

# Navigating the frontier equity markets

## Implementation considerations for the next generation of emerging markets

Russell Indexes: Mat Lystra; Caravan Capital Management: Ben Griffith, CFA, Cliff Quisenberry, Jr., CFA<sup>12</sup>

### EXECUTIVE SUMMARY:

1. Frontier countries exhibit a broad array of different market characteristics: size, liquidity, correlation to other markets, valuations, political risk, etc.; traits not dissimilar to many emerging markets in prior stages of development. The illiquidity of frontier markets is a key concern that puts limits on the scalability of investment, but improves as markets continue to develop.
2. The lower cross-correlations of frontier markets allow for construction of diverse portfolios that can potentially experience returns similar to those available in emerging markets, but with historically lower volatility at the aggregate index level. Additionally, because frontier equity markets are relatively uncorrelated to U.S. and other developed markets, global investors can improve the diversification of their total portfolios – provided that special attention is paid to how measures of correlation are presented and interpreted.
3. Many of the characteristics of frontier markets force exchange-traded funds (ETFs) into trade-offs between investability and representativeness; most often concentrating in companies with larger market capitalizations, and some including significant exposures to emerging market countries.

<sup>1</sup> Ben Griffith is a portfolio manager at Caravan Capital Management LLC: [beng@caravancap.com](mailto:beng@caravancap.com). Mathew Lystra is a senior research analyst at Russell Investments: [mlystra@russell.com](mailto:mlystra@russell.com). Clifford Quisenberry, Jr., is the founder and portfolio manager of Caravan Capital Management LLC: [cliffq@caravancap.com](mailto:cliffq@caravancap.com).

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In recent years, a class of small and diverse developing market countries has come to be known collectively as “frontier markets.” Frontier-market countries typically have elevated macroeconomic risk profiles, and their equity markets are characterized by lower levels of aggregate liquidity and aggregate market capitalizations than the more developed markets. The Russell Frontier Index, which serves as the basis for much of our analysis, was launched in 2010 with history extending to 2007. A growing body of research has provided evidence for the growth potential of these markets, and in this paper we offer an in-depth follow-up.<sup>3</sup> We assess some of the challenges – such as accessibility and scale – that allocators and implementers may face when dedicating portions of their equity portfolios to frontier markets. We also present evidence that frontier markets, due to their lack of heterogeneity and their slower integration with global markets, may offer investment managers opportunities to generate excess returns through skilled country-level and stock-level selection. We begin with a brief review of some of the main arguments for an allocation to frontier markets.

## Revisiting the case for frontier markets

The universe of frontier markets is generally defined as the country equity markets that are excluded from standard global indexes (encompassing developed and emerging markets) offered by providers like Russell, MSCI, FTSE and S&P. Using that overall definition, there are 88 frontier-market countries represented by 81 unique stock exchanges. Approximately half of these frontier markets are so small, so illiquid, or both, that they are not constituents of the frontier benchmarks of the aforementioned index providers, and we further define these markets as being “off benchmark.” In total, as of the end of 2012, frontier-market countries account for approximately 22.8% of the world’s population, 8.9% of global GDP and 2.2% of global public equity market capitalization.<sup>4</sup>

In the seven years for which we have annual frontier markets performance data for the Russell Frontier Index, frontier markets initially underperformed emerging markets, but have outpaced them in recent years. Frontier markets have also, perhaps surprisingly, demonstrated historically lower levels of volatility than emerging markets at the aggregate index level, as measured by standard deviation of total returns – see Table 1. Frontier markets’ substantially lower cross-country correlations than those of emerging markets contribute to the lower volatility observed at the aggregate indexes level; individual frontier markets may be more volatile.<sup>5</sup> Finally, frontier markets tend to exhibit low correlations to the U.S. and other developed markets, offering investors the potential for risk reduction when adding a meaningful allocation to frontier markets within a global equity portfolio (refer to Figure 3 on page 6).

**Table 1/ Select performance and risk statistics for the Russell Frontier Index and Russell Emerging Markets Index USD-based monthly total returns, 7/31/2007–6/30/2014<sup>6</sup>**

Index	One Year Annualized Return	Two Year Annualized Return	Three Year Annualized Return	Five Year Annualized Return	Seven Year Annualized Return
Russell Frontier Index	19.3	20.0	5.9	8.4	-1.6
Russell Emerging Markets Index	16.0	10.3	0.5	10.4	2.8
	12-month Annualized Volatility	24-month Annualized Volatility	36-month Annualized Volatility	60-month Annualized Volatility	74-month Annualized Volatility
Russell Frontier Index	7.5	9.1	11.5	11.4	18.2
Russell Emerging Markets Index	12.1	11.5	19.4	19.1	26.5

Source: Russell Indexes

<sup>3</sup> Griffith, B., and C. Quisenberry (2010), “Frontier Equity Markets: A Primer on the Next Generation of Emerging Markets.” *Journal of Wealth Management*, Vol. 13, No. 3, pp. 50–58; Behar, G., and S. Hest (2010), “Aligning Portfolios with the Global Economy,” *Northern Trust Research Report*; Orzell, S. (2010), “Frontier markets join the allocation conversation,” *Russell Indexes Research Report*.

<sup>4</sup> Population, GDP and equity market capitalization figures were calculated using data as of year-end 2012 from the CIA World Factbook: <https://www.cia.gov/library/publications/the-world-factbook/index.html>; and represents the aggregate GDP from the 88 countries listed in Appendix I,

<sup>5</sup> Appendix II displays the cross-country correlations of Russell Frontier Markets where there has been an overlapping period of performance.

<sup>6</sup> Volatility in this exhibit is defined as the annualized standard deviation of monthly total returns across the number of time periods described.

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Frontier-market countries exhibit a broad array of different market characteristics: size, liquidity, correlation to other markets, valuations, political risk, etc. These factors illustrate the stages of development within frontier markets, and as development improves, some frontier markets may be upgraded to emerging market status. The characteristics of these groupings are further defined below. For the purpose of our analysis, we adopt the following framework to sort the frontier universe into three categories:

- *Early-stage* frontier markets are those of countries that may be excluded from some frontier indices for failing to meet minimum requirements of size and liquidity, or for other considerations.
- *Conventional* frontier markets include the country constituents of the main frontier indices not currently under review by index providers for upgrade to emerging market status.
- *Transitional* frontier markets include those under review for upgrade (or that may already have been upgraded by some index providers) to emerging market status, or which we conclude may be placed under review due to their relatively strong liquidity, size, shareholder protections and technology infrastructure.

Appendix I lists which frontier-market countries we categorized as “early stage,” “conventional,” “transitional” and “off benchmark.”

Using these three categories, and defining frontier markets as represented by the Russell Frontier Index, this paper will explore the following aspects of making an allocation to Frontier Markets:

- Implementation considerations of an allocation to frontier, including
  - Liquidity
  - Volatility and correlation
  - Trading costs and
  - Regulation, registration and operational risk.
- Implementation choices for an allocation to frontier, including
  - Exchange-traded funds (ETFs)
  - Depositary receipts and
  - Active management.

### Implementation considerations on the frontier

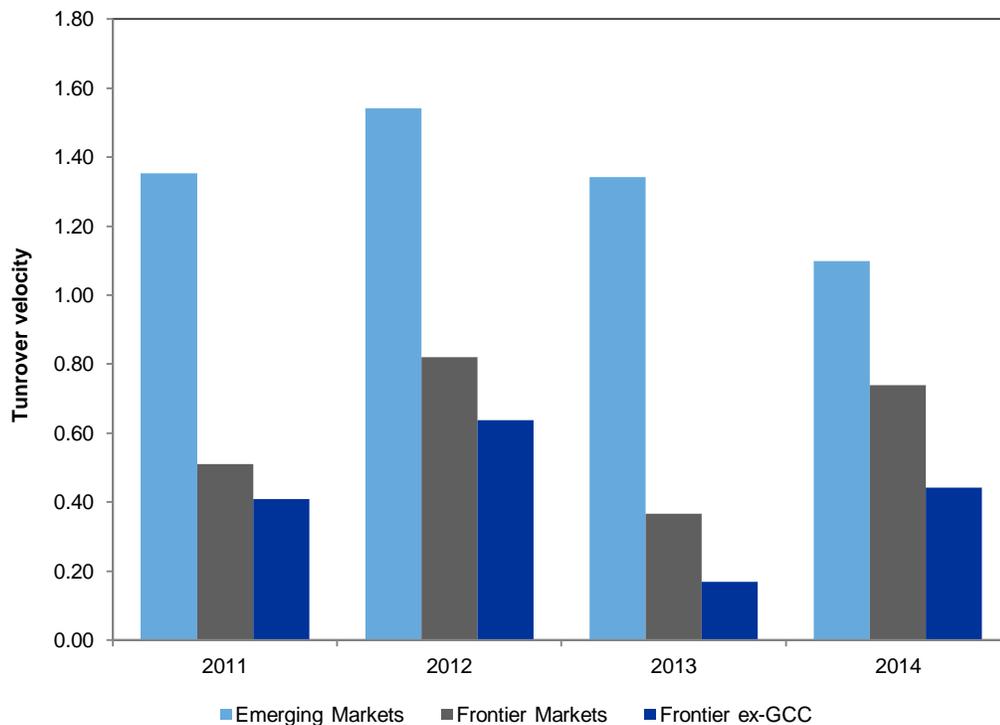
Frontier markets present some unique, yet not unexpected, implementation challenges. These costs and risks, which must be viewed as implicit parts of any allocation to frontier markets, can be minimized by thoughtfully considering cost/risk as part of the investment process, for both passive and active frontier markets products. Challenges such as a lack of analyst research and weaker governance can create information gaps or market inefficiencies that may give skilled frontier markets managers an advantage when selecting across countries and companies.

