

INVESTING IN FRONTIER MARKETS EQUITY

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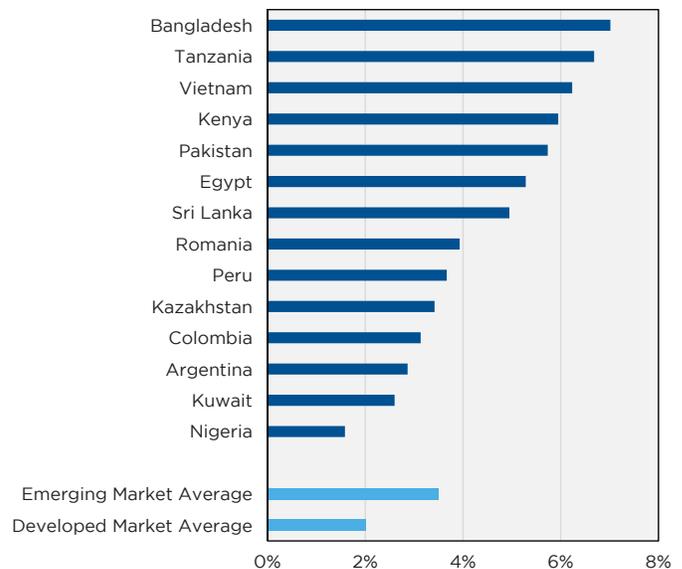
The International Finance Corporation (IFC) used the term “frontier markets” for the first time in June 1996, when it announced that it would start publishing data on 14 frontier markets as part of its Emerging Markets Database. At that time, the IFC defined frontier markets as those that were investable, but less developed in terms of size, liquidity, and accessibility than emerging markets. Today, frontier markets remain an esoteric market segment, one that is relatively small in terms of market capitalization, less liquid, subject to various country-specific risks and high levels of volatility. Frontier markets, by definition, do not benefit from the same level of political stability, financial infrastructure, legal and regulatory framework as do developed markets.

The market segment has been gaining attention in recent years as investors have started to think about frontier markets as the emerging markets of tomorrow. In “Frontier Markets Panorama 2017”, Citigroup referenced EPFR’s finding that assets it tracks that are invested in frontier markets have grown from nearly \$10 billion in 2008 to close to \$20 billion in 2017¹. While assets doubled over this nine-year time frame, they remain modest relative to the overall size of the equity market. The Bloomberg World Exchange Market Capitalization Index estimates the global equity market was close to \$86 trillion as of January 31, 2018. Investors have been attracted to frontier markets by the potential for strong growth, favorable demographics, as well as the diversification benefits.

Economic growth in frontier markets is broad-based and projected to be greater than that of emerging and developed markets (Exhibit 1). Frontier markets also offer a compelling demographic story. According to the International Monetary Fund these countries represented approximately 11% of the world population in 2017. These

economies benefit from a young, growing population, with the working age population not expected to peak until 2035². Many frontier countries are undergoing a move towards urbanization, which will be a positive driver for economic growth. Finally, frontier markets offer opportunities from under penetration. Credit penetration, for example, remains low across most of the market segment. Many basic services (mobile telephony, internet, basic household appliances, and motor vehicles) also remain under penetrated, although it varies greatly among countries.

Exhibit 1: Projected GDP growth (2017-2021)



Source: International Monetary Fund (IMF)

With that said, many frontier market countries might grow their nominal GDP at a higher pace than developed or emerging markets but this growth might not fully translate into financial market growth, as many companies

1 - Citi Research – Frontier Markets Panorama 2017, 22 September 2017

2 - IMF DataMapper as of October 2017. http://www.imf.org/external/datamapper/LP@WEO/OEMDC/ADVEC/WEO_WORLD

in key sectors are not publicly traded, such as state-owned enterprises or multinational companies. While frontier markets have benefited from loose monetary policy over the last decade, global tightening could lead to macroeconomic instability.

Currency can have a large effect on investment returns. Frontier market currencies are often linked to the performance of volatile commodities, such as oil and coffee. Currency risk is very important in frontier markets as hedging instruments on many for these currencies are illiquid, expensive, or may not exist.

Other concerns include weaker institutions and fragile government systems that can result in high political risk and regulatory uncertainty. Government actions in frontier markets such as regime changes, war, ability and desire to repay debt, and the expropriation of privately held assets can significantly impact return on capital. Military coups, terrorist attacks and the ability to develop regulatory infrastructure are other risks.

