

Research

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# Frontier Markets

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## Executive summary

Frontier Markets constitute the one segment of the equity market that is typically missing within institutional portfolios. These markets represent developing countries with high rates of economic growth, but small and relatively illiquid stock markets. Frontier Markets are often in their infancy and have attracted attention due to their diversification opportunities and growth potential. Equities listed in Frontier Markets have become increasingly investable, attracting investors that are looking to benefit from early-adopter status in an asset class that some participants believe has the potential to become a significant portion of the global equity opportunity set.

## Attractive economic fundamentals

- Higher historic GDP growth rates than their Developed and Emerging counterparts.
- Favourable demographics underpinned by a relatively large and young population.
- Relatively strong fiscal position.
- Rapid urbanization and technological advances, coupled with low labour costs make Frontier Markets attractive destinations for manufacturing hubs.

## Lower volatility than perceived

- Many investors ignore Frontier equities as they are perceived to be too risky and volatile. However, Frontier Markets have historically been less volatile than both Developed and Emerging Markets.

## Diversification

- A significant challenge for investors in recent years has been the increasing correlations between asset classes. As traditional Emerging Markets have developed, the correlation between Emerging and Developed Market securities has converged.
- Frontier economies remain more local in character, illustrated by the low correlation with Developed and Emerging Markets. Additionally, Frontier Markets have low correlations with each other, providing further opportunities for diversification.

## Valuations remain relatively low

- Frontier Markets trade at a discount to both Emerging and Developed Markets.
- Despite relative higher performance over the past three years, Frontier Markets still trade at a lower PE than their Emerging Market counterparts.

## A. Introduction to Frontier Markets

Frontier markets constitute the one segment of the equity market that is typically missing within institutional portfolios. They represent developing countries with high rates of economic growth but small and relatively illiquid stock markets. These markets are often at an early stage of development and have attracted attention due to their diversification opportunities and growth potential. Equities listed in Frontier Markets have become increasingly investable, attracting investors looking to benefit from early-adopter status in an asset class that some participants believe has the potential to become a significant portion of the global equity opportunity set.

All markets were once considered Frontier prior to undergoing economic reform, developing infrastructure, and building platforms and regulations for share trading. 220 years ago the New York Stock Exchange was created under a buttonwood tree in order to facilitate trading amongst brokers in just a handful of listed companies. At the time no one could foresee the United States in its infancy would grow to become today's largest economy. As recently as 1980, China was widely considered a Frontier Market but is today the second largest economy in the world. Some Frontier Markets did not even exist a decade ago. However, many now benefit from the same technology and exchange platforms used by developed nations that can support and promote rapid growth. Of course there are examples in Argentina and Venezuela (the latter removed from FTSE indexes in 2003) that illustrate slow transitions, and even regression. However the trend over time has been towards global growth and open access to financial markets. If this trend continues, the Frontier Markets of today could become the Developed Markets of tomorrow.

### Frontier classification

People tend to associate Frontier Markets with low income developing countries but according to the World Bank<sup>1</sup>, the per capita Gross National Income (GNI) of Frontier countries range from high income (> \$12,476) to low income (< \$1,045) as of year-end 2013. For example, in 2013 Qatar was ranked second in the world with a GNI Per Capita of \$85,550, while Bangladesh recorded a GNI Per Capita of \$900. Country Classification is largely independent of GNI or economy size, and instead focuses on a country's political and market environment. Classification criteria include the depth and breadth of financial markets, legal and regulatory infrastructure, and general ease with which foreign investors can do business.

### Diversification

A major challenge for investors in recent years has been the rising correlations between asset classes, which have reduced diversification. As the traditional Emerging Markets have developed and become more entrenched in global trade, they have begun to take on similar risk and return characteristics as their Developed counterparts. This is illustrated by the convergence, in recent years, of the correlation of the FTSE Developed All Cap Index with the FTSE Emerging All Cap index.

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<sup>1</sup> <http://data.worldbank.org/about/country-and-lending-groups>

## Emerging and Developed Correlation Convergence



\*Correlation calculated using rolling daily total returns annualized based on 252 trading days in a year  
 Source: FTSE, data as at June 30, 2014. Past performance is no guarantee of future results. Please see the disclaimer page for important legal disclosures.

The 5 year correlation (using monthly index returns) was 0.87 as of June 30th 2014. Frontier Markets, on the other hand, remain more local in character, heavily driven by internal economic and political dynamics. The 5 year correlation of the FTSE Frontier Index with the FTSE Developed All Cap and Emerging All Cap indices remain relatively low at 0.58 and 0.52 respectively as of June 30th 2014. Furthermore, Frontier Markets have relatively low correlations amongst each other. This is highlighted by cross-country correlation between Frontier Markets of 0.30 compared with 0.52 for Emerging and 0.70 for Developed. Thus, a Frontier Markets Index offers diversification and low correlation to other asset classes held in a typical index.

