ means the individual volatility for each country i, calculated as the sample standard deviation of the inflation rates over the period of τ equal to 10 years:

$$V_{i,\tau} = \sqrt{\frac{1}{\tau-1}\sum_{\tau=1}^{10}(I_{i,\tau} - Average(I)_{i,\tau})} \quad (6)$$

where:

$\text{Average(I)}_{\text{i,}\tau}$ means the average of the inflation rates over the period of τ years where τ equals 10.

λ_L means the nearest lower inflation threshold defined at each inflation category as per the Table 4 above.

λ_U means the nearest upper inflation threshold defined at each inflation category as per the Table 4 above.

X means the segment score that corresponds to the portion of the score assigned to the inflation volatility segment (see Table 4).

Y means the base score that corresponds to the aggregate score of all segments with a lower inflation volatility than the current classification segment (see Table 4).

$$V_{G7} = \max\{V_{G7\,(A)}, 1\%\} \quad (7)$$

where:

$V_{G7(A)}$ means the volatility threshold calculated as the average of the individual inflation volatilities $V_{i,\tau}$ of each G7 country.

Money Multiplier Score. All countries are classified into four categories according to the economy's ability to generate money expressed via the money multiplier. To establish a benchmark level the moving average of G7 money multipliers is calculated over the period of 5 years. Each individual money multiplier is calculated as the ratio of M2 over M1. Overall, there are four categories, namely: countries with high, moderately high, moderate, and low money growth. If the money multiplier of a given economy reaches or exceeds the G7 level, such country is allocated the highest score of 100 for its high money growth ability. For money multipliers exceeding two-thirds or one-third of the G7 level the country is considered to exhibit moderately high or moderate money growth ability, respectively. The low level of money growth is deemed for all countries with the money multiplier less than one third of the G7 benchmark. Table 5 provides an overview of the money growth abilities along

with the variables used in the money multiplier scoring function as per the formula (8) following the table:

Table 5 — Categorization of Countries' Money Growth

Money Growth Category	Condition	λ_U	λ_L	Values of X	Values of Y
Low Money Growth	< one-third of G7 money multiplier	$\frac{1}{3} \times \overline{MM}_{G7}$	0	0	0
Moderate Money Growth	≥ one-third of G7 money multiplier	$\frac{2}{3} \times \overline{MM}_{G7}$	$\frac{1}{3} \times \overline{MM}_{G7}$	25	0
Moderately High Money Growth	≥ two-thirds of G7 money multiplier	$\overline{MM}_{G7}$	$\frac{2}{3} \times \overline{MM}_{G7}$	75	25
High Money Growth	≥ G7 money multiplier	—	$\overline{MM}_{G7}$	0	100

The money multiplier score MM_score_i ranging from 0 to 100 for country i is calculated by the formula (8) below:

$$MM\_score_i = \frac{MM_{i,\tau} - \lambda_L}{\lambda_U - \lambda_L} \times X + Y \quad (8)$$

where:

$MM_{i,\tau}$ means the average money multiplier for country i calculated as the moving average of the M2 over M1 ratios over a period of τ equal to five years

$\bar{MM}_{G7}$ means the smoothed average money multiplier for G7 countries calculated as a moving average over a period τ equal to five years according to the formula (9):

$$\bar{MM}_{G7} = \frac{\sum_{\tau=1}^{7} MM_{i,\tau} - \overset{\tau=1}{\underset{7}{min}}(MM_{i,\tau}) - \overset{\tau=1}{\underset{7}{max}}(MM_{i,\tau})}{5} \quad (9)$$

λ_L means the nearest lower money multiplier defined for each category as per Table 5 above.

λ_U means the nearest upper money multiplier defined for each inflation category as per Table 5 above

X means the segment score that corresponds to the portion of the score assigned to the money multiplier segment for the current year (see Table 5).

Y means the base score that corresponds to the aggregate score of all segments with a money multiplier score than the current classification segment (see Table 5).

Pure Country Scores

The three individual scores (GNI score, Inflation score and Money Multiplier score) are combined into the pure country/territory score in formula (10) below. The greatest weight is allocated to GNI-score and the smallest weight is assigned to money multiplier score.

The GNI score has the highest weight because underlying economic wealth is a key factor in the economic development process, and the GNI measure is the most straightforward and recognized of the three indicators. As previously mentioned, the three indicators provide a measure of the economy's wealth, stability, and sophistication respectively. It is the economy's wealth that matters the most from the fundamental point of view. The money multiplier score has the lowest weight as represents a fairly indirect measure.

$$PC_i = GNI\_score_i \times 60\% + I\_score_i \times 30\% + MM\_score_i \times 10\% \quad (10)$$

Regional Scores

The pure country scores are adjusted to account for regional effects. All classified countries are assigned to a geographical region. The following regions are used:

- **Africa.** Consisting of Sub-Saharan Africa.

- **East Asia.** Consisting of the South, South-East, and East Asian countries and regions, including Pacific Islands but excluding Australia, Japan, and New Zealand
- **Eastern Europe.** Consisting of Eastern and South-Eastern European countries that are not members of the Eurozone, including Russia and other countries formerly part of the Soviet Union.
- **LatAm.** Consisting of Central and South American countries including the Caribbean islands and Mexico.
- **MENA.** Consisting of North African countries and the Middle East.
- **OIC.** Other industrialized countries (Australia, Canada, Japan, New Zealand, non-Euro Western Europe).

