



Invesco Indexing Investable Universe Methodology

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Table of Contents

Introduction	3
General Approach	3
Country Selection	4
Region Classification	6
Country Assignment	7
Security Types	7
Primary Security	8
Investability	9
Liquidity	9
Size Classification	10
Quarterly Rebalance	11
Governance	11
Appendix	12

Introduction

This document provides a detailed description of the processes associated with the construction and maintenance of the Invesco Indexing Investable Universe. The universe is a global collection of stocks representing the opportunity set of all securities from which Invesco Indexing LLC (Invesco Indexing) constructs its equity indexes. It contains both developed markets and emerging markets companies. The size of the companies ranges from small capitalization to large capitalization. Each security within the Invesco Indexing Investable Universe is categorized along several dimensions including region, country, developed/emerging, size, sector and industry. This taxonomy leads to an index creation process that is highly modular, customizable, and flexible. Indexes are created from the Invesco Indexing Investable Universe by screening on one or more of the segmentations and applying a weighting scheme to that subset of securities in order to achieve particular investment objectives.

General Approach

The Invesco Indexing Investable Universe is updated four times per year. There is a full reconstitution annually in June and three smaller rebalances in March, September and December. While the reconstitution is intended to reset the overall global equity universe, the rebalances ensure the universe includes new listings that have met the criteria for inclusion while eliminating illiquid securities. March, June, September, and December are collectively referred to as “Rebalance Months.”

During the reconstitution, the Invesco Indexing Investable Universe is fully refreshed. Countries are selected into the universe and identified as emerging or developed. The universe will only contain securities from these qualifying countries. For each qualifying country, equity-like securities are considered for inclusion into the Invesco Indexing Investable Universe. Liquidity thresholds are determined based on the characteristics of the global equity market, and equities are added to or removed from the universe based on their ability to satisfy these liquidity requirements. Finally, qualifying universe members are assigned to various segmentations based on characteristics including company size and geography.

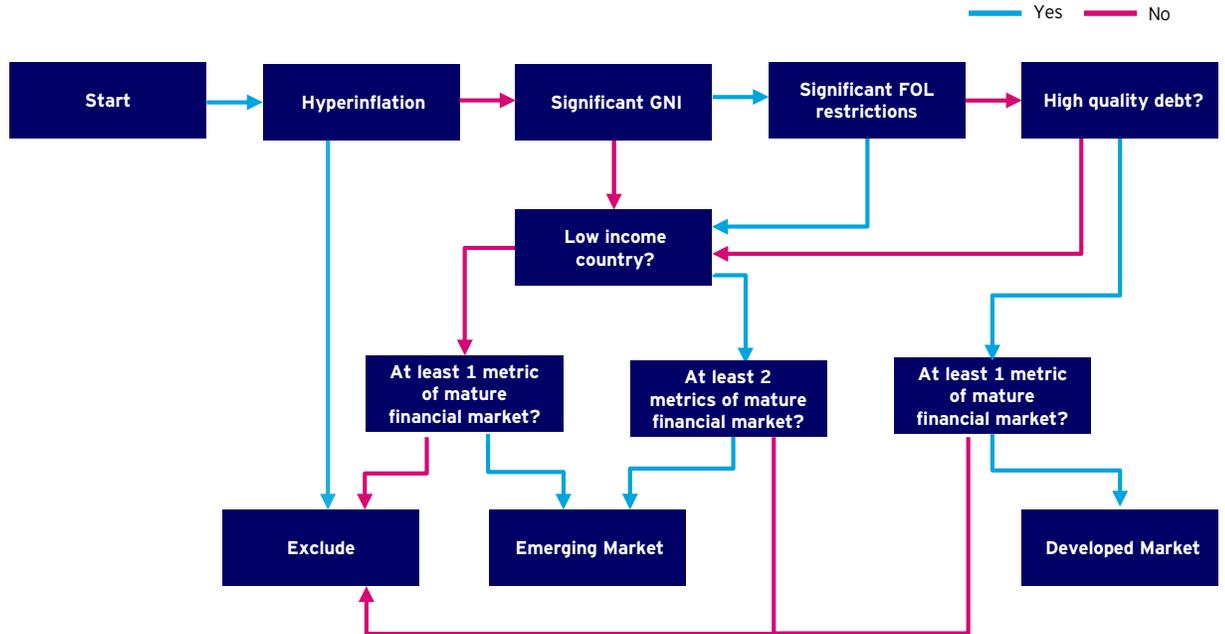
During quarterly rebalances, Initial Public Offerings (IPOs) and spinoffs may be added to the Invesco Indexing Investable Universe if they are sufficiently large and liquid, and current index constituents may be removed if they no longer meet liquidity requirements. In order to improve the stability of the universe and the indexes that are built from the universe, entry requirements at quarterly rebalances are more stringent and requirements for continued universe membership are less demanding relative to the annual reconstitution. Pages 4 through 11 describe the guidelines for annual reconstitution, and any adjustments made for quarterly rebalances are highlighted on page 11. The table below summarizes this process.