For investors in Frontier Markets, a focus on corporate governance can help avoid pitfalls. Although the ease of accessibility to transparent and reliable information, as well as the depth of financial and governance disclosures can vary widely, companies in Frontier Markets tend to have lower standards than those of developed and emerging countries. While traditional asset classes are

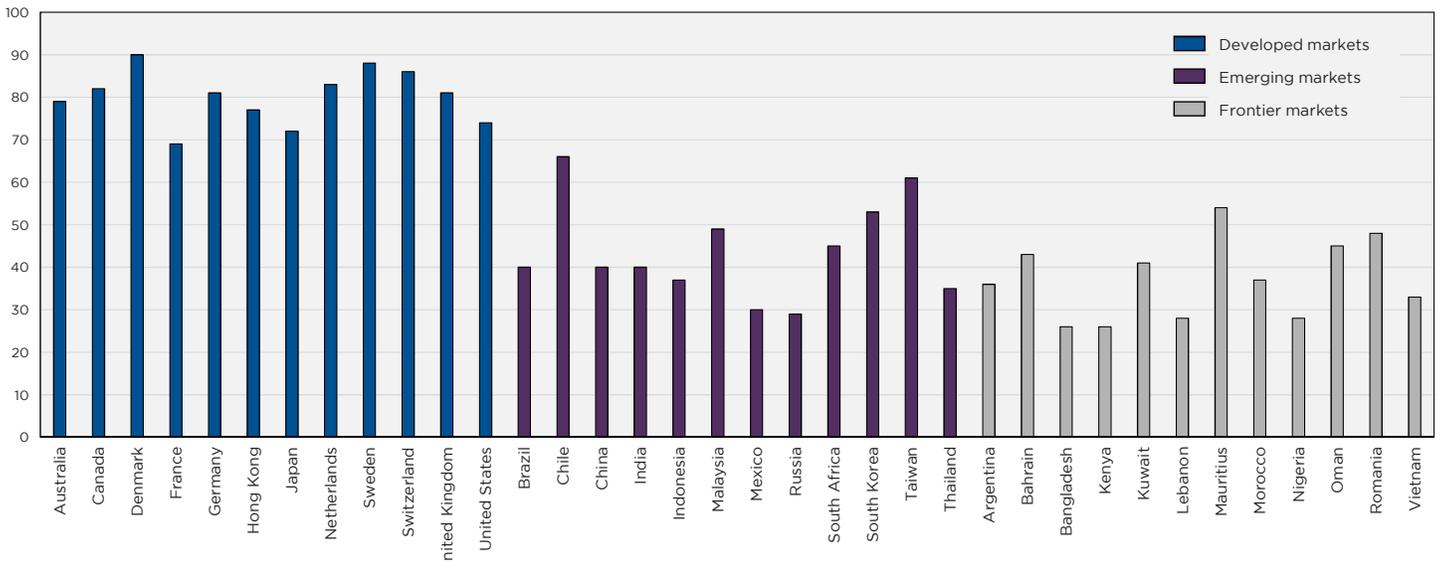
covered by a broad range of sell-side analysts, this is not yet the case for frontier markets. Market inaccessibility and low liquidity result in a lower level of participation from foreign investors, which in turn translates to lower coverage by international sell-side analysts. For active managers that engage company management directly, this can provide a competitive edge. But it also means less availability of data and insight.

Corruption is also a problem in many frontier countries. Exhibit 2 shows the Corruption Perceptions Index Scores, as published by Transparency International, an international non-governmental organization that combats global corruption. Countries are rated on a scale of 0 to 100, with 0 indicating rampant corruption.

Investing In frontier markets

The previously mentioned IFC database, which first published data on frontier markets, was acquired by Standard & Poor’s at the end of 1999. Almost a decade later, S&P launched the S&P Select Frontier Index in October 2007, which was closely followed by the MSCI Frontier Markets Index in December 2007. After S&P launched the S&P Frontier Broad Market Index (“BMI”) in November 2008, FTSE completed the trio of major global indices in September 2014 when it launched the FTSE Frontier Index Series.