<b>1 year correlation</b>	<b>FTSE Frontier Index</b>	<b>FTSE All Cap Emerging Index</b>	<b>FTSE All Cap Developed Index</b>
FTSE Frontier Index	1.0000	0.4963	0.4228
FTSE All Cap Emerging Index		1.0000	0.7707
FTSE All Cap Developed Index			1.0000

\*1 Year Correlation using daily data

<b>3 year correlation</b>	<b>FTSE Frontier Index</b>	<b>FTSE All Cap Emerging Index</b>	<b>FTSE All Cap Developed Index</b>
FTSE Frontier Index	1.0000	0.5543	0.5593
FTSE All Cap Emerging Index		1.0000	0.8653
FTSE All Cap Developed Index			1.0000

\*\*3 Year Correlation using weekly data (Wednesday to Wednesday)

5 year correlation	FTSE Frontier Index	FTSE All Cap Emerging Index	FTSE All Cap Developed Index
FTSE Frontier Index	1.0000	0.5132	0.5772
FTSE All Cap Emerging Index		1.0000	0.8765
FTSE All Cap Developed Index			1.0000

\*\*\*5 Year Correlation using month end data

Source: FTSE, data as at June 30, 2014. Past performance is no guarantee of future results. Please see the disclaimer page for important legal disclosures.

## Academics

Additionally, some academic studies may present an argument for Frontier Markets' inclusion. For example, the Modern Portfolio Theory (Markowitz 1952) quantifies the benefits of diversification by illustrating the potential for higher returns and lower risk that can be achieved by spreading investments across a larger opportunity set. Furthermore, according to the Efficient Market Hypothesis (Eugene Fama), you cannot beat the market since current prices reflect all available information. The Efficient Market Hypothesis argues that only the "market" portfolio is efficient, and as Frontier Markets represent 1% of total global market cap and 4% of global GDP, it can be argued that Frontier Markets should represent at least a similar allocation in diversified portfolios.

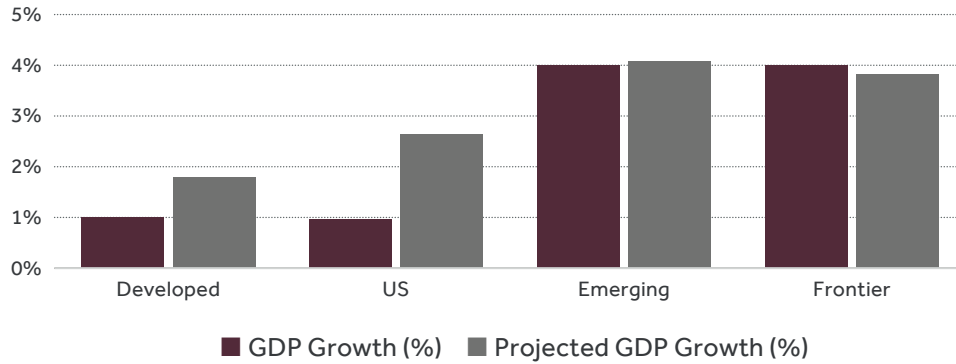
In many ways, Frontier Markets offer a natural evolution for investors who have already embraced the Emerging Markets, and are looking for additional potential high growth opportunities that may increase diversification. Many market participants believe that these markets have the potential to grow at a faster rate than the rest of the global economy in the future by becoming more efficient, improving their infrastructure, and developing more robust regulatory and capital investing frameworks.

## B. Economic fundamentals

### Economic growth

Investors have been attracted to the high growth rates of Frontier Markets in recent years, and the International Monetary Fund (IMF) estimates that Nominal and Real GDP growth will continue to be higher in Frontier Markets than the more advanced economies for decades to come.