Rebalances	Month	Actions
Country review	Third Friday in June	Country selection
Annual reconstitution	Third Friday in June	<ul style="list-style-type: none">• Equity universe update• Size classification update
Quarterly rebalance	Third Friday in March, September & December	Security addition/removal and update

Country Review

Country Selection

During the country review, all countries are reviewed for potential coverage in the Invesco Indexing Investable Universe. They are classified as developed, emerging, or are not included in the universe for the coming year. The country selection process considers various factors, including inflation, national income, sovereign debt rating, openness to foreign investment, and the maturity of the public equity market. The figure below graphically depicts the logic of the country selection and assignment process.



GNI: Gross National Income

FOL: Foreign Ownership Limits (see Appendix 1)

Country Review (continued)

The following table provides additional detail around the country selection process. In addition to the aggregate level requirements mentioned on the previous page, in order to be included in the universe, a country must contain at least three stocks that satisfy the security selection procedures outlined in the subsequent sections.

Requirement	Description	Developed	Tier 1 Emerging	Tier 2 Emerging
Inflation	No hyperinflation in the past 3 years	✓	✓	✓
Income	Not a World Bank low income country	✓	✓	-
	GNI at least 1.6 (1.4) times the World Bank high income threshold for new (current) constituents in each of last 3 years	✓	-	-
Openness of financial markets	No significant foreign ownership limits	✓	-	-
Sovereign debt quality	Sovereign debt credit rating is not below Baa3 (Baa2) for new (current) constituents in the past 3 years	✓	-	-
Maturity of public equity market	Country market cap within top 99.5% (99.9%) of world for new (current) constituents in 2 of past 3 years.	At least 1	At least 1	At least 2
	Country revenue within top 99.5% (99.9%) of world for new (current) constituents in 2 of past 3 years.			
	Country trade volume within top 99.5% (99.9%) of world for new (current) constituents in 2 of past 3 years.			