### The Illiquidity of frontier markets: evidence, impact and costs

Illiquidity is chief among the challenges facing investors in the frontier markets. Taken as a whole, frontier markets offer significantly less liquidity than do the emerging markets. The term “liquidity” can be defined in a number of ways; for our purposes, we explore turnover velocity (TV), which is defined as: total 12-month US\$ value traded / average aggregate market value. For example, the 2014 average aggregate market value for the entire universe comprising the Russell Emerging Markets Index was \$5.1 trillion, and its total 12-month average value traded was \$5.5 trillion, for a TV of 1.1. The higher the TV, the faster a market or market segment turns over its market value. By comparison, the Russell Frontier Index’s TV was 0.74, and the Russell Frontier ex-GCC (Gulf Cooperative Council) Index’s TV was only 0.44, demonstrating

the liquidity gap between the Gulf markets and most other frontier markets.<sup>7</sup> Figure 1 depicts the liquidity deficit of frontier markets as compared to emerging markets, using turnover velocity for years 2011 through 2014.<sup>8</sup>

**Figure 1/ Turnover velocity (TV) for the Russell Emerging Markets Index, the Russell Frontier Index and the Russell Frontier ex-GCC Index at Reconstitution, years 2011–2014.**



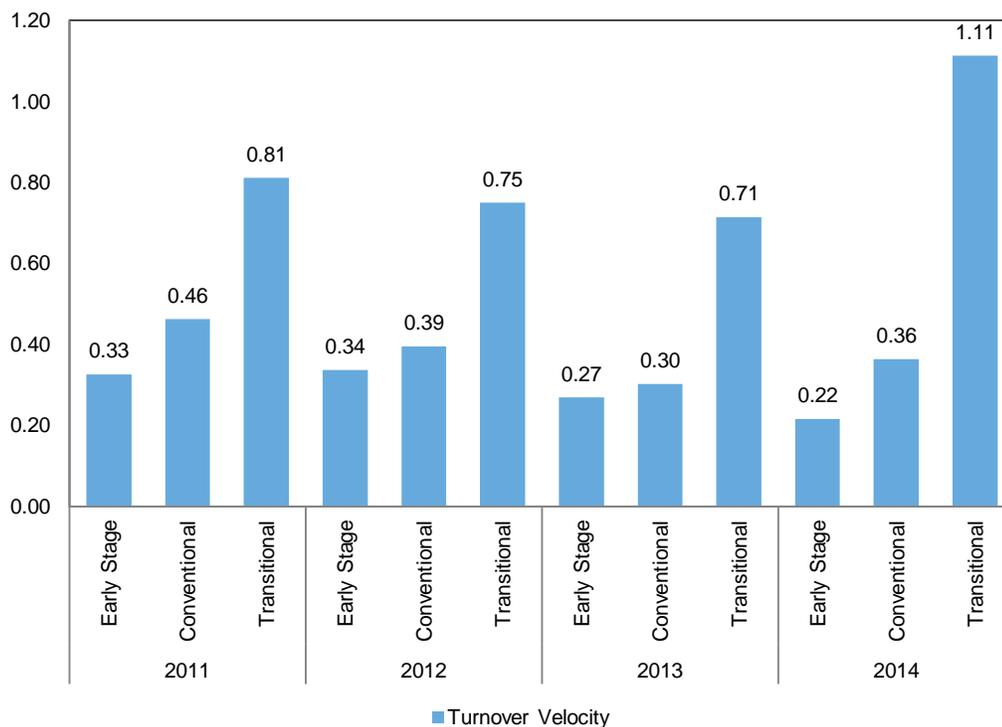
Source: Russell Indexes

<sup>7</sup> Averages based on annual traded value data for 12 months from June–May, in years 2011–2014. 2014 data excludes Egypt, which was reclassified by Russell Indexes as a frontier market effective Reconstitution 2014.

<sup>8</sup> The annual value traded data reflects 12-month trading periods from June–May, which Russell Indexes defines as a “Recon (reconstitution) year.” 2014 data excludes Egypt, which was reclassified by Russell Indexes as a frontier market effective Reconstitution 2014.

Frontier markets exhibit wide dispersion in liquidity. We can further deconstruct the liquidity in frontier markets into our three categories of market development to assess these differences. Here we averaged the turnover velocity of markets within each category. The early-stage frontier markets had TV ranging from 0.22 to 0.34. Conventional frontier markets' TVs ranged from 0.30 to 0.46, and the transitional frontier markets resembled emerging markets with TVs ranging from 0.71 to 1.11. Figure 2 shows the liquidity differences between our three frontier market types for years 2011 through 2014.<sup>9</sup>

**Figure 2/ Turnover velocity by frontier market type at Reconstitution, years 2011–2014.**



Source: Russell Indexes

### Illiquidity's impact on correlation and volatility

The lack of liquidity may distort measurements of volatility and correlation across frontier markets, particularly during times of heightened risk aversion. An example of this occurred during the 2008 credit crisis. Several frontier markets, including Botswana and Bangladesh, were among the best-performing stock markets globally during this period, with USD-based returns of 5.9% and 17.3%, respectively.<sup>10</sup> This happened because when other markets experienced large declines as investor sentiment deteriorated, these two frontier markets largely stopped trading. Other frontier markets, like Togo, Tunisia, and Trinidad and Tobago, experienced only modest declines during the global credit crisis. The relatively limited amount of trading activity in these markets during the crisis retarded the process of price discovery. Frontier illiquidity at times distorts volatility and correlation metrics making them appear somewhat less volatile and less correlated, and should be presented with the proper caveats. The more immediate price discovery available in developed and emerging markets may mean higher volatility and correlations, but may also mean that liquidity is more readily available.

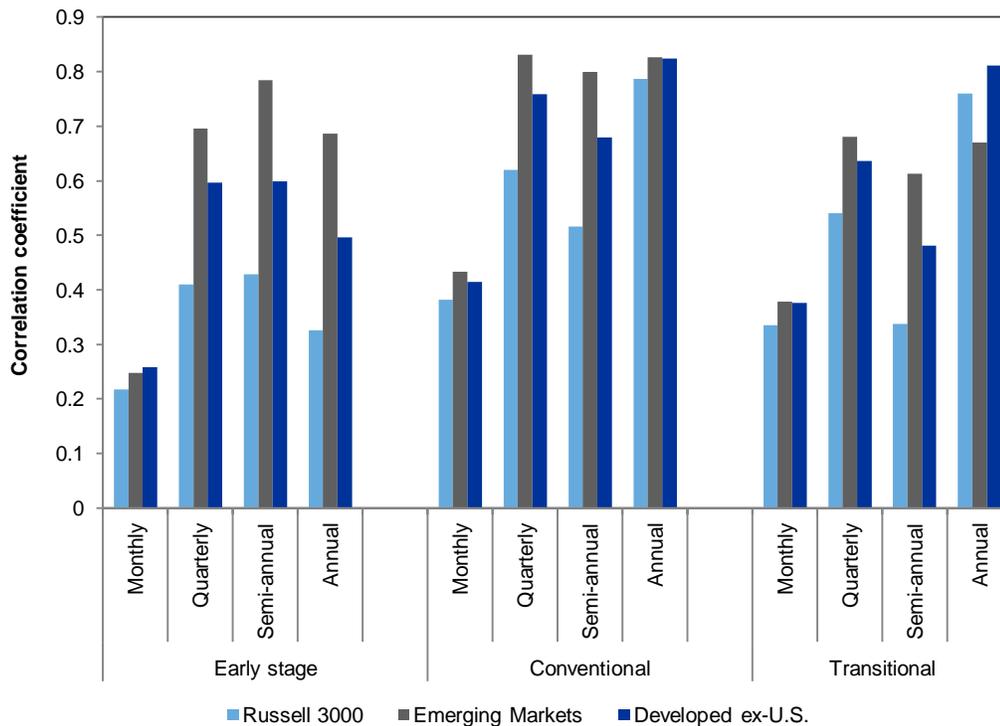
<sup>9</sup> The annual value traded data reflects a 12-month June–May trading period, which Russell Indexes defines as a “Recon (reconstitution) year.” 2014 data excludes Egypt, which was reclassified by Russell Indexes as a frontier market effective Reconstitution 2014.

<sup>10</sup> Country index total return year-to-date through 9/30/2008.