Exhibit 2: Corruption Perceptions Index for the most important countries in developed, emerging and frontier markets



Source: Transparency International (2016)

Index providers such as S&P, MSCI and FTSE each have their own country classification methodologies regarding what constitutes developed, emerging or frontier markets. While the thresholds and specifics may differ for each of the methodologies, there is some basic common criteria across the three. Focused on market capitalization, market liquidity, economic health and market regulations, the methodologies applied can lead to diverse sets of underlying constituents, in terms of both countries and companies. The MSCI Frontier Markets Index tends to be the index most frequently referenced by active managers.

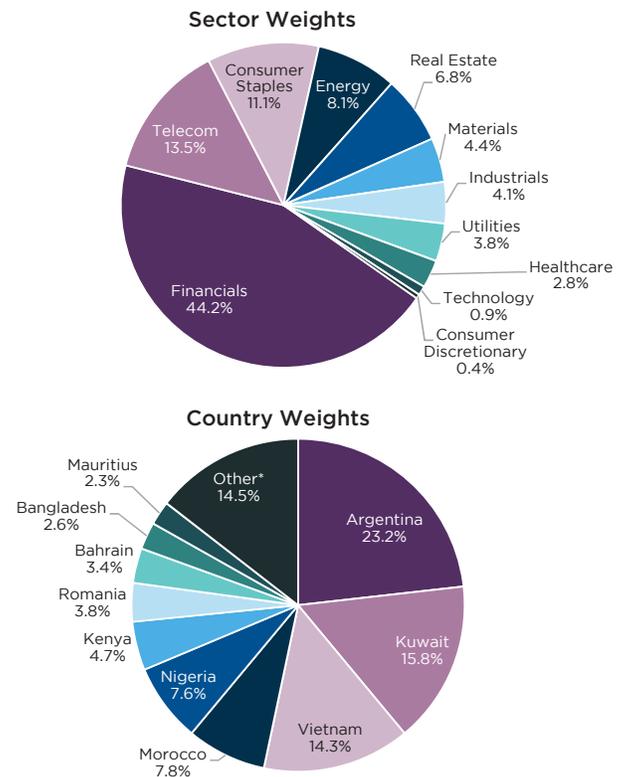
Composition of the MSCI Frontier Markets Index

Because of the limited number of companies that are publicly traded and not government-owned, the number of constituents in the universe is limited. Similar to developed and emerging market indices, all Frontier Market indices are concentrated in terms of countries and sectors, but the largest stocks in the indices dominate the universe. Exhibit 3, below, compares the MSCI, FTSE and S&P Frontier Market indices to other common emerging and developed market indices. Of note, the total capitalization of the MSCI Frontier Markets Index is \$138.8 billion USD, which is less than the total market capitalization of McDonald's Corporation, which was \$138.6 billion USD at the end of January 2018. The market capitalization of Apple Inc., the largest company in the world, was \$864.8 billion, over six times the size of the MSCI Frontier Markets Index.

The specific sector and country weights of the MSCI Frontier Markets Index are in Exhibit 4. Dominated by Financials and Telecommunication Services, the

concentration in a few sectors or industries is typical of early-stage economies. At the country level, the most liquid countries usually represent the highest weights in the index. Currently, Argentina is the largest country in the index, and the top five countries represent 68.7% of the index.

Exhibit 4: MSCI Frontier Markets Index sector and country weights (as of January 31, 2018)



*Other countries include Burkina Faso, Benin, Croatia, Estonia, Guinea-Bissau, Ivory Coast, Jordan, Lebanon, Lithuania, Kazakhstan, Mali, Niger, Oman, Romania, Serbia, Senegal, Slovenia, Sri Lanka, Togo, and Tunisia.

Source: MSCI

Exhibit 3: Characteristics of major equity indices (as of January 31, 2018)

Index	Number of countries	Number of stocks	Top 3 sectors (%)	Top 3 countries (%)	Top 10 stocks (%)	Market Capitalization (USD Billions)				
						Total	Largest	Smallest	Average	Median
FTSE Frontier Index	22	370	59.4	52.8	27.6	138.9	7.1	0.011	0.375	0.131
S&P Frontier BMI	34	545	58.1	45	23.9	265.4	17.1	0.003	1.2	0.371
MSCI Frontier Markets	29	111	68.8	53.3	36.7	138.8	7.2	0.092	1.3	0.683
MSCI Emerging Small Cap	24	1,823	47	54.2	3.2	865.9	3.5	0.010	0.475	0.349
MSCI Emerging Markets	24	846	61.8	56.7	25.5	5,884.2	337.8	0.558	7	3.1
MSCI EAFE	21	926	48.8	52.2	11.2	15,799.7	269.2	1.4	17.1	8.4
MSCI All Country World	47	2,495	49.6	65.7	9.9	48,425	864.8	0.557	19.4	7.8
MSCI USA Micro Cap	1	1,010	62.5	100	4	127.9	780.4	0.003	0.127	0.096