Region Classification

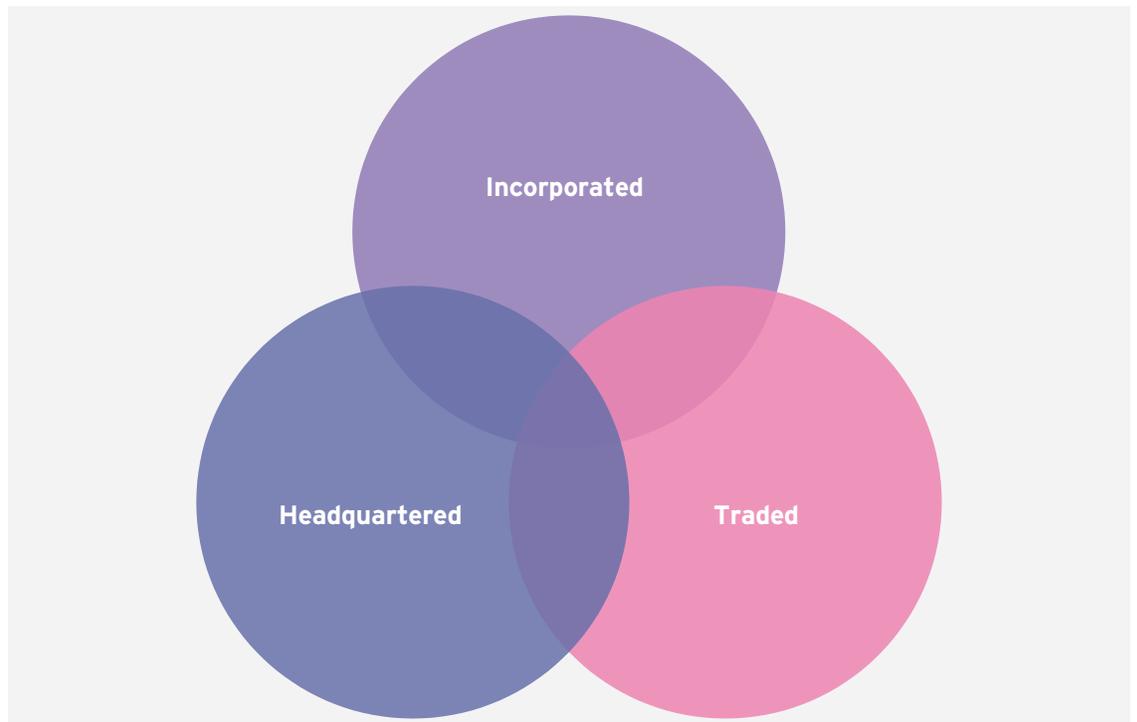
Once countries are selected, they are classified into one of four Invesco Indexing (II) Geographic Regions: Americas, Asia Pacific, Europe, and Middle East & Africa. Countries are further classified into one of seven II Economic Regions: Developed Americas, Emerging Americas, Developed Asia Pacific, Emerging Asia Pacific, Developed Europe, Emerging Europe, and Middle East & Africa. As of the document's publication date, the countries included in these regions are described in the table below.

Americas	Europe
Developed	Developed
Canada	Austria
United States	Belgium
Emerging	Denmark
Brazil	Finland
Chile	France
Colombia	Germany
Mexico	Ireland
Peru	Italy
Asia Pacific	Luxembourg
Developed	Netherlands
Australia	Norway
Hong Kong	Portugal
Japan	Spain
New Zealand	Sweden
Singapore	Switzerland
South Korea	United Kingdom
Emerging	Emerging
China	Czech Republic
India	Greece
Indonesia	Hungary
Malaysia	Poland
Philippines	Russia
Taiwan	Middle East & Africa
Thailand	Developed
Vietnam	Israel
	Emerging
	Egypt
	Kuwait
	Qatar
	South Africa
	Turkey
	United Arab Emirates

Annual Reconstitution

Country Assignment

Only companies associated with Invesco Indexing countries are included in the Invesco Indexing Investable Universe. Three criteria are considered when assigning a company to the II Country: the country in which the company is headquartered, the country in which the company is incorporated, and the country that is most relevant for the company's securities trading. If all of these are the same, then the company is assigned to that country. If the company is headquartered and trades in the same country, then this defines the country. Otherwise, if the company is incorporated and trades in the same country, then this defines the country. In cases for which neither the country of headquarters nor the country of incorporation aligns with trading, the company is first assigned to the headquarters country, provided it is in an emerging market country and that country is not a tax haven. Otherwise, the company is assigned to the country that is most relevant for the company's securities trading.¹