## GDP Growth

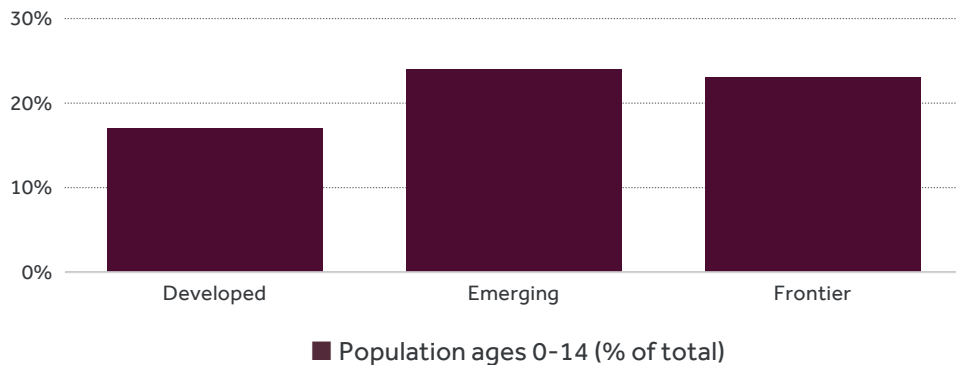


\*Source World Bank as at September 30, 2012 (2007 - 2012 actual GDP growth) and IMF (Projected GDP growth 2012 - 2020). Past performance is no guarantee of future results. Please see the disclaimer page for important legal disclosures.

## Favourable demographics

The strong growth of Frontier countries is underpinned by their large and relatively young populations. These countries represent nearly 12% of the global population and, in contrast to many of the world's advanced economies, most Frontier countries have a higher ratio of working (and soon to be working) population to current or projected retirement population.

### Younger Population

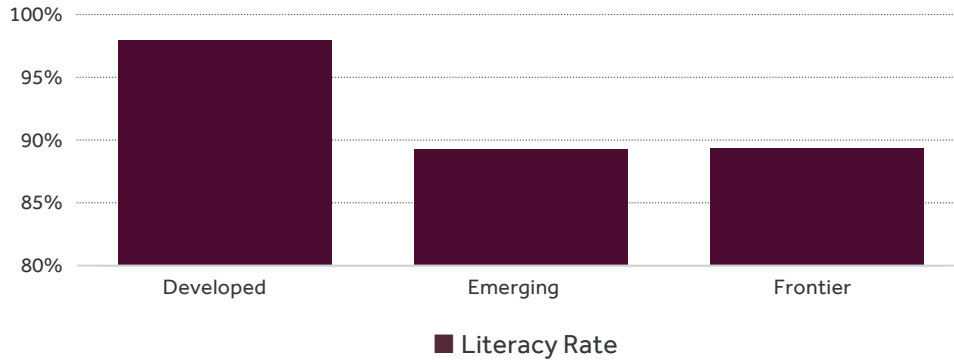


\*Source World Bank as at September 30, 2012

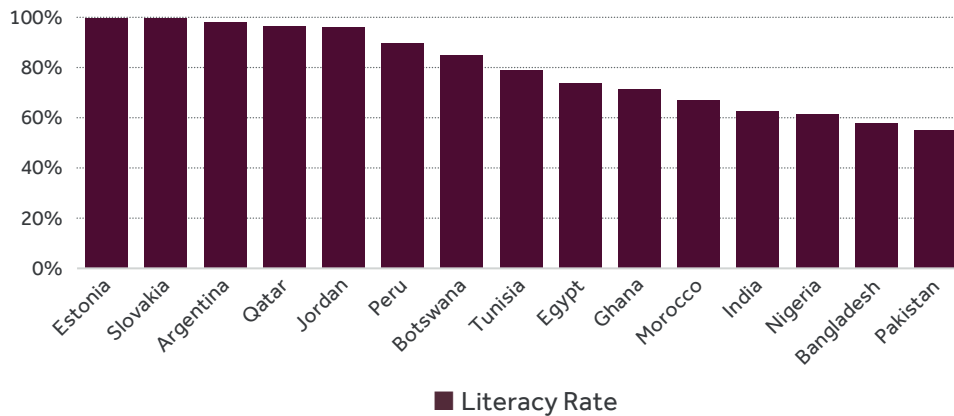
This is especially evident at a time when the developed world is aging rapidly. For example, only 12% of the people in Hong Kong, and 13% of those in both Japan and Germany are under age 15, whereas this proportion is much higher in Nigeria, Kenya and Bangladesh at 44%, 42% and 30% respectively. A large ratio of young people to total population can lead to a bigger workforce, as well as a larger consumer base for businesses to sell to.

However, favourable demographics alone do not ensure that a large, young population will result in a more productive workforce. Literacy rates can be used as a predictive measure of productivity and are an important factor for economic success. Countries which lag their peers in terms of literacy may not have equal job opportunities, and may experience sluggish growth, and a slower transition to developed status. It is worth noting that the average literacy rate in Frontier Markets is actually slightly higher than their Emerging Market counterparts, and rates in countries such as Estonia (99.8%) and Botswana (85.1%) are significantly higher than the large Emerging Market India (62.8%).