While the level of trading activity may delay price discovery for several weeks or months, price discovery *does eventually occur* in virtually all frontier markets. In Botswana, more than a month passed between the September 2008 Lehman Brothers collapse and the time when the local market began to fall, whereas in Ghana, it was February 2009 before significant market declines occurred.<sup>11</sup> That most markets *did* eventually react to the global financial crisis suggests that it may be possible to adjust for the impact of limited liquidity by assessing longer-period correlations.

By extending the time periods utilized in our market return cross-correlations for our three frontier market categories relative to the Russell 3000, Russell Developed ex-U.S. and Russell Emerging Markets indices, it is possible to assess the degree to which price discovery does eventually occur, as well as the impact this has on longer-period correlations. In Figure 3, we've taken the correlations of non-overlapping monthly, quarterly, and semiannual period returns across each market segment to determine whether frontier market returns trend in line with global equities over time. Relative to the Russell 3000 Index (U.S.), Russell Developed ex-U.S. Index and Russell Emerging Markets Index, frontier correlations increase moving from the shorter to longer time periods. These results underscore the need to interpret frontier market correlations with care, as stock prices in these countries can have delayed responses to new information, but ultimately they do react.

**Figure 3/ Correlations of non-overlapping monthly, quarterly, semiannual and annual returns for the early-stage, conventional and transitional frontier categories, 7/31/2007–6/30/2014.**



Source: Russell Indexes

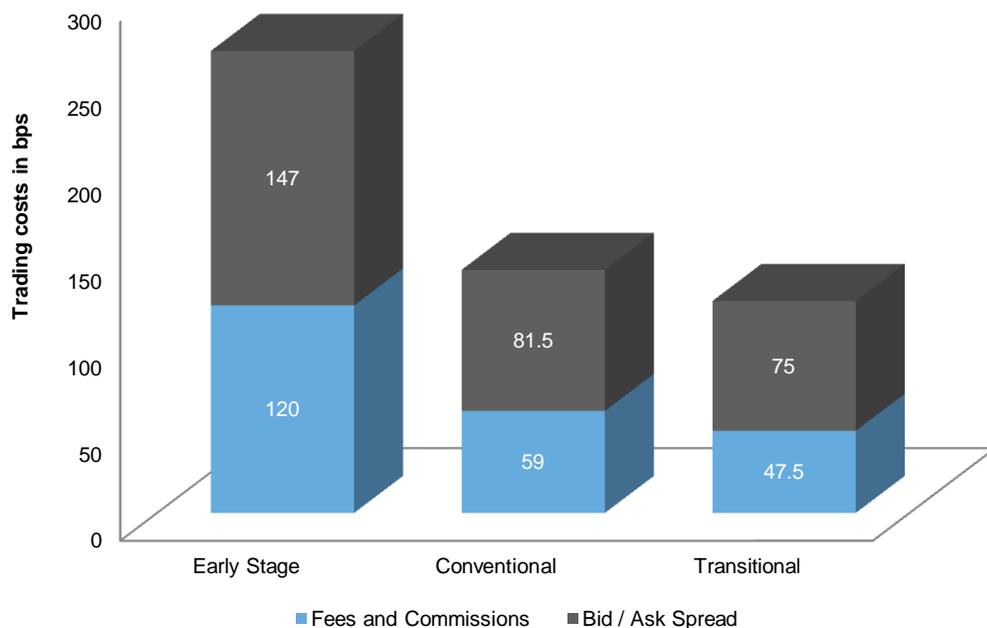
<sup>11</sup> One of only two countries in the Russell Frontier Index to post a positive return for September 2009, Botswana recorded a total monthly return of 7.7%. Ghana avoided the severely negative returns that had been experienced in other markets until posting a monthly total return of -39.1% in February 2009.

## Trading costs

Another consideration for the global investor is the high cost of trading in frontier-market countries. Total market implementation costs can be materially higher in frontier markets relative to emerging and developed markets. Brokers who offer execution in frontier markets often charge commissions of between 50 and 200 basis points.<sup>12</sup> These rates are justified as a cost of doing business in markets with limited volumes, and can be charged because competition is limited. Similarly, fees charged by local stock exchanges and government regulators tend to be higher in the frontier markets. And finally, significant market impact can occur when trading a material percentage of the daily volume of a security. Fortunately, as suggested by the cost analysis presented in Figure 4, trading costs tend to decline in a market as it matures.

In a classic “chicken and egg” scenario, higher trading volumes allow brokers to reduce commission rates; the increased volumes also attract new entrants, who compete for commission dollars. As more global investors enter the local stock market, governments are pressured to reduce fees. The biggest reduction in trading costs as markets develop comes in the form of market impact. As scale increases, the pricing gaps between buyers and sellers tighten, allowing for easier trade matching. Figure 4 illustrates the aggregate execution costs of a strategy including commission, fees and the market impact (bid/ask spread) of stock purchases. We find a large discrepancy in total trading cost between early-stage frontier markets and the more advanced transitional markets.

**Figure 4/ The components of total trading cost by frontier category, expressed in basis points as of May 31, 2013.**



Source: Auerbach Grayson Co.

## Regulation, registration and operational risk

Shareholder protections, corruption, barriers to entry and the execution environment are also related to the overall costs of investing in frontier markets. Market regulation among frontier countries has continued to improve as best practices are adopted, but corruption remains

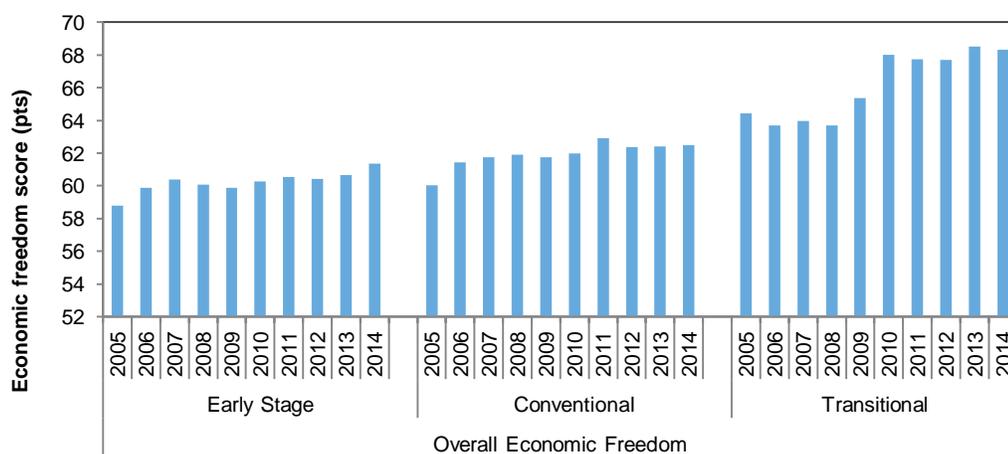
<sup>12</sup> Estimates from Auerbach Grayson and Russell Investments.

widespread, and good governance remains important to capital market growth. The operational risk profiles of frontier markets, which encompass account opening, settlement, restrictions on local currency use and the ability to repatriate funds, mirror the diversity of these markets generally.

## Market regulation

Underdeveloped regulatory environments present other challenges in frontier markets. Chief among these are obstacles to market accessibility, inadequate shareholder protections and corruption. While the general trend has been toward improved regulatory policies in most developing countries, there are certain markets that heavily restrict foreign ownership or fail to address basic shareholder protection requirements. There are also the occasional frontier markets that regress on pro-market policies, often due to pressure from heavy-handed governments, such as the actions taken by the de Kirchner and Mugabe regimes to restrict foreign fund flows or private ownership of assets on their local stock exchanges.<sup>13</sup> Figures 5a to 5d provide a sampling of scores from the Heritage Foundation, which ranks countries on the basis of an overall composite score of “economic freedom” based on 10 individual categories of freedom. According to data from the Heritage Foundation, transitional frontier markets have the highest (best) overall economic freedom scores and freedom from corruption scores among the four categories we evaluated: overall economic freedom, investment freedom, financial freedom and freedom from corruption.<sup>14</sup> The early-stage markets are mixed across these measures, perhaps using pro-market regulation to attract investment while at the same time dealing with pervasive corruption. All three frontier market types – early stage, conventional and transitional – show scores trending higher over the 10-year period we evaluated – with the notable exception of financial freedoms in early-stage and conventional frontier-market countries.