Security Types

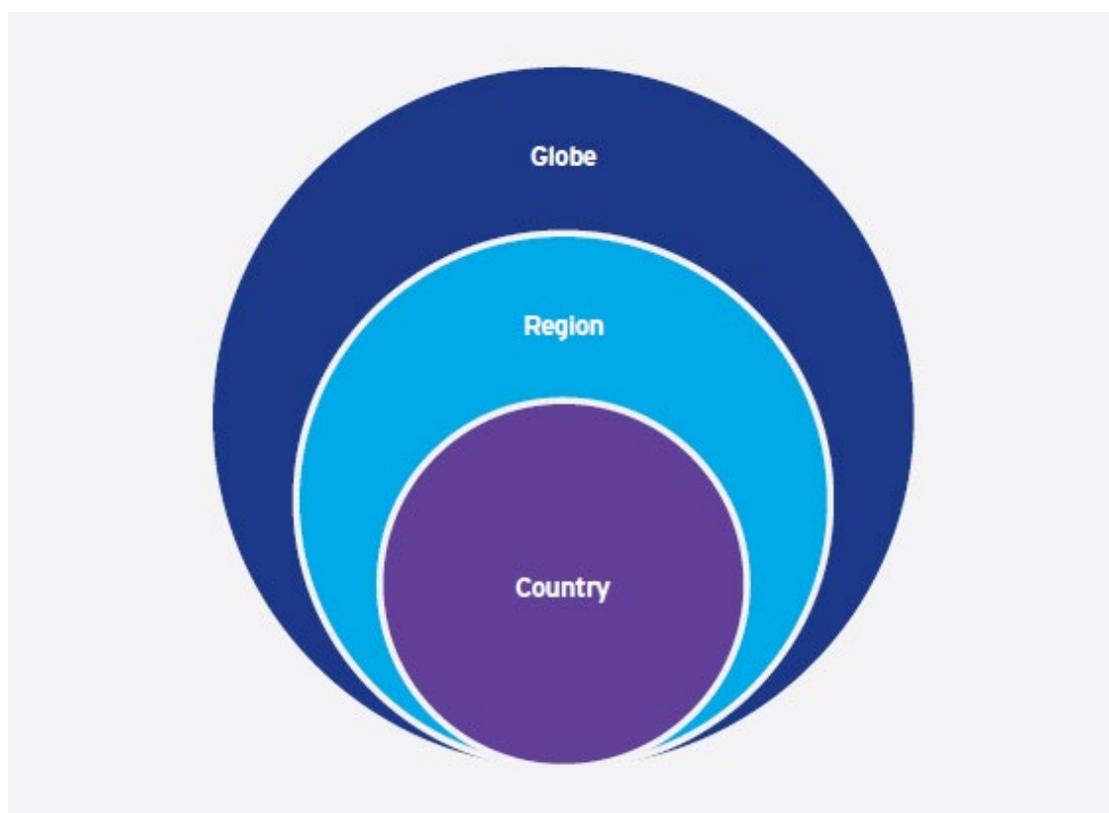
The Invesco Indexing Investable Universe is designed to capture the investable segment of the global equity market. Publicly listed equity securities or securities that exhibit equity-like characteristics are eligible for inclusion. Limited partnerships, mutual funds, exchange-traded funds, warrants, rights, and investment trusts (other than REITS) are excluded.

¹ Special treatment exists for Chinese, Russian, and Israeli companies. Though these countries use different data, the application of that data remains systematic.

Primary Security

Each company in the Invesco Indexing Investable Universe is represented by a single security selected from the eligible security types². This single security is referred to as “the primary.” When there is only one security issued by the company, this is assigned as the primary. When a company has multiple listings, the decision is less straightforward. Invesco Indexing’s approach to selecting the primary is designed to give preference to more liquid and more local equities. To that end, only “liquid share classes” (as defined in Liquidity section on page 9) are considered to be eligible as the primary. For the remainder of this section, we limit our discussion to these most liquid securities.