### Literacy Rate – Country Classification Averages



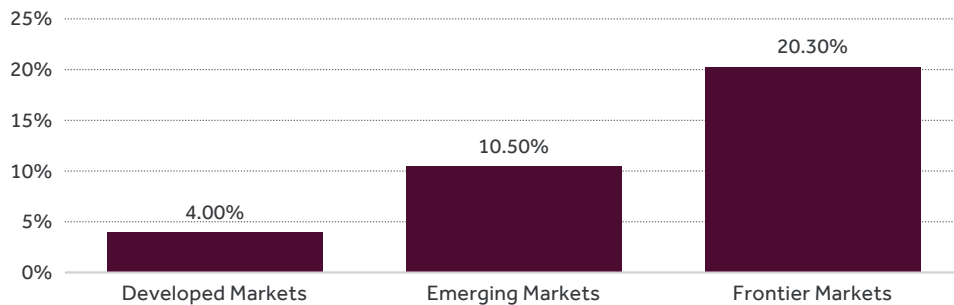
### Literacy Rate – Country Classification Averages



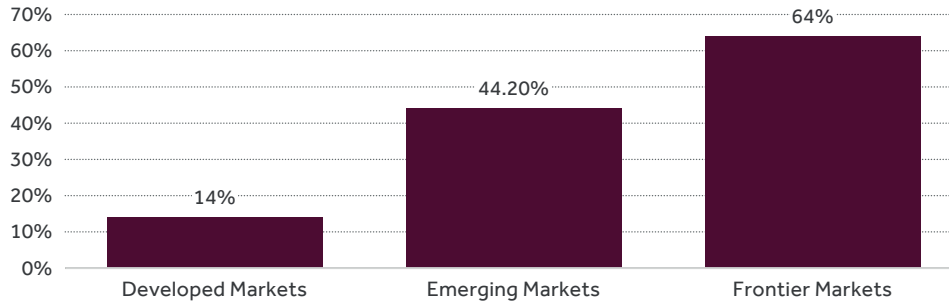
\*Source the CIA World Factbook, based on latest available country estimates at December 31, 2013

In addition, a large and growing percentage of the population in Frontier Markets live in, and are moving to, cities. Workers are shifting from low productivity agricultural jobs to high productivity urban manufacturing jobs. Outsourcing and globalization trends continue to create jobs and drive manufacturing growth toward Frontier countries. These developments are expected to continue as regulation (for example emissions limits) and taxation within the developed world continue to escalate. Continued expansion in the labour force, and a rapid pace of urbanization provide potential catalysts for economic growth.