**Figure 5a/ Heritage Foundation annual scores of overall economic freedom for early-stage, conventional and transitional frontier markets, 2005–2014.**

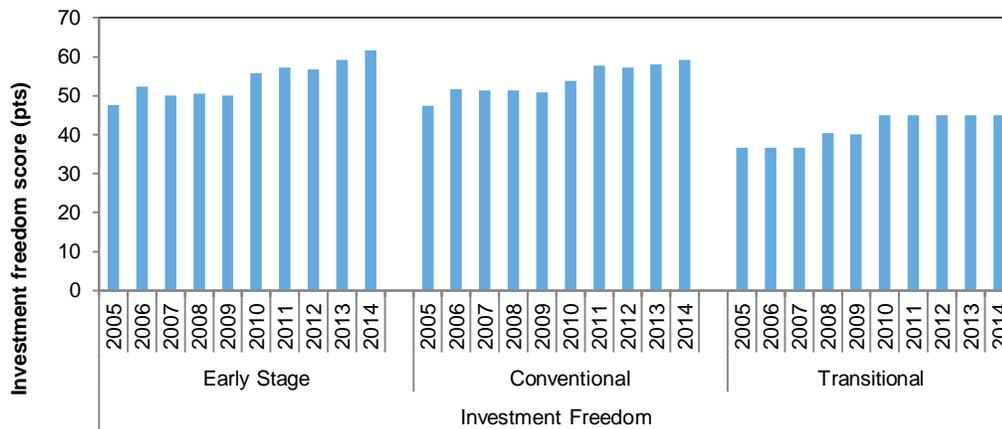


Source: Heritage Foundation as of January 31, 2014.

<sup>13</sup> Minder, R., & S. Romero (2012), “Argentina to Seize Control of Oil Company.” *New York Times*. Accessed 6/29/2014 at: [http://www.nytimes.com/2012/04/17/business/global/argentine-president-to-nationalize-oil-company.html?pagewanted=all&\\_r=0](http://www.nytimes.com/2012/04/17/business/global/argentine-president-to-nationalize-oil-company.html?pagewanted=all&_r=0); Farrell, S. (2008), “Mugabe nationalization law surprises foreign businesses.” *The Independent*. Accessed 6/29/2014 at: <http://www.independent.co.uk/news/business/news/mugabe-nationalisation-law-surprises-foreign-businesses-794057.html>

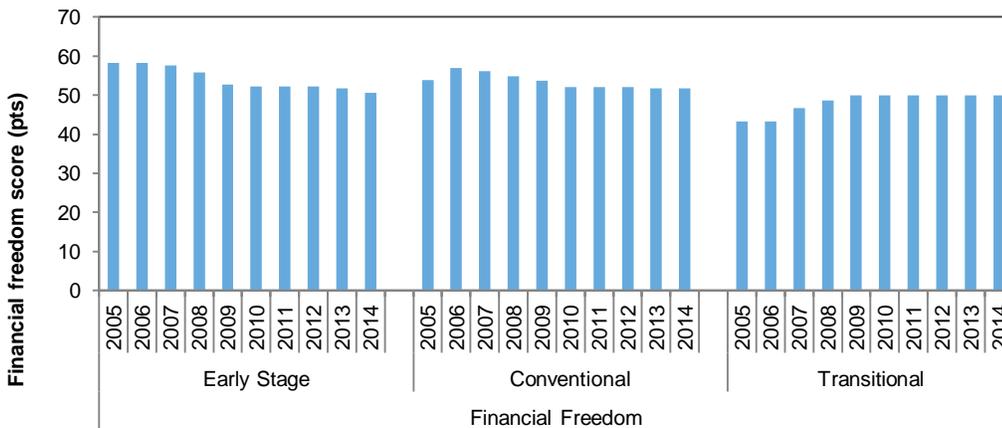
<sup>14</sup> For complete details on the Heritage Foundation’s Index of Economic Freedom, please visit: <http://www.heritage.org/index/>

**Figure 5b/ Heritage Foundation annual scores of investment freedom for early-stage, conventional and transitional frontier markets, 2005–2014.**



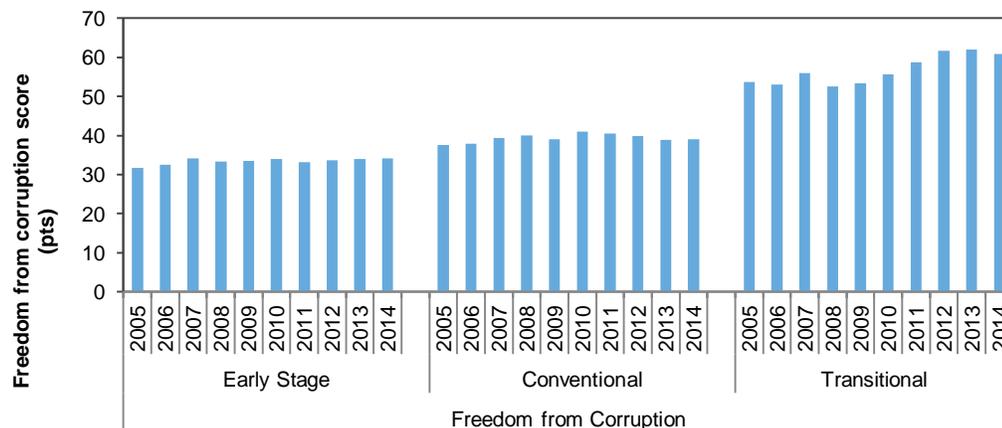
Source: Heritage Foundation as of January 31, 2014.

**Figure 5c/ Heritage Foundation annual scores of financial freedom for early-stage, conventional and transitional frontier markets, 2005–2014.**



Source: Heritage Foundation as of January 31, 2014.

**Figure 5d/ Heritage Foundation annual scores of freedom from corruption for early-stage, conventional and transitional frontier markets, 2005–2014.**



Source: Heritage Foundation as of January 31, 2014.

## Market registration

One of the greatest barriers to entry for foreign institutional investors in frontier markets is the lengthy and complex market registration process required in many markets. According to custodian data, market registration processes can range from just a few (business) days to several months. As shown in Table 2, an account setup in a developed market averages 2 days; in emerging markets, 7.1 days; and in frontier markets, 8.2 days. Frontier markets had the widest range of days-to-open – from 2 to 45 days. More cumbersome registration processes may require multiple third-party certifications and notarizations by the U.S. State Department or similar governing bodies outside the U.S. Market registration tends to delay the initial setup of new frontier investment funds and can delay the deployment of capital into certain countries, which may impact the overall investment strategy.

**Table 2/ Length of account setup as of June 30, 2014<sup>15</sup>**

Region	Average Days to Account Opening	Range
Russell Frontier Markets	8.1	2 - 45
Russell Emerging Markets	7.7	2 - 30
Russell Developed Markets	2.2	2 - 3
Russell Frontier Africa	5.1	2 - 14
Russell Frontier Americas	5	3 - 7
Russell Frontier Asia Pacific	21	3 - 45
Russell Frontier Europe	5.2	2 - 14
Russell Frontier Middle East	10.7	2 - 20

Sources: Russell Indexes, Global custody data

## Custody, settlement and other operational risks

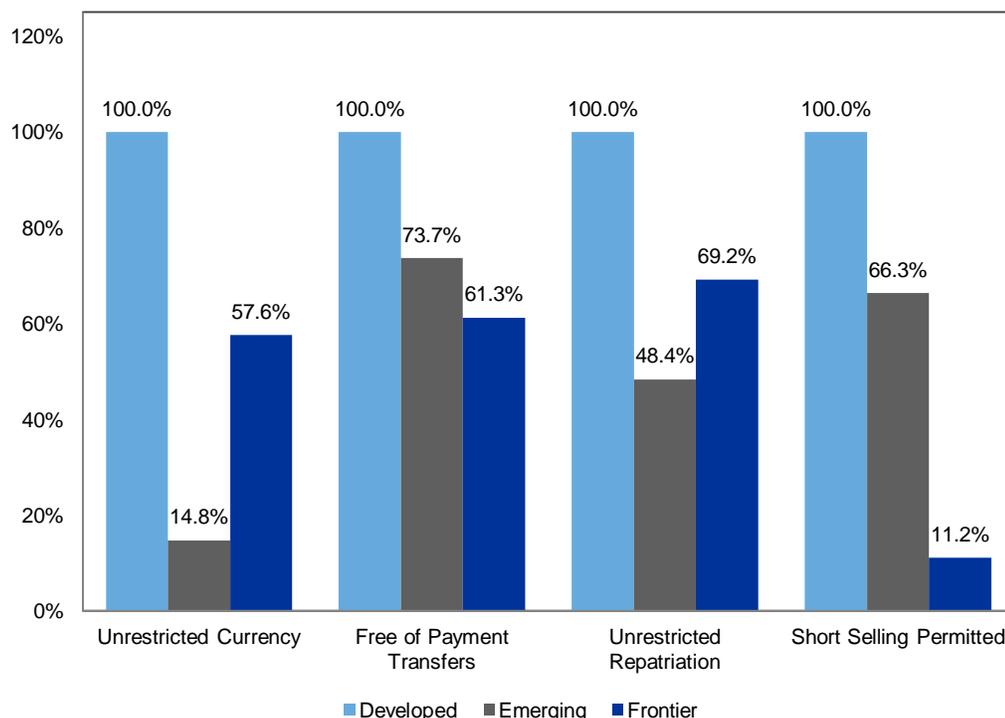
Operational risk, which includes the custody and settlement processes, presents another set of challenges to investors in the frontier markets. While this is another area that has improved in the last 10 years, a number of frontier stock markets are still not covered by global custodians. Fast-growing markets like Mongolia and Saudi Arabia, which are not included in standard frontier benchmarks, have only recently established laws that allow for custody outside of central depositories associated with the stock exchange – the details of which are still being sorted out. Additionally, market-specific fees and the absence of sufficient competition by multiple custodians often result in higher custody and safekeeping costs. In most frontier markets, custodians charge fixed transaction fees *and* safekeeping fees as a percentage of assets. Several custody options that are prominent in developed markets, such as the use of omnibus accounts or free-of-payment transfers of securities, are not available in many frontier markets. Proper timing of trades requires diligence to ensure settlement without late charges, which can be high in some frontier markets. Another limitation of investing in the frontiers is that stock lending, or short selling, is generally not permitted in frontier markets. This may be one of the slowest market regulations to be reformed in the frontier markets, where there is a fear of capital flight during market downturns.<sup>16</sup> These limitations and fees underpin the rationale for viewing long-term strategies as being particularly well suited to frontier markets.