If there are multiple listings, but only one listing that trades in the company’s II Country, then this listing is designated as the primary. If there are multiple listings in the company’s II Country, the security with the most volume in the past year is designated as the primary. If there are no liquid listings in the company’s II Country, then securities are evaluated at the Economic Region level. If there is only one security in the company’s II Economic Region, then this is designated as the primary. If there are multiple listings, but only one trades in the II Economic Region, then this listing is designated as the primary. If there are multiple listings trading in the II Economic Region, the security with the most volume in the past year is designated as the primary. For emerging market securities, if there are no securities at the Economic Region level, the listing with the most volume in the past year across global developed and emerging markets is designated as the primary. For developed market securities, if there are no securities at the Economic Region level, the listing with the most volume in the past year across global developed markets is designated as the primary. If no such global developed market security exists, the company is not included in the III Universe. Whenever reasonable, the process is designed to select common equity over alternatives, such as depository receipts. Therefore, when comparisons are made based on volume to determine the most liquid security, volume on depository receipts is discounted.



² Eligible securities must trade on an exchange covered by the III Universe. For a full list of covered exchanges, please see Appendix 2. Altered Trading Method (ATM) designated securities trading on the Taiwan and Taipei Stock Exchanges are ineligible for Universe inclusion.

Investability

Only meaningfully sized companies are considered investable and are eligible for inclusion in the Invesco Indexing Investable Universe. For developed markets and emerging markets separately, the size of the overall market is computed as the total company market capitalization of all primaries. These securities are then ranked in descending order of total company market capitalization, and the investable set of companies is defined by the top cumulative 96% of total market capitalization for developed markets and the top 98% for emerging markets. All new universe constituents must have company market capitalizations that exceed these thresholds. For current constituents, the requirements for continued inclusion in the universe are adjusted to reduce turnover in the universe and, ultimately, in the associated indexes. In the case of company-level market capitalization, the minimum size thresholds for developed and emerging markets are 99% and 99.5%, respectively.

Liquidity

In addition to the company-level investability requirement, several security-level liquidity criteria are considered when evaluating a stock's eligibility for the Invesco Indexing Investable Universe. These include trade history, free float³, security market capitalization, and volume.

■ Trade History

Only securities that have been trading for at least one month are eligible for universe inclusion. In addition, each stock must satisfy both long-term and short-term trade frequency requirements. Over the prior 50 trading days, new constituents must have traded on at least 40 days, and, over the previous 250 trading days, must have traded on at least 200 days. For current constituents, the short-term and long-term requirements are 35 days and 180 days, respectively. For new issues, these frequency requirements are prorated relative to the length of available history.

■ Free Float

The free float, or float, represents those shares of a security that are readily accessible in the marketplace. A more detailed definition is included in the Appendix. For new constituents, at least 20% of shares outstanding must be free float, and for current constituents the float must be at least 15%.

■ Size

The float-adjusted, security-level market capitalization is computed for each security as the product of shares outstanding, price, and the float factor. To be eligible for universe inclusion, the security's market capitalization must be at least 50% of the universe threshold for total company market capitalization of current constituents (see Investability above).

■ Volume

Securities are required to trade sufficient volume over the long and short term. As in trade history, 50 days is used for the short-term horizon, and 250 days is used as the long-term horizon. Daily liquidity turnover is defined as median daily volume scaled by free-float adjusted security market capitalization (see Appendix). For new constituents, daily liquidity turnover is required to be at least 8bps in developed markets and 7bps in emerging markets for both short and long-term horizons. For current constituents, the daily liquidity turnover requirement is 5bps and 4bps in developed and emerging markets, respectively.