### Growing Labor Force – Projected Employment Growth 2010-2020



## Urbanization – Projected Growth in Urban Population 2010-2020

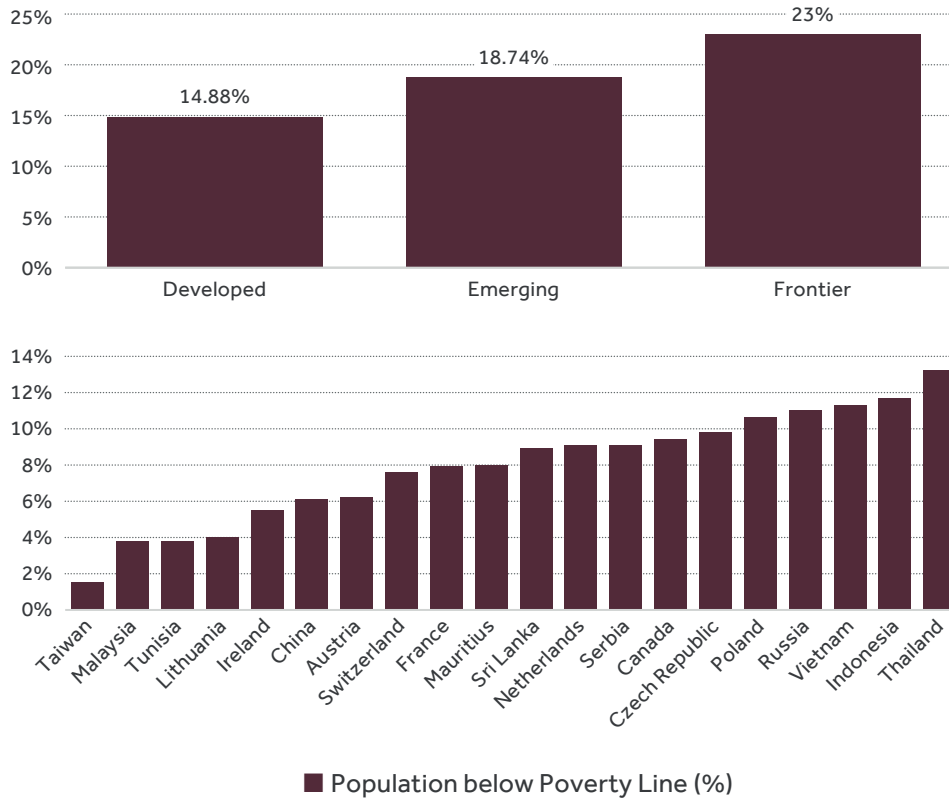


\*Source UN as at October 31, 2012

Combined with a growing population, a country's poverty rate is a reliable indicator of its consumer strength, as it illustrates how much of the population generates disposable income. An important theme in Frontier Markets, as in Emerging Markets, is the rise of a consumer class as more people break out of mere subsistence living. Indeed, this trend is already significantly more advanced in several Frontier countries, (for example Mauritius) compared with some countries in the Emerging and even the Developed sectors (i.e. India and Greece). When ranking countries by the percentage of their populations below the poverty line, it is interesting to note that three of the ten least impoverished nations are Frontier countries. Less than 5% of the population of Frontier countries Lithuania and Tunisia are estimated to live below the poverty line, while over 20% of the populations of Developed countries Italy, Greece and Israel are estimated to be living in poverty. As economic growth continues, poverty rates in Frontier countries have further to fall, thus adding support to the growing number of consumers with disposable income. The companies that supply this already significant and expanding consumer base have significant growth potential.



## Poverty Rate



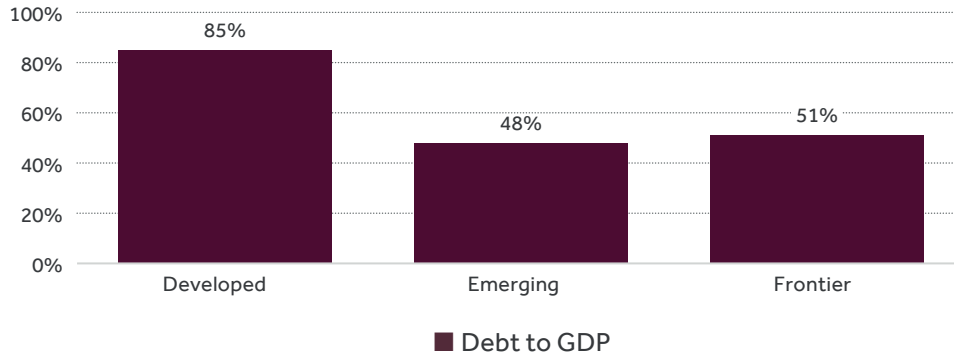
\*Source the CIA World Factbook, based on latest available country estimates at December 31, 2013

## Strong fiscal position

Another factor that could support growth in Frontier Markets is their relatively strong fiscal position as compared to their Developed counterparts. Global credit and equity growth has exceeded the pace of GDP growth for the past 50 years. Studies show that global debt grew nearly 5 times as fast as GDP over the last decade<sup>2</sup>. This increasing debt burden was a major contributor to the financial crisis in 2008. In efforts aimed at avoiding future crises, developed markets have placed new regulations on the financial sector which may slow growth in these countries. Compared to their Developed counterparts, Frontier Markets have exceptionally low debt burdens. The average Debt to GDP ratio for Developed countries was 85% compared to 51% for Frontier countries, according to data compiled by the World Bank (2012). Nigeria and Estonia both have Debt to GDP ratios under 15%, whereas the US and Japan have ratios of 94% and 196% respectively.

<sup>2</sup> Sonders, Liz Ann. 2009. "Outlook 2009." Presentation to the CFA Society of San Diego.

## Debt to GDP



\*Source World Bank as at September 30, 2012

Credit growth has been more restrained in the Frontier sector. The Frontier Markets of Asia and Africa have a largely undeveloped banking sector, and improvements in this area may lead to substantial growth in the future. The relatively strong fiscal situation in Frontier countries is compounded by the favourable demographics mentioned earlier. These factors can help contain government borrowing, and drive economic growth. The increasing working-age population and strong fiscal position in Frontier Markets should result in budget surpluses that can be reinvested in the economy.