<sup>15</sup> Note that this study excludes the China A-Share market, where account set ups through the Qualified Foreign Institutional Investor program have historically taken as long as 6-8 months.

<sup>16</sup> Recently, Nigeria has experienced a significant drawdown in currency reserves, due to falling global oil prices and market turbulence: <http://www.economist.com/news/finance-and-economics/21635051-over-reliance-oil-spells-trouble-nigeria-well-below-par>. Additionally, frontier-market countries such as Argentina, Cyprus and Ukraine have all enacted capital controls in response to market turbulence and/or political crises.

Russell Indexes' global methodology evaluates countries by use of two overarching risk factors: macro risk and operational (market) risk. Underlying these two perspectives are a variety of factors that together form the mosaic of relative risk for each country. Figure 6, below, details the percentage of countries (by number of countries in each category) that pass the select measures Russell uses to determine operational risk across its developed, emerging and frontier markets categories. Frontier-market countries generally place fewer explicit restrictions on foreign investors' use of their currencies and ability to repatriate funds than emerging markets do. But few frontier-market countries allow for no-cost transfers of shares between accounts, and the ability to short-sell remains extremely limited. The mixed set of results underscores the diverse frontier markets operational risk profile, which contains both low- and moderate-risk countries like Slovenia and the UAE, as well as higher risk countries like Argentina and Vietnam.

**Figure 6/ Selected measures of operational risk used by Russell Indexes as a percentage of countries at Reconstitution 2014.**



Source: Russell Indexes

### Implementation choices in frontier markets: ETFs, depositary receipts or active management?

Investors have a range of choices in how to implement an allocation to frontier markets, each with its own set of trade-offs. In the following sections of our paper we explore the use of ETFs and depositary receipts, and finally review the case for active management in frontier markets. ETFs that track frontier markets are now available, but for some of the reasons detailed above (concerning liquidity, regulation and costs), these products are not able to be fully representative. Depositary receipts (DRs) are another common way for investors to gain cost-efficient exposures to stocks. But as we show below, the coverage among frontier stocks is limited. Active management carries a higher price, but active managers may be able to take advantage of the idiosyncrasies of frontier markets.

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## ETFs: Are they representative?

Conventional exchange-traded funds (ETFs), passively managed to a frontier index, offer another measure by which the costs of implementing a passive frontier strategy may be weighed. To date, and by necessity, ETFs have tracked indices concentrated in only a few of the largest and most liquid frontier markets. Within the Russell Frontier Index, 72.3% of the market capitalization and 77.8% of the liquidity resides in the top 10 markets.<sup>17</sup> This means that much of the portfolio risk reduction facilitated by the low country cross-correlations may be lost in ETFs with higher weights in the countries with the largest market capitalizations. The liquidity and market capitalization cutoffs demanded to support ETF products tend to limit investments in the conventional and, in particular, the early-stage frontier markets. As substitutes, some frontier markets ETFs make large allocations in markets defined by Russell, MSCI, FTSE and S&P as emerging markets, in order to gain greater scale and liquidity.

An examination of three of the most widely used frontier markets ETFs – namely, the Guggenheim Frontier Markets ETF, iShares MSCI Frontier 100 ETF, and Global X Next Emerging & Frontier ETF – calls into question the ability of these types of products to truly proxy the frontier asset class.<sup>18</sup> The results, presented in Table 3, show a large percentage of the market cap of the Guggenheim and Global X ETFs coming from emerging market countries like Chile, Colombia, South Africa and Malaysia (an unsurprising result for the Global X product, as it is labeled as a blended portfolio). These exposures may create unintended overlaps with an investor's existing allocation to emerging markets, thereby creating concentrations in certain countries that may benefit, or harm, the total equity portfolio. The iShares offering is the only one of the three ETFs we surveyed that does not include industry-consensus emerging market countries. However, the average dollar-weighted market capitalization of all three ETFs was highly concentrated in companies with capitalization significantly larger than what is commonly associated with frontier markets. So while ETFs may provide a relatively inexpensive way to gain exposure to the frontier markets, investors should be cautioned that a trade-off may be made: Representativeness may be sacrificed to insure investability. Assuming that frontier markets will continue to grow, the number of companies and the liquidity available should also grow, in which case representativeness should be expected to improve within passive frontier products.

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<sup>17</sup> As of May 31, 2014, sorted on market capitalization in descending order.

<sup>18</sup> "Widely used" as defined by assets and then trading volume.

**Table 3/ Characteristics of select ETFs with frontier market exposure as of 6/30/2014.<sup>19</sup> Consensus emerging markets are highlighted in blue, frontier markets in green, and “other” in beige. The orange-highlighted figures represent the maximum value for the characteristic.<sup>20</sup>**

	Guggenheim Frontier Markets ETF (FRN)	iShares MSCI Frontier 100 ETF (FM)	Global X Next Emerging & Frontier ETF (EMFM)	Russell Frontier Large Cap Index
Number of Companies	38	128	201	203
Average Market Capitalization	14.4	8.3	14.1	6.1
P/E	17.4	17.5	69.7	14.6
P/B	2.83	3.61	5.03	1.86
<b>Top 10 Country Weights</b>				
Argentina	14.4%	7.2%	3.5%	6.5%
Chile	40.7%	N/A	6.4%	N/A
Colombia	17.5%	N/A	N/A	N/A
Cyprus	N/A	N/A	N/A	3.3%
Egypt	6.8%	N/A	N/A	4.6%
Indonesia	N/A	N/A	8.6%	N/A
Kazakhstan	5.3%	3.6%	3.5%	N/A
Kenya	N/A	4.8%	N/A	3.7%
Kuwait	N/A	22.1%	N/A	15.0%
Lebanon	1.8%	N/A	N/A	N/A
Malaysia	N/A	N/A	10.5%	N/A
Mexico	N/A	N/A	9.3%	N/A
Morocco	N/A	3.8%	N/A	N/A
Nigeria	6.2%	13.9%	N/A	13.2%
Oman	N/A	3.9%	N/A	3.4%
Pakistan	N/A	5.6%	N/A	6.3%
Papua New Guinea	N/A	N/A	N/A	4.9%
Peru	5.4%	N/A	N/A	N/A
Poland	N/A	N/A	4.4%	N/A
Qatar	N/A	12.3%	N/A	12.6%
South Africa	N/A	N/A	10.3%	N/A
Thailand	N/A	N/A	9.2%	N/A
Turkey	N/A	N/A	7.6%	N/A
United Arab Emirates	0.7%	11.5%	N/A	N/A
United Kingdom	0.6%	N/A	N/A	N/A
<b>Sector Weights</b>				
Consumer Discretionary	N/A	N/A	6.7%	4.1%
Consumer Staples	9.2%	7.6%	8.8%	7.4%
Energy	12.4%	9.7%	12.9%	16.8%
Financials	38.4%	55.3%	21.0%	46.2%
Health Care	N/A	0.8%	2.1%	2.2%
Industrials	6.9%	7.4%	10.9%	6.9%
Materials	6.6%	3.3%	17.0%	6.6%
Telecommunication Services	4.4%	14.4%	13.1%	N/A
Technology	N/A	N/A	N/A	0.2%
Utilities	13.5%	1.2%	7.1%	9.6%

Sources: Guggenheim, Global X, iShares, FactSet Research Systems and Russell Indexes.

<sup>19</sup> For more information on the three ETFs surveyed, please see:

“FRN: Guggenheim Frontier Markets ETF” at <http://guggenheiminvestments.com/products/etf/frn> ;  
 “The Global X Next Emerging & Frontier ETF: EMFM” at <http://www.globalxfunds.com/emergingfrontieretf/> ;  
 and “iShares MSCI Frontier 100 ETF” at

<http://www.ishares.com/us/products/239649/ishares-msci-frontier-100-etf>.