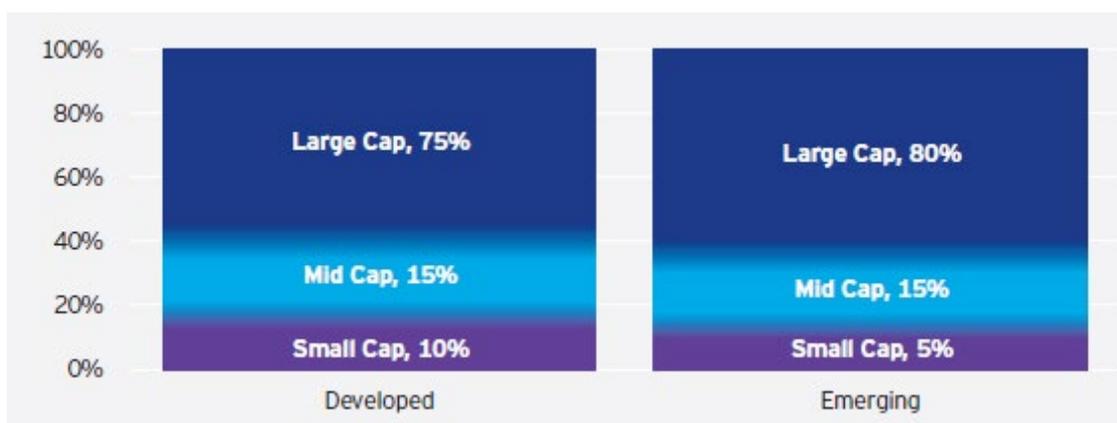
We define "liquid share classes" as those with long-term and short-term daily liquidity turnover that satisfy this minimum level of 4bps, as well as the trade history requirements for current constituents.

³ See Appendix 1 for more details.

Size Classification

Once a final list of securities has been determined based on the preceding selection process, securities are assigned to the appropriate size segment: small, medium, or large. The size classification process is a global one, which creates consistency in the definition of size across countries and economic regions. At the same time, the process differentiates between emerging and developed markets in recognition of the fact that the distribution of size in these two types of countries is meaningfully different. The size classification process is as follows.

Securities are separated into developed markets and emerging markets. Within each group, securities are ranked in descending order from the largest to the smallest based on company-level total market capitalization, and the cumulative market capitalization is computed. In developed (emerging) markets, all securities within the top 75% (80%) of cumulative market capitalization are classified as large cap, the next 15% are classified as midcap, and the remaining names are classified as small cap.



In order to reduce excess turnover in the universe and the indexes, securities that have previously been classified into a particular size segmentation are buffered up to 5%. For example, a developed market stock that had been previously classified as large cap but has since experienced a decline in price and is now only in the top 79% of cumulative market capitalization will continue to be classified as large cap, despite the fact that it would be classified as a midcap stock if it were a new entry into the universe. Alternatively, a developed market stock that had previously been classified as a midcap security and is currently within the top 72% of cumulative market capitalization is not considered sufficiently large to be classified as large cap even though it would be as a new universe entrant. The minimum company market capitalization thresholds are summarized below.

	Prior Size Segment			
	Unclassified	Large Cap	Mid Cap	Small Cap
Developed Markets				
Large Cap	75%	80%	70%	70%
Mid Cap	90%	95%	95%	85%
Small Cap	100%	100%	100%	100%
Emerging Markets				
Large Cap	80%	85%	75%	75%
Mid Cap	95%	99%	99%	90%
Small Cap	100%	100%	100%	100%

Size Classification (continued)

Additionally, security market capitalization must be at least half of the size threshold for total market capitalization in order to qualify for a given size segment. For example, for a developed market large capitalization stock, if the minimum company market capitalization at the top 80% is USD 10 billion, the security market capitalization needs to be at least USD 5 billion for the security to be a developed market large cap security. Otherwise, that security will be evaluated for the mid cap segment.