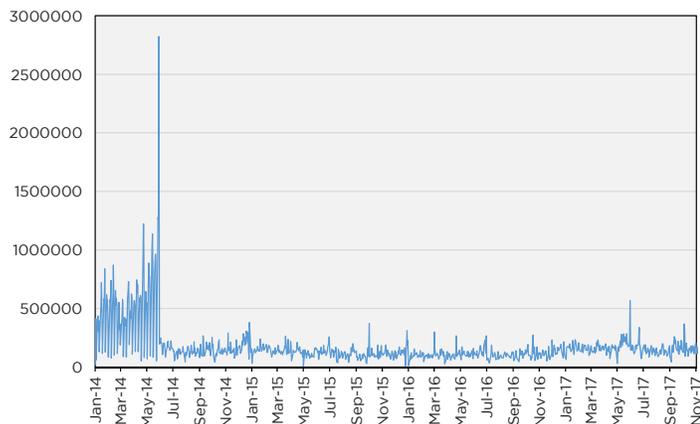
Source: FTSE Russell, Standard & Poor's, MSCI

The countries that are defined as frontier markets can evolve over time. Over the past decade, MSCI has downgraded Jordan (2008) and Morocco (2013) from emerging to frontier markets, while Qatar and the United Arab Emirates were upgraded to emerging in 2014. Countries can move between classifications as well, as evident when Pakistan was downgraded from emerging to frontier markets in 2009 but moved back to emerging in June 2017. MSCI currently has Argentina under review for potential reclassification from frontier markets to emerging markets. MSCI will communicate its decision in June 2018. Because Argentina currently represents 23% of the MSCI Frontier Markets Index, both liquidity and the Index characteristics could change dramatically later in 2018.

Liquidity of the MSCI Frontier Markets Index

Historically, the reclassification of countries can lead to periods where the frontier markets universe shrinks or become less liquid. Countries that move from frontier to emerging markets are typically the most liquid markets and represent a significant part of the frontier index. As indicated in Exhibit 5, the overall daily trading volume of the MSCI Frontier Markets Index decreased significantly when Qatar and UAE, which accounted for 28% of the index at the time, were reclassified at the end of May 2014. Given the smaller weight of Pakistan in the index, the impact of its withdrawal in June 2017 was less significant. At 23% of the index, the potential effect of Argentina moving out of the index is significant.

Exhibit 5: MSCI Frontier Markets Index Daily Traded Value (2014-2017)



Source: Bloomberg

Diversifications benefits

Frontier markets can offer significant diversification benefits. Correlations between the individual countries within frontier markets as well as the broad market and traditional equity asset classes (see Exhibits 6 and 7) have historically been low and have decreased in recent years. In general, frontier markets tend to be affected more by domestic factors than global factors. While these low correlations translate into attractive diversification benefits for the market segment, it can be difficult for investors to benefit greatly due to limited allocation size.

Exhibit 6: Correlations of monthly returns for the past five years (as of December 31st, 2017)

	MSCI Frontier Markets	MSCI Emerging Small Cap	MSCI Emerging Markets	MSCI ACWI	MSCI World	MSCI EAFE	S&P 500
MSCI Frontier Markets	1.00	---	---	---	---	---	---
MSCI Emerging Small Cap	0.61	1.00	---	---	---	---	---
MSCI Emerging Markets	0.56	0.92	1.00	---	---	---	---
MSCI All Country World	0.63	0.76	0.78	1.00	---	---	---
MSCI World	0.61	0.70	0.71	0.99	1.00	---	---
MSCI EAFE	0.65	0.72	0.73	0.94	0.94	1.00	---
S&P 500	0.50	0.59	0.59	0.93	0.95	0.79	1.00

Source: Factset Research Systems Inc., MSCI and Standard & Poor's

Exhibit 7: Correlations of monthly returns for the past five years (as of December 31st, 2017)