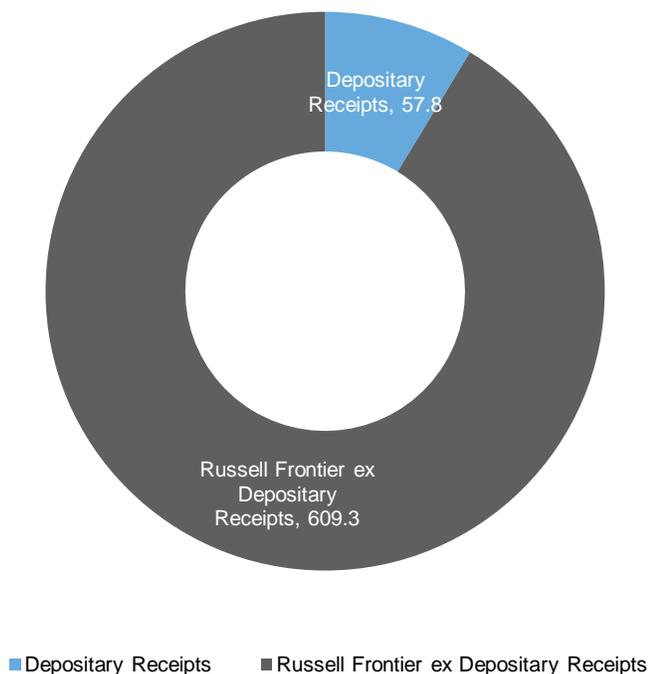
<sup>20</sup> The Russell Frontier Large Cap Index sector weights are presented using the Russell Global Sector scheme, which does not maintain an equivalent with respect to the GICS Telecommunication Services sector; a majority of the corresponding weight is placed in Russell’s Utilities sector.

## Are depositary receipts (DRs) a solution?

Depositary receipts are negotiable securities issued by banks that represent the underlying equity of a company. DRs represent one or more underlying common shares but are typically traded outside a company's home market and in a global currency like USD, GBP, or euro. Large companies from countries that have little or no participation from foreigners, no global custodian coverage, low exchange volume, etc., may opt to either list their common shares or depositary receipts on a major global exchange to escape the challenges investors would face in their home market. Examples of this include Oil Search Limited from Papua New Guinea whose common shares trade on the Australian Stock Exchange and KazMunaiGas from Kazakhstan whose DRs trade on the London Stock Exchange.

Using DRs to create a frontier markets portfolio can offer implementation costs close to those available in the developed markets, but coverage is sparse. As shown in Figure 7a, depositary receipts currently make up \$57.8B of the market cap of the Russell Frontier Index. That market cap comes from 24 companies where the corresponding DR is sufficiently large and liquid to be included in the index. The *entire* universe of frontier-based DRs is only about 100 companies, with an aggregate market cap of \$165.5B, but many of these are illiquid even by frontier market standards.

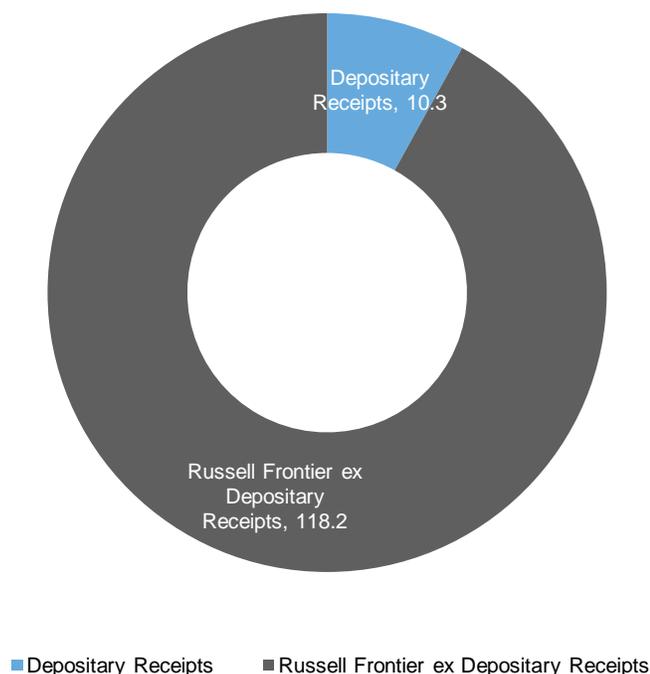
**Figure 7a/ Comparison of market cap (US\$ billions) available through depositary receipts and ordinary stocks at Reconstitution 2014.**



Sources: Russell Indexes, FactSet

A nearly equal proportion of the total value traded within the Russell Frontier Index was available through DRs as compared to the market cap distribution presented in Figure 7a. Figure 7b shows DRs trading \$10.3B and ordinary shares trading \$118.2B for the 12 months June 2013–May 2014 (referred to as a “Recon Year”). So while the use of frontier markets–based DRs may offer certain cost efficiencies, as a group they do not offer significantly better liquidity than ordinary shares.

**Figure 7b/ Comparison of 12-month value traded (US\$ billions) available through depositary receipts and ordinary stocks at Reconstitution 2014.**



Source: Russell Indexes

### Frontier markets through the lens of active management

The relative lack of information about frontier markets and their companies can be a positive trait that managers specializing in these countries highlight as a potential opportunity to add value through identifying undervalued stocks. Information inefficiencies can come in many forms, and we explore three in the next few paragraphs:

- Availability of reporting data,
- Adoption of accounting standards, and
- Analyst research coverage.

#### Reporting data

In stark contrast to the difficulty of acquiring company annual reports just five or ten years ago, today these reports can be found on the Internet by investors using company, stock exchange and regulator websites for markets as exotic as Panama, Papua New Guinea and Zambia. In one survey of company reporting, it was found that >99% of listed U.S. companies had reported financial statements with a substantive income statement within the six months following the end of their most recent fiscal year.<sup>21</sup> In the emerging markets, 83.2% of companies met these requirements. The frequency and comprehensiveness of company

<sup>21</sup> “Substantive” is defined as being at least 12 lines in depth (including notes).

reporting in the frontier markets was very similar to the emerging markets by this measure, as 82.6% of conventional frontier-market companies met these requirements. However, in the early-stage frontier category, only 49.8% of companies had reported to this degree of depth within the six months following their most recent fiscal year end.<sup>22</sup>

## Reporting quality

In terms of the quality of accounting policies and data, great improvements have been made in recent years. The relative lack of familiarity that many sell-side analysts and fund managers have with local GAAP<sup>23</sup> in small frontier markets provides greater incentive for companies listed in these countries to report under IFRS.<sup>24</sup> Doing so allows these companies to be more easily compared against their peers in developed and emerging markets. As shown in Table 4, many frontier-market countries have brought their local GAAP standards into line with International Accounting Standards.

**Table 4/ Accounting requirements across frontier-market countries**

Country	Frontier Market Type	IFRS Required, Permitted, or Local Rules?	Country	Frontier Market Type	IFRS Required, Permitted, or Local Rules?
Argentina	Conventional	Required	Oman	Conventional	Required
Bangladesh	Conventional	Required	Pakistan	Conventional	Required
Botswana	Early Stage	Required	Papua New Guinea	Early Stage	Required
Bulgaria	Conventional	Required	Qatar	Transitional	Required
Croatia	Conventional	Required	Romania	Conventional	Required
Cyprus	Conventional	Required	Serbia	Conventional	Required
Estonia	Conventional	Required	Slovakia	Conventional	Required
Georgia	Early Stage	Required	Slovenia	Conventional	Required
Ghana	Early Stage	Required	Sri Lanka	Conventional	Required
Jamaica	Early Stage	Required	Tanzania	Early Stage	Required
Jordan	Conventional	Required	Trinidad and Tobago	Early Stage	Required
Kazakhstan	Conventional	Required	Ukraine	Conventional	Required
Kenya	Conventional	Required	United Arab Emirates	Transitional	Required
Kuwait	Transitional	Required	Zambia	Early Stage	Required
Kyrgyzstan	Early Stage	Required	Bahrain	Conventional	Required
Latvia	Conventional	Required	Bosnia	Early Stage	Permitted
Lebanon	Early Stage	Required	Cote d'Ivoire	Early Stage	Local
Lithuania	Conventional	Required	Gabon	Early Stage	Local
Macedonia	Early Stage	Required	Senegal	Early Stage	Local
Malta	Early Stage	Required	Togo	Early Stage	Local
Mauritius	Conventional	Required	Tunisia	Conventional	Local
Namibia	Early Stage	Required	Vietnam	Conventional	Local
Nigeria	Conventional	Required			

Source: PricewaterhouseCoopers LLP survey as of April 30, 2013 (most recent).<sup>25</sup>

<sup>22</sup> 2012 survey by Caravan Capital Management LLC.

<sup>23</sup> "GAAP": Generally Accepted Accounting Principles.

<sup>24</sup> "IFRS": International Financial Reporting Standards.