## Technological advancements

Another aspect fuelling growth in Frontier Markets is their ability to adopt technology that has been developed in the factories and labs of the more advanced economies. For example, frontier countries have skipped the need for expensive fixed-line infrastructure based on copper wire, and moved straight to more efficient wireless, and fiber-optic cables. As technological and infrastructure advances continue, the growth in Frontier Market economies should persist as well. Technology also has an effect on the global manufacturing base. For many years Emerging Markets have been the centre of manufacturing growth, but recently the shift has been to the Frontier Markets. A current example of this trend is the shift in manufacturing hubs from China to Vietnam. As China has grown, so have the labour costs within its borders. Vietnam now enjoys a substantial cost advantage over its neighbour, and many companies have decided to move their manufacturing plants to Vietnam. Profits generated by the manufacture and production of advanced products often gravitate from the original inventors to the ultimate producers. For example, producers of automobiles, televisions and smart phones located in China, Japan, and South Korea have made a greater profit than those who originally invented such devices in Developed countries. This trend is likely to continue and should boost growth in Frontier Markets as they become established manufacturing hubs.

## Natural resources

Many Frontier Markets have an abundant wealth of natural resources. As Emerging Market economies maintain their growth and move towards Developed status, the demand for raw materials should continue to rise. For example, as China's industrial base has rapidly advanced, the country has made large investments in oilfields, mines and farmland in Africa and Latin America. Qatar is ranked third in the world in terms of Natural Gas Reserves (CIA World Factbook 2013), and Botswana is ranked eighth in Copper resource deposits (DB Research 2013). These countries have benefited from growth in Emerging Markets which has led to increased demand for fuel and industrial metals. Raw materials available in Frontier Markets should continue to support their economic growth for years to come.

## C. Frontier Equity Markets

Frontier countries have been beneficiaries of international organizations such as IOSCO and regional stock exchange associations. These organizations have ushered in the standardization of existing equity markets and the rapid development of Emerging and Frontier Market stock exchanges. Working with financial and academic support from agencies like the World Bank, IMF and OECD, they have helped Frontier countries to develop the necessary regulatory, legal, clearing and settlement systems needed to attract foreign portfolio capital. The diffusion and availability of trading technology platforms and electronic communication has further enabled the development of market infrastructure. Even with these recent developments, however, Frontier Markets remain very small and illiquid in comparison to their Developed and Emerging counterparts.

	Developed Markets	Emerging Markets	Frontier Markets
	FTSE Developed All Cap Index	FTSE Emerging All Cap Index	FTSE Frontier Index
Number of Constituents	5,453	1,788	355
Free Float Market Cap (USD)	37.33T	3.61T	121.92B
3 Month Average Daily Traded Value (USD)	18.06T	9.21T	589.25B

\*Source; FTSE, data as of December 31, 2013. Past performance is no guarantee of future results. Please see the disclaimer page for important legal disclosures.

## Industry allocation

Many Frontier economies, particularly those in the Gulf Cooperation Council (GCC), were built around extracting oil and natural resources out of the ground, and creating a banking sector to support these industries. Thus, Frontier Market indexes tend to be overweight financials. Energy stocks are often thought to be a main driver of these markets, but Frontier energy companies tend to be state owned. As a result, Energy actually represents only a modest portion of Frontier indices. In fact, the biggest opportunity may come from the consumer sector, as growing populations and low labour costs (which lead to manufacturing jobs) create an emerging middle class available to purchase goods.

ICB code	ICB industry	# of constituents	Free float market cap (\$m)	Index weight (%)
0001	Oil & Gas	20	14,659	10.79
1000	Basic Materials	15	2,464	1.81
2000	Industrials	54	13,421	9.88
3000	Consumer Goods	46	16,066	11.82
4000	Health Care	8	4,305	3.17
5000	Consumer Services	26	3,560	2.62
6000	Telecommunications	13	11,024	8.11
7000	Utilities	18	3,492	2.57
8000	Financials	167	66,815	49.16
9000	Technology	1	99	0.07
<b>Totals</b>		<b>368</b>	<b>135,903</b>	<b>100</b>

Source: FTSE, data as of close of Monday, June 30, 2014

## Performance and valuation

Frontier Markets have performed higher than their Emerging counterparts over the past three years, as shown in the table below. In spite of this recent high performance, Frontier Markets trade at a discount to both Emerging and Developed Markets in terms of Price to Earnings Ratio.

### Performance Table

Index	Performance (USD Total Return)			Volatility	
	1Y (%)	3Y (%)	3Y (%pa)	1YR Vol (%pa)*	3YR Vol (%pa)**
FTSE All Cap Developed Index	27.26	40.16	11.91	9.65	16.69
FTSE All Cap Emerging Index	-2.93	-7.62	-2.61	13.03	19.49
FTSE Frontier Index	25.78	9.79	3.16	6.91	10.79

\*Based on daily total returns and annualized based on 252 trading days in a year

\*\*Based on weekly annualized total returns using 52 weeks (Wednesday to Wednesday)

Source: FTSE, data as at December 31, 2013. Past performance is no guarantee of future results. Please see the disclaimer page for important legal disclosures.