	MSCI All Country World	MSCI Argentina	MSCI Vietnam	MSCI Kuwait	MSCI Nigeria	MSCI Kenya	MSCI Romania
MSCI All Country World	1.00	---	---	---	---	---	---
MSCI Argentina	0.45	1.00	---	---	---	---	---
MSCI Vietnam	0.41	0.11	1.00	---	---	---	---
MSCI Kuwait	0.45	0.19	0.24	1.00	---	---	---
MSCI Nigeria	0.20	0.05	0.12	0.21	1.00	---	---
MSCI Kenya	0.32	0.14	0.15	0.25	0.43	1.00	---
MSCI Romania	0.55	0.12	0.30	0.34	0.27	0.13	1.00

Source: Factset Research Systems Inc. and MSCI

Market access

High transaction costs, high custody costs, restrictions on foreign ownership and long deadlines to invest/register in certain frontier markets represent access barriers for investors. These high barriers and information inefficiency lead to higher fees and liquidity constraints on investment vehicles. The lack of liquidity within frontier markets can lead active managers to look for ways to expand the investable universe. Including small emerging markets' countries that have characteristics similar to frontier markets, is one way to accomplish this. Despite these measures, the universe of "reasonably" liquid names remains extremely small and it can be difficult for managers to trim or liquidate positions at short notice, especially during bear markets. This liquidity constraint leads to very low capacity levels for active equity strategies. It is not uncommon for managers to have hard capacity limits around \$500 million USD.

There are a variety of ways to get exposure to frontier markets equities, including dedicated active frontier markets funds, frontier ETFs, regional strategies or even emerging markets strategies that opportunistically invest in frontier markets. The universe of dedicated active frontier markets equity strategies is very narrow. As of December 31, 2017 the eVestment Alliance database contained 43 active frontier market equity strategies, with slightly less than half launched within the last five years. Given the capacity-constrained nature of the market segment, many products are closed to new investors or have limited capacity available.

Conclusion

Frontier markets represent a very small part of the world financial markets. While there are merits to the investment thesis for Frontier Markets - economic growth and diversification benefits - the risks are plentiful. In addition to being highly illiquid, frontier markets face important political, regulatory and economic challenges. These countries can be vulnerable to currency fluctuations and offer investors a very narrow set of investment opportunities. The potential upcoming reclassification of Argentina from frontier to emerging markets will significantly reduce the liquidity of frontier markets, as defined by MSCI, as it becomes a smaller market segment

with even less capacity to absorb large flows. Investors interested in frontier markets should have a long-term investment horizon, an ability to withstand volatility, and be able to take on illiquid investments. Due to the size of the universe, the allocation an institutional investor will be able to make to frontier markets will be small, relative to the size of the overall equity portfolio and may quickly become an insignificant portion of its broader portfolio. Perhaps the best implementation tactic is to allow emerging markets managers to opportunistically invest in emerging markets, if they have the appropriate capabilities.

Definitions

FTSE Frontier Markets Index is a free float-adjusted, market capitalization-weighted index that is designed to measure equity market performance within frontier markets. As of January 2018 the FTSE Frontier Markets Index consisted of the following 22 frontier market countries: Argentina, Bangladesh, Botswana, Bulgaria, Croatia, Estonia, Ivory Coast, Jordan, Kazakhstan, Kenya, Lithuania, Mauritius, Morocco, Nigeria, Occupied Palestinian Authority, Oman, Romania, Serbia, Slovenia, Sri Lanka, Tunisia and Vietnam. The index includes FTSE's assessment of the most "investable" stocks.

MSCI All Country World Index is a standard, capitalization-weighted large and mid-cap representation of developed and emerging equity markets. As of January 2018 the MSCI All Country World Index consisted of the following 23 developed and 24 emerging countries: Developed: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, United Kingdom and the United States. Emerging: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and the United Arab Emirates. The index includes MSCI's assessment of the most "investable" stocks, determined by size, trading volume, and free float. Performance is shown net of foreign withholding tax on the dividends paid.

MSCI Argentina Index is designed to measure the performance of the large and mid-cap segments of the Argentine market. As of January 2018, the index had 10 constituents and covered approximately 85% of the country's equity universe.

MSCI EAFE (Europe, Australasia and Far East) Index is a standard, capitalization-weighted representation of developed equity markets excluding the U.S. and Canada. As of January 2018 the MSCI EAFE Index consisted of the following 21 developed countries: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom. The index includes MSCI's assessment of the most "investable" stocks, determined by size, trading volume, and free float. Performance is shown net of foreign withholding tax on the dividends paid.