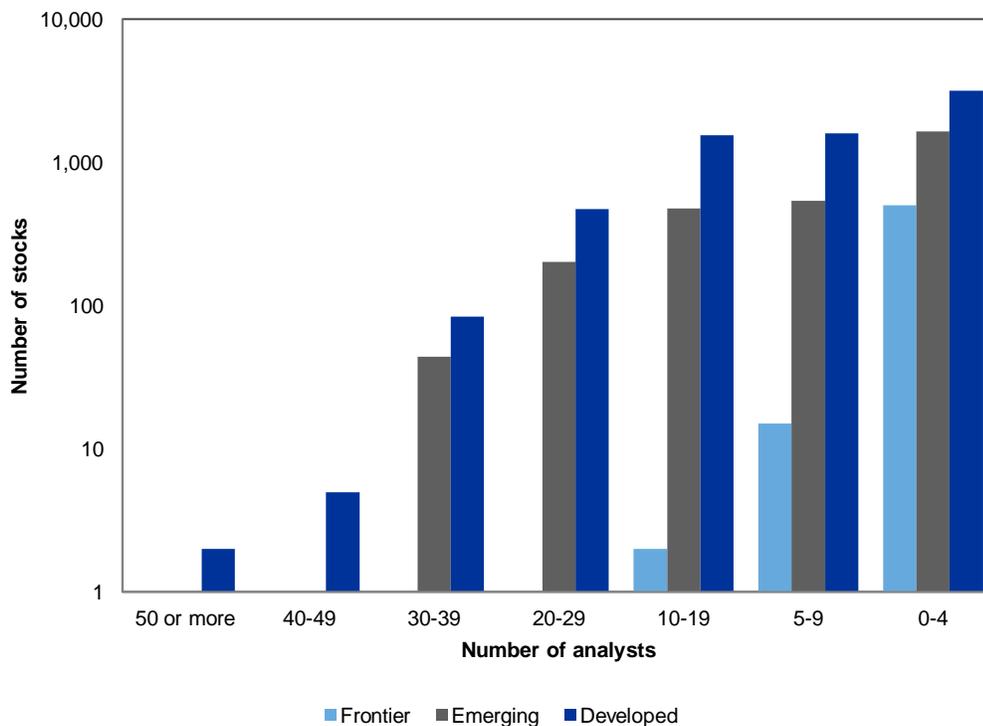
<sup>25</sup> The survey, "IFRS adoption by country," can be accessed at

[http://www.pwc.com/en\\_US/us/issues/ifrs-reporting/publications/assets/pwc-ifrs-by-country-apr-2013.pdf](http://www.pwc.com/en_US/us/issues/ifrs-reporting/publications/assets/pwc-ifrs-by-country-apr-2013.pdf) .

## Analyst coverage

Analyst research coverage is thin in many frontier markets. Most research coverage is provided by sell-side analysts employed by brokerage firms, with minimal availability of third-party research. Naturally, the quality and quantity of analyst research is largely determined by the trading volumes available in the market. Many early-stage frontier markets simply lack the volumes needed for the brokerage houses to justify employing dedicated analysts. For firms that do have research resources available, the quality of research analysts' forecasts may be less robust where there is limited company information or direct interaction. In markets where there are only small numbers of analysts providing forward-looking research, determining a consensus may be problematic. Figure 8 illustrates the drop-off in the availability of forward-looking research in developed versus emerging and frontier markets. However, many active frontier asset managers cite the lack of analyst coverage as supporting the potential for alpha generation via stock-picking in frontier markets.<sup>26</sup>

**Figure 8/ Numbers of analysts providing earnings forecasts for companies in the Russell Frontier Index, Russell Emerging Markets Index and Russell Developed Markets Index as of June 30, 2014. The numbers of stocks covered on the y-axis are presented in log scale.**



Sources: Russell Indexes, FactSet.

<sup>26</sup> Speidell, L. (2011). Frontier Market Equity Investing: Finding the Winners of the Future. *CFA Institute*.

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## Country vs. stock cross-sectional volatility: considerations for active implementation

In general, fundamentally orientated active investment managers tend to focus on top-down country selection, bottom-up stock selection, or a mix of both. The same is true for those who invest in frontier markets. Both country and stock-level approaches in frontier markets may have greater opportunities to deliver excess returns than in developed or emerging markets. This is supported by historical data showing frontier markets exhibited a higher dispersion of returns when measuring across both countries and stocks.

Cross-sectional volatility is a measure of the dispersion of returns. Using the stock, country and macro-region returns from the Russell Developed Index, Russell Emerging Markets Index and Russell Frontier Index, we calculated the stock-level and country-level cross-sectional volatility for each market segment.<sup>27</sup> Figure 9 displays the monthly stock-level cross-sectional volatility – smoothed by averaging them on a 12-month rolling basis – across the three market risk categories (developed, emerging and frontier) from August 2007 through June 2014. Over this time period, the average cross-sectional volatility of stocks within the Russell Frontier Index was 9.6 versus 9.1 within the Russell Emerging Markets Index and 7.7 within the Russell Developed Markets index.

As Figure 9 demonstrates, at the stock level, there tends to be greater variation of performance within frontier markets than in developed and emerging markets. One explanation for this is that much of the trading activity in frontier markets is still dominated by local investors, many of whom tend to be invested only in their local market or within their region.<sup>28</sup> This relative lack of global investor integration suggests share prices can be driven by factors that are important to the local investors in their own countries; while the share prices of developed market stocks are set by a more diverse set of investors driven by a more diverse set of risk and return concerns.

Another explanation for the higher variability may be “liquidity herding”, whereby large institutional asset managers within in those markets, such as local pension funds or insurance companies, invest in the most liquid stocks regardless of their perceived fundamental quality.<sup>29</sup> The capital flows of these local institutional investors, as wells as global investors who do enter or exit a frontier market, can cause “all boats to rise or fall with the tide”, while less liquid stocks get left behind.

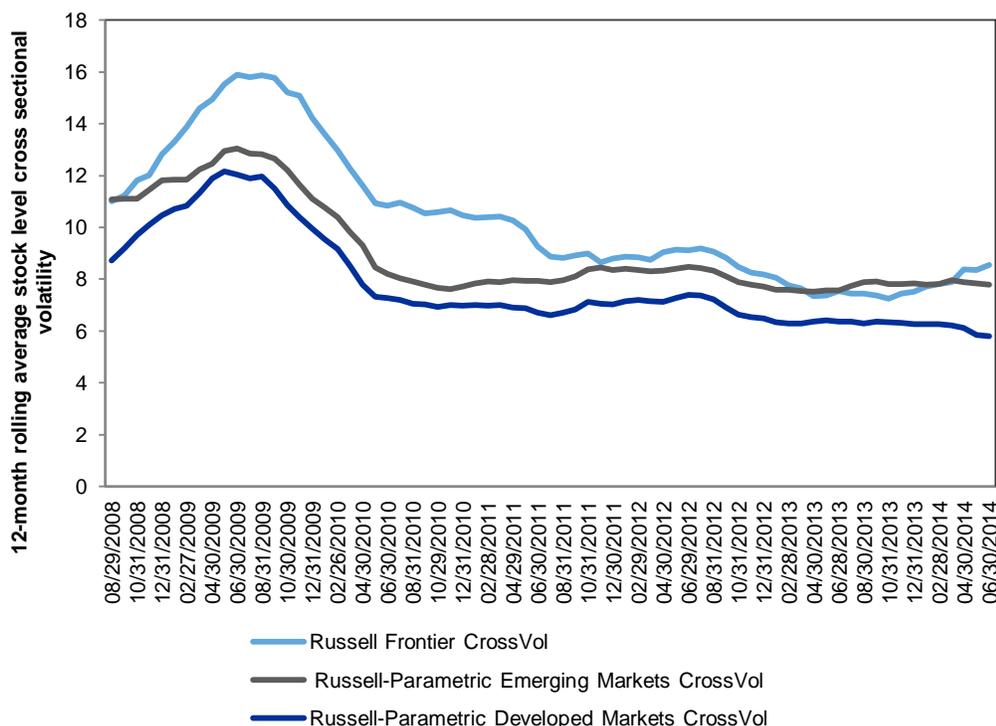
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<sup>27</sup> For more details on these calculations, please refer to Appendix III.

<sup>28</sup> Gratsova, M., and A. Howell (2011), “Call to the Frontier: The Search for a New Generation of Emerging Markets.” *Citigroup GPS Research*.

<sup>29</sup> Raddatz, C., and S.L. Schmukler (2011), “Deconstructing Herding: Evidence from Pension Fund Investment Behavior.” World Bank Working Paper, available at: <http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-5700> .

Figure 9/ Monthly stock-level cross-sectional volatility (“CrossVol”) across developed, emerging and frontier markets on a 12-month average rolling basis, August 2007–June 2014.



Source: Russell Indexes

Figure 10 shows that the monthly country-level cross-sectional volatility within developed, emerging, and frontier market countries has at times been significantly higher in frontier markets than in developed and emerging markets. The spread between developed, emerging and frontier markets’ cross-sectional volatility (CrossVol) was highest around the time of the global financial crisis and then tightened as the global macro outlook stabilized. Both frontier and emerging markets, however, have maintained higher relative country-level CrossVol through the period evaluated.