Index	PE Ratio	PB Ratio	PS Ratio
FTSE Developed All Cap Index	21.56	2.16	1.26
FTSE Emerging All Cap Index	14.03	1.69	1.14
FTSE Frontier Index	12.69	1.77	1.67

## Volatility

Many investors shy away from Frontier equities because they believe these markets are too risky and volatile. However, as shown in the table above, the volatility of Frontier Markets has been noticeably lower than that of both Developed and Emerging Markets. Possible explanations for the lower volatility of Frontier Markets include relatively less volatile currencies and low cross-country correlation.

The IMF, in their 2013 Annual Report on Exchange Arrangements and Exchange Restrictions, noted 44 currencies that track the US dollar, a number of which are Frontier Market currencies. If multiple currencies are pegged to the US Dollar (or another Developed Market currency) this exchange rate management could potentially dampen the inherent volatility that would be present if the currencies were instead free-floating. The relatively low cross-country correlation between Frontier Markets also helps to explain the low index volatility, as the lower the correlations between countries in an index, the lower the index's overall volatility.

A metric that may help quantify the risks and policies inherent in different financial markets is provided by the Heritage Foundation's Index of Economic Freedom\*.

The index derives a score for 186 countries based on each country's rule of law (property rights etc.), size of government, regulatory efficiency and openness of markets. The index, along with the volatility chart above, provides an argument that Frontier Markets may not be as risky as they are perceived. Based on the rankings, economic policies in Frontier Markets may be favourable compared to those classified as Emerging. The average World Rank of all Frontier countries is 71 compared to 77 for Emerging and 28 for Developed. Notably, the BRICs fall near the bottom of the rankings (Brazil, Russia, India and China are ranked 114, 140, 120 and 137 respectively). Perhaps surprisingly, Mauritius, which is classified as Frontier, is ranked 8th in the world for Economic Freedom.

## D. Risks and difficulties

As with any investment that offers the potential for high returns, the risks associated with frontier markets are considerable. Some potential risks are outlined below:

### Economic growth may not translate into financial market growth

Although Frontier Markets have experienced high economic growth, and GDP growth is projected by the IMF to outpace both Developed and Emerging Markets over the next decade<sup>3</sup>, this growth may not necessarily translate to the financial markets. Frontier Markets tend to have an abundance of state owned enterprises and a large presence of multinational companies within key sectors. Thus, the growth of these sectors may not be fully captured in the local equity indexes.

### Political and social instability

Some Frontier Markets have a non-democratic form of government, and are plagued with civil and social unrest. Governmental malfeasance and severe

\* <http://www.heritage.org/index/ranking>

<sup>3</sup> International Monetary Fund, World Economic Outlook Database, April 2014

political strife is often manifested in the form of changing investment rules, often to the detriment of foreign investors. What follows is the imposition of restrictions on foreign portfolio investment inflows or foreign exchange restrictions. Recent examples include Argentina, Malaysia and Venezuela.

\*Malaysia added to FTSE Secondary Emerging Index in 2000

\*\*Venezuela removed from FTSE indexes in 2003

## Restrictions imposed on foreign investors

While some countries have made substantial strides towards greater market liberalization, many Frontier Market countries remain difficult to access as a foreign investor. Many countries require foreigners to complete lengthy registration processes before they are allowed to trade in local securities - registering in Vietnam, for instance, can take several months. Additionally, some Frontier Markets impose taxes on foreign investors, which can be significant.

## Illiquidity

Frontier Market securities tend to be more thinly traded than their Developed and even Emerging Market counterparts. For example, the average three-month Average Daily Traded Value of the FTSE Frontier Index was just \$589 Billion as of December 31, 2013 as compared to \$9.21 Trillion and \$18.06 Trillion for Emerging and Developed Markets respectively. For investors with significant funds to allocate, capacity constraints limit the ability of managers to put these funds to work. It may be difficult for investors to trim or liquidate their positions at short notice if needed, especially during a bear market.

Insufficient liquidity may result in wider bid-ask spreads, and hence, higher trading costs when dealing Frontier securities as compared to those in Developed or Emerging Markets. Custody costs may also be higher in these countries.

Lastly, it is possible that the surprisingly low volatility seen in Frontier Markets is actually caused by this illiquidity. If nobody is willing to trade a stock at the current price, either because the buyers are offering too little or the sellers want too much, there would be no new price to observe. Hence, the observed volatility may be understated.

Liquidity is more of a concern for certain types of investors than others. Long term investors such as plan sponsors, foundations, and asset owners, for instance, may not be as affected by thinly traded securities as are investors typically more active in practice, such as Mutual Funds, ETF providers and Hedge Funds.