Within each region, all countries are ranked by the average last five years GNI (in absolute terms), and the top 50% are selected for the regional peer group. The regional score is then defined as the average (equal-weighted) of the pure scores of the regional peer group countries.

Final Scores

The final score for each country/territory is the weighted average of the pure country and the regional score. The pure country score has a weight of 75% and the remaining 25% are allocated to the regional score for each given country.

Country Classification

Except for a few overseas regions[1], all countries have been assigned to a group based on their final scores:

- **Emerging Markets Countries.** Scores from 0 up to (but excluding) 60.
- **Countries in Transition.** Scores from 60 to 70.
- **Developed Markets Countries.** Scores from and including 70 to 100.

In principle, a country with a score of more than 2/3 (66.66) is considered developed and a country with a score of less than 2/3 is considered an emerging market. The score ranges from and including 60 to and excluding 70, which is the buffer around this cut-off used for countries transitioning between the two classifications.

The quantitative classification rule is applied such that a classification change for a country/territory is considered if its scores are in the corresponding category for five consecutive years. Countries are to be reviewed by the Index Committees if their scores are outside of the current classification category for two consecutive years.

All country classifications, historical quantitative scores, and regional breakdowns are available in tabular format here: under Indices / Publications / Methodology.

[1] Due to the lack of data, the Faroe Islands (Denmark), Puerto Rico (US), Gibraltar (UK), Isle of Man (UK), Jersey (UK), the British Virgin Islands (UK) and Guernsey (UK) are assigned the same classification as their home countries, i.e., developed markets.

Governance and Regulatory Compliance

S&P Dow Jones Indices Limited(S&P DJI) is the Index Administrator of the Indices. Information on S&P DJI's governance and compliance approach can be found *here*. This document covers:

- Governance arrangements, including external committees
- Input data integrity
- Conflicts of interest management
- Market disruption and Force Majeure
- Methodology changes and cessations
- Complaints
- Errors and restatements
- Reporting of infringements and misconduct
- Methodology reviews
- Business continuity

Further information about S&P DJI Limited can be found on the website *here*.

Further Information

Client support

For client support please contact index_services@spglobal.com.

Formal complaints

Formal complaints should be emailed to spdji_compliance@spglobal.com.

Please note: spdji_compliance@spglobal.com should only be used to log formal complaints.

General index inquiries

For general index inquiries, please contact index_services@spglobal.com.

Disclaimer

Performance Disclosure/Back-Tested Data

Where applicable, S&P Dow Jones Indices and its index-related affiliates ("S&P DJI") defines various dates to assist our clients by providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the index is set to a fixed value for calculation purposes. The Launch Date designates the date when the values of an index are first considered live: index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P DJI defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its data feed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

Please refer to the methodology for the Index for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Information presented prior to an index's launch date is hypothetical back-tested performance, not actual performance, and is based on the index methodology in effect on the launch date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. In addition, forks have not been factored into the back-test data with respect to the S&P Cryptocurrency Indices. For the S&P Cryptocurrency Top 5 & 10 Equal Weight Indices, the custody element of the methodology was not considered; the back-test history is based on the index constituents that meet the custody element as of the Launch Date. Also, the treatment of corporate actions in back-tested performance may differ from treatment for live indices due to limitations in replicating index management decisions. Back-tested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. Past performance is not an indication or guarantee of future results.

Typically, when S&P DJI creates back-tested index data, S&P DJI uses actual historical constituent-level data (e.g., historical price, market capitalization, and corporate action data) in its calculations. As ESG investing is still in early stages of development, certain datapoints used to calculate certain ESG indices may not be available for the entire desired period of back-tested history. The same data availability issue could be true for other indices as well. In cases when actual data is not available for all relevant historical periods, S&P DJI may employ a process of using "Backward Data Assumption" (or pulling back) of ESG data for the calculation of back-tested historical performance. "Backward Data Assumption" is a process that applies the earliest actual live data point available for an index constituent company to all prior historical instances in the index performance. For example, Backward Data Assumption inherently assumes that companies currently not involved in a specific business activity (also known as "product involvement") were never involved historically and similarly also assumes that companies currently involved in a specific business activity were involved historically too. The Backward Data Assumption allows the hypothetical back-test to be extended over more historical years than would be feasible using only actual data. For more information on "Backward Data Assumption" please refer to the FAQ. The methodology and factsheets of any index that employs backward assumption in the back-tested history will explicitly state so. The methodology will include an Appendix with a table setting forth the specific data points and relevant time period for which backward projected data was used. Index returns shown do not represent the results of actual

trading of investable assets/securities. S&P DJI maintains the index and calculates the index levels and performance shown or discussed but does not manage any assets.

Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US $100,000 investment for a 12-month period (or US $10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US $1,650), the net return would be 8.35% (or US $8,350) for the year. Over a three-year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US $5,375, and a cumulative net return of 27.2% (or US $27,200).

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