Quarterly Rebalance

During the quarterly rebalances, new issues including IPOs and spinoffs may be added to the universe based on the guidelines established at the annual reconstitution. These shares must satisfy all of the previously discussed trade history conditions. Other liquidity requirements are approximately 50% higher for universe inclusion off of the annual cycle. The free float requirement is 30% and median daily liquidity turnover thresholds are 12bps and 10bps for developed and emerging markets, respectively. Size requirements are similarly restrictive for new entrants. Company market capitalization must be at least two times the annual mid-cap company size threshold, and float adjusted market capitalization for a security must exceed the annual company size threshold for the mid-cap segment.

At quarterly rebalances, current index members are not excluded based on either company or security market capitalization, but they must maintain a 10% free float and satisfy all of the trade history requirements. In addition, they must have sufficient trading activity; however, the median daily liquidity turnover requirements are approximately half of the annual levels at 3bp and 2bp daily for developed and emerging markets, respectively.

Current index members are not assigned to new size segments at quarterly rebalances. New index members are assigned to size segments based on the market capitalization thresholds established at the most recent annual reconstitution, described on page 10.

Other Items

Governance

The construction of the Invesco Indexing Investable Universe is managed by the Index Review Team (IRT). The IRT consists solely of members of Invesco Indexing. The IRT meets at least annually, as appropriate, to review and revise index related methodologies described in this document. The IRT meets at least quarterly to review additions and deletions to the Invesco Indexing Investable Universe. All changes to the universe are subject to the approval of the IRT, and the IRT may make adjustments to the universe at its discretion when such changes are reasonable.

Appendix 1

Free Float and Foreign Ownership Limits

Free float for each security in the Invesco Indexing Investable Universe is calculated to determine the shares available in the public equity market by international investors. The shares in the following cases are considered unavailable to the public.

- Foreign ownership limits (FOL): limits imposed by a government or company on a proportion of a security's shares outstanding available for ownership by foreign investors.
- Strategic share ownership: Shares held by certain shareholders whose investment strategy and purpose limit their ability or desire to sell the shares within a short horizon. These include shares owned by employee stock ownership plans, governments, holding companies, insiders, company cross holdings, subsidiaries, and venture capital or private equity firms.

Let non-FOL free float be defined as total shares outstanding less strategic share ownership. Then, free float is calculated as follows:

- If foreign ownership limits exist, then free float = min (FOL - strategic foreign owners, non-FOL free float)
- Otherwise, free float = non-FOL free float

Appendix 2

Stock Exchanges Covered by the III Universe

Exchange	Country	Exchange (continued)	Country
Abu Dhabi	United Arab Emirates	MICEX	Russia
ASX	Australia	Milan	Italy
Athens	Greece	NASDAQ	United States
BSE India	India	New Zealand	New Zealand
Budapest	Hungary	NYSE	United States
CBOE BZX	United States	NYSE American	United States
Colombia	Colombia	OMX Nordic Copenhagen	Denmark
Dubai	United Arab Emirates	OMX Nordic Helsinki	Finland
Egyptian	Egypt	OMX Nordic Stockholm	Sweden
Euronext Amsterdam	Netherlands	Oslo	Norway
Euronext Brussels	Belgium	Philippines	Philippines
Euronext Dublin	Ireland	Prague	Czech Republic
Euronext Lisbon	Portugal	Qatar	Qatar
Euronext Paris	France	Santiago	Chile
Hanoi	Vietnam	Sao Paulo	Brazil
Ho Chi Minh City	Vietnam	Sapporo	Japan
Hong Kong	Hong Kong	Singapore	Singapore
Indonesia	Indonesia	SIX Swiss	Switzerland
Istanbul	Turkey	Taipei	Taiwan
JASDAQ	Japan	Taiwan	Taiwan
JSE	South Africa	Tel Aviv	Israel
Korea	South Korea	Thailand	Thailand
Kuwait	Kuwait	Tokyo	Japan
Lima	Peru	Toronto	Canada
London	United Kingdom	TSX Venture	Canada
Madrid	Spain	Vienna	Austria
Malaysia	Malaysia	Warsaw	Poland
Mexico	Mexico	XETRA	Germany

As of June, 2021

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