MSCI Emerging Markets Index is a free float-adjusted, market capitalization-weighted index that is designed to measure equity market performance within emerging markets. As of January 2018 the MSCI Emerging Markets Index consisted of the following 24 emerging market countries: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and the United Arab Emirates. The index includes MSCI's assessment of the most "investable" stocks, determined by size, trading volume, and free float. Performance is shown net of foreign withholding tax on the dividends paid.

MSCI Emerging Markets Small Cap Index is a free float-adjusted, small cap market capitalization-weighted index that is designed to measure equity market performance within emerging markets. The index covers approximately 14% of the free-float adjusted market capitalization in each country. As of January 2018 the MSCI Emerging Markets Index consisted of the following 24 emerging market countries: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and the United Arab Emirates. The index includes MSCI's assessment of the most "investable" stocks, determined by size, trading volume, and free float. Performance is shown net of foreign withholding tax on the dividends paid.

MSCI Frontier Markets Index is a free float-adjusted, market capitalization-weighted index that is designed to measure equity market performance within frontier markets. As of January 2018 the MSCI Frontier Markets Index consisted of the following 29 frontier market countries: Argentina, Bahrain, Bangladesh, Burkina Faso, Benin, Croatia, Estonia, Guinea-Bissau, Ivory Coast, Jordan, Kenya, Kuwait, Lebanon, Lithuania, Kazakhstan, Mauritius, Mali, Morocco, Niger, Nigeria, Oman, Romania, Serbia, Senegal, Slovenia, Sri Lanka, Togo, Tunisia and Vietnam. The index includes MSCI's assessment of the most "investable" stocks, determined by size, trading volume, and free float. Performance is shown net of foreign withholding tax on the dividends paid.

MSCI Kenya Index is designed to measure the performance of the large and mid-cap segments of the Kenya market. As of January 2018, the index had four constituents and covered approximately 85% of the country's equity universe.

MSCI Kuwait Index is designed to measure the performance of the large and mid-cap segments of the Kuwait market. As of January 2018, the index had eight constituents and covered approximately 85% of the country's equity universe.

MSCI Nigeria Index is designed to measure the performance of the large and mid-cap segments of the Nigerian market. As of January 2018, the index had 12 constituents and covered approximately 85% of the country's equity universe.

MSCI Romania Index is designed to measure the performance of the large and mid-cap segments of the Romanian market. As of January 2018, the index had five constituents and covered approximately 85% of the country's equity universe.

MSCI USA Micro Cap Index is designed to measure the performance of the micro-cap segment of the U.S. equity market. The index represents approximately 1% of the free-float adjusted market capitalization in the United States.

MSCI Vietnam Index is designed to measure the performance of the large and mid-cap segments of the Vietnamese market. As of January 2018, the index had 15 constituents and covered approximately 85% of the country's equity universe.

MSCI World Index represents large and mid-cap equity performance across developed markets countries, covering approximately 85% of the free float-adjusted market capitalization in each. This index offers a broad global equity benchmark, without emerging markets exposure. As of January 2018 the MSCI World Index consisted of the following 23 developed countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, United Kingdom, and the United States. The index includes MSCI's assessment of the most "investable" stocks, determined by size, trading volume, and free float. Performance is shown net of foreign withholding tax on the dividends paid.

S&P 500 Index represents the largest 500 stocks in terms of market capitalization in the United States. It captures approximately 80% of the available market capitalization.

S&P Frontier BMI measures the performance of relatively small and illiquid markets, even by emerging market standards. Each country sub-index contains all publicly listed equities with the objective of meeting 80% total market capitalization, subject to size and liquidity. S&P Dow Jones Indices calculates frontier market indices for Argentina, Ecuador, Jamaica, Panama and Trinidad & Tobago in Latin America and the Caribbean; Bulgaria, Croatia, Cyprus, Estonia, Latvia, Lithuania, Romania, the Slovak Republic, and Slovenia in Europe; Bahrain, Botswana, Côte d'Ivoire, Ghana, Kazakhstan, Kenya, Kuwait, Jordan, Lebanon, Mauritius, Morocco, Namibia, Nigeria, Oman, Tunisia, Zambia in the Middle East and Africa; and Bangladesh, Sri Lanka, and Vietnam in Asia.

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