## E. FTSE country classification

The early distinctions between Developed and Emerging Markets were somewhat arbitrary and tended to focus on the relative wealth of countries together with subjective judgments. This lack of transparency made it difficult for investors to gauge the likelihood of countries moving between categories. To address this issue, FTSE established a Committee formed of market practitioners with expertise in trading, portfolio management and custody, and together we designed an objective and consistent approach which includes an in depth analysis of each individual country's market structure.

After assessment, countries are assigned to Developed, Emerging and Frontier according to their score on FTSE's Quality of Markets Matrix. For a country to be classified a Frontier Market the matrix requires they have:

1. A formal stock market regulatory authority
2. No significant restrictions on repatriation of capital
3. A rare occurrence of failed trades
4. T+5 or better (clearing & settlement)
5. A timely trade reporting process

Today there are only 247 countries, nations, and city state entities in the world. Of these approximately 150 have stock exchanges and 26 countries are currently classified as Developed and 22 as Emerging in FTSE's Global Equity Index Series. The remaining 102 "unclassified" countries constitute a significant global frontier opportunity set potentially available for international investment. Some "unclassified" markets may have remarkable performance and impressive year on year growth in market capitalization but may not yet have appropriate market infrastructures in place to attract and support mainstream foreign investment flows. They therefore do not meet FTSE's Quality of Markets criteria. After applying the five required screens for Frontier Market eligibility, FTSE has identified 26 Frontier countries that constitute the eligible universe for the FTSE Frontier Index.

Countries that are on the cusp of meeting the Quality of Markets criteria are placed on FTSE's Watch List. Inclusion on the Watch List indicates that a country is likely to be considered for promotion or demotion and is significant for both countries and investors. For the country it is a highly visible position because the international investment community may encourage the exchange and regulators to implement changes that will result in it meeting FTSE's Quality of Markets criteria and ultimately promotion. For investors, a country's inclusion in the Watch List gives them a transition period in which to carry out their own due diligence and preparation to allow them to decide whether or not to invest in securities in that country.

Global markets are changing shape and structure at an unprecedented pace. Managing this change is one of the biggest issues affecting investors today. FTSE's country classification process is time-tested, and has won the respect and trust of international investors. By using this process as the basis for designating markets within Developed, Emerging and now Frontier status, FTSE can offer investors a structured means of managing markets as they pass through the continuum from unclassified to Frontier, and onwards through the designations of a global index series.

## **F. FTSE Frontier Index**

There are numerous approaches to Frontier Markets investing. Some investors undertake foreign direct investment and private equity initiatives involving agriculture, mining or infrastructure assets. When focusing on the listed equity markets, some investors choose specific stocks as many believe the underdeveloped Frontier Markets contain price and information inefficiencies that can be exploited for profit. These approaches require tremendous effort and skill, and can incur significant costs due to illiquidity, custody and tax issues mentioned previously.

Other investors may choose a broad Frontier Market index linked investment product which may result in lower costs and turnover. For some, this can be an effective way of capitalizing on the potential economic growth of these countries.

For long term buy and hold investors, the relative illiquidity of Frontier Markets may not be as big an issue. For those with a long time horizon, a broad Frontier Market Index linked product may provide exposure to the risk and return characteristics as well as to the greater diversification that these relatively untapped Frontier Markets have to offer.

The FTSE Frontier Index screens all eligible securities for ample free float, foreign ownership availability and liquidity. These characteristics, combined with FTSE's stringent Country Classification process, provide for a comprehensive, high quality benchmark designed to represent the performance of Frontier Market equities.



## Appendix A. FTSE Country Classification Matrix

Developed	Advanced emerging	Secondary emerging	Frontier
Australia	Brazil	Chile	Argentina
Austria	Czech Republic	China	Bahrain
Belgium/ Luxembourg	Hungary	Colombia	Bangladesh
Canada	Malaysia	Egypt	Botswana
Denmark	Mexico	India	Bulgaria
Finland	Poland	Indonesia	Cote d'Ivoire
France	South Africa	Morocco	Croatia
Germany	Taiwan	Pakistan	Cyprus
Greece	Thailand	Peru	Estonia
Hong Kong	Turkey	Philippines	Ghana
Ireland		Russia	Jordan
Israel		UAE	Kenya
Italy			Lithuania
Japan			Macedonia
Netherlands			Malta
New Zealand			Mauritius
Norway			Nigeria
Portugal			Oman
Singapore			Qatar
South Korea			Romania
Spain			Serbia
Sweden			Slovakia
Switzerland			Slovenia
United Kingdom			Sri Lanka
United States			Tunisia
			Vietnam

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