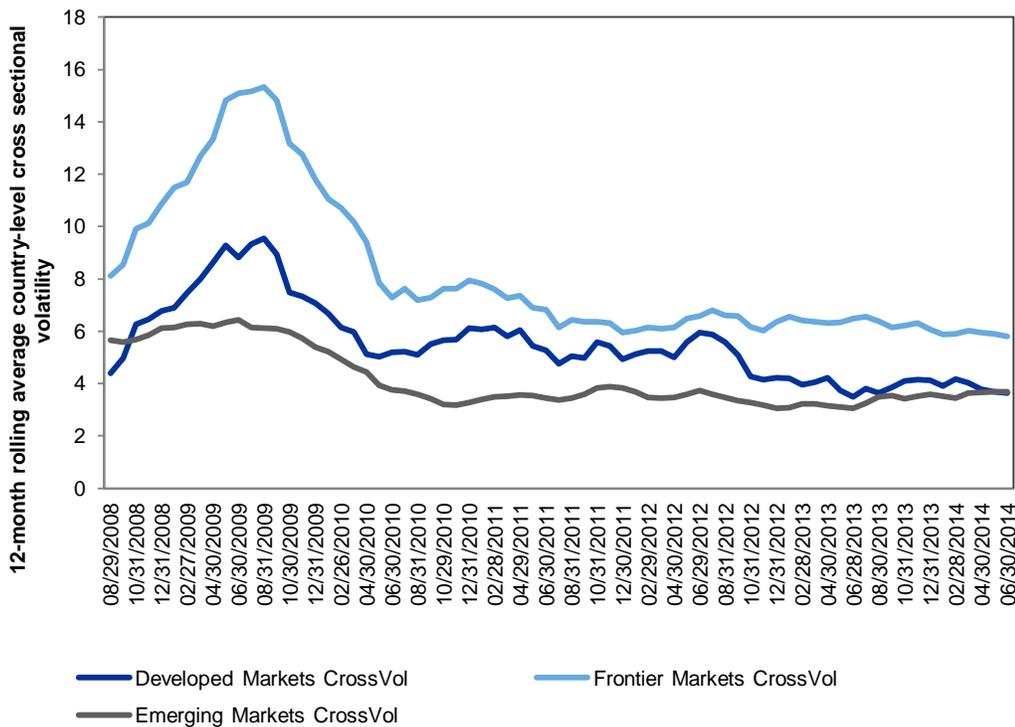
The relatively high dispersion of returns across the frontier countries may be due to country-level factors such as the outcomes of recent elections, discoveries of natural resources, the impacts of wars and weather, etc., on often much smaller economies as compared to developed markets. Moreover, developed economies tend to be more integrated into the global economy and financial system, such that what happens in one large emerging or developed nation is likely to impact another. Conversely, economic or financial trends or events in one small frontier country can be unlikely to impact the economy or stock market of another small frontier country in another region – as demonstrated by the cross-correlations of markets in Appendix II. As intuitive examples, a slowdown in China will likely impact the economies and markets of Brazil, Germany, and the US, but a slowdown in Bulgaria is unlikely to affect Sri Lanka, Papua New Guinea, or Zambia.

It has been suggested that, on a relative basis, higher levels of cross-sectional volatility may present greater opportunities for skilled active managers to generate alpha.<sup>30</sup> Conversely, during periods of reduced cross-sectional volatility, there may be fewer opportunities for an

<sup>30</sup> Pieasto, A. (2013), “Active Share and Mutual Fund Performance.” *Financial Analysts Journal*, Vol. 69 (4), pp. 73–93.

active fund to outperform its benchmark.<sup>31</sup> The greater dispersion of returns across frontier countries, shown in Figure 10, suggests that country selection can play a key role in the performance of actively managed frontier portfolios. An example of this was on display in 2014, when the returns of frontier portfolios or indices were largely determined by whether they included or excluded the countries of Qatar and UAE.<sup>32</sup>

**Figure 10/ Monthly country-level cross-sectional volatility (“CrossVol”) across developed, emerging and frontier markets on a 12-month average rolling basis, August 2007–June 2014.**



Source: Russell Indexes

<sup>31</sup> Bouchev, P., M. Fjelstad and H. Vadlamudi (2010), “Measuring Alpha Potential in the Market.” *Russell Research*. Accessible at: <http://www.parametricportfolio.com/crossvol/research>

<sup>32</sup> Choppin, A. (2014), “Arabian Nights: Mysteries on the Frontier.” *FIS Group Market Insight*. Accessed 10/20/2014 at [http://fisgroup.com/images/pdf/FIS\\_Group\\_Arabian\\_Nights\\_Mysteries\\_on\\_the\\_Frontier.pdf](http://fisgroup.com/images/pdf/FIS_Group_Arabian_Nights_Mysteries_on_the_Frontier.pdf).

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## Conclusions

Frontier market investors face unique challenges, but they are also presented with unique opportunities. The risks of frontier markets are not dissimilar to those in emerging markets – political, economic, regulatory, operational, and currency risks – to name just a few. Yet the lower cross-correlations of frontier markets allow for construction of diverse portfolios that can experience returns similar to those available in the emerging markets, but with substantially lower volatility at the aggregate index level. In addition, frontier markets are an equity class that is relatively uncorrelated to the U.S. market and other developed markets, offering global investors opportunities to improve the diversification of their total portfolios.

Within the frontier markets is a broad spectrum of countries at different stages in equity market development. The liquidity constraints of frontier markets, a function of both market size and turnover velocity, are the primary investment implementation challenge. Yet liquidity tends to increase as frontier markets develop. Liquidity also impacts the usefulness of typical measures of risk, such as monthly volatility, but longer-period return volatility can provide a more meaningful picture of the volatility experienced by longer-term investors in the frontier markets. Also a function of the low liquidity, trading costs are higher in the frontier markets, and these costs generally diminish as liquidity improves. Economic freedom tends to improve as frontier markets develop, and corruption tends to decrease.

Not surprisingly, frontier markets present more challenging market registration and operational procedures than more developed markets do. While there has been significant improvement in the areas of company financial reporting and sell-side research coverage in recent years, earlier-stage frontier markets still lag behind more developed markets in terms of company reporting frequency, depth and quality, as well as in terms of research analyst coverage. These types of issues – smaller company sizes, the relative illiquidity and higher costs – put limits on the scalability of frontier investing.

Additional scrutiny should be paid to ETFs that purport to follow frontier markets. Some have significant exposures to emerging markets and/or are concentrated in the largest and most liquid frontier markets. This is likely to change over time; indeed, some of those shifts are already underway. However, the idiosyncrasies of frontier markets – liquidity, volatility, regulation, concentration issues, etc. – may present unique opportunities for skilled active managers. Regardless of how they are accessed, opportunities in frontier markets make them worthy of consideration by all investors who acknowledge both their limitations and their potential.

## Appendix I: Frontier market types

Countries	Frontier Market Type	Countries	Frontier Market Type
Argentina	Conventional	Armenia	Off Benchmark
Bahrain	Conventional	Azerbaijan	Off Benchmark
Bangladesh	Conventional	Barbados	Off Benchmark
Bulgaria	Conventional	Belarus	Off Benchmark
Croatia	Conventional	Benin	Off Benchmark
Cyprus	Conventional	Bolivia	Off Benchmark
Estonia	Conventional	Burkina Faso	Off Benchmark
Jordan	Conventional	Cambodia	Off Benchmark
Kazakhstan	Conventional	Cameroon	Off Benchmark
Kenya	Conventional	Cape Verde	Off Benchmark
Lithuania	Conventional	Costa Rica	Off Benchmark
Mauritius	Conventional	Dominica	Off Benchmark
Nigeria	Conventional	Ecuador	Off Benchmark
Oman	Conventional	El Salvador	Off Benchmark
Pakistan	Conventional	Fiji	Off Benchmark
Romania	Conventional	Grenada	Off Benchmark
Serbia	Conventional	Guyana	Off Benchmark
Slovakia	Conventional	Iran	Off Benchmark
Slovenia	Conventional	Iraq	Off Benchmark
Sri Lanka	Conventional	Laos	Off Benchmark
Tunisia	Conventional	Libya	Off Benchmark
Ukraine	Conventional	Malawi	Off Benchmark
Vietnam	Conventional	Maldives	Off Benchmark
Bosnia and Herzegovina	Early Stage	Moldova	Off Benchmark
Botswana	Early Stage	Mongolia	Off Benchmark
Cote d'Ivoire	Early Stage	Montenegro	Off Benchmark
Gabon	Early Stage	Mozambique	Off Benchmark
Georgia	Early Stage	Nepal	Off Benchmark
Ghana	Early Stage	Niger	Off Benchmark
Jamaica	Early Stage	Panama	Off Benchmark
Kyrgyzstan (Kyrgyz Republic)	Early Stage	Rwanda	Off Benchmark
Lebanon	Early Stage	Saint Kitts and Nevis	Off Benchmark
Macedonia	Early Stage	Saint Lucia	Off Benchmark
Malta	Early Stage	Saudi Arabia	Off Benchmark
Namibia	Early Stage	South Sudan	Off Benchmark
Papua New Guinea	Early Stage	Sudan (now North and South)	Off Benchmark
Senegal	Early Stage	Swaziland	Off Benchmark
Tanzania	Early Stage	Syria	Off Benchmark
Togo	Early Stage	The West Bank (Palestine)	Off Benchmark
Trinidad and Tobago	Early Stage	Uganda	Off Benchmark
Zambia	Early Stage	Uruguay	Off Benchmark
Kuwait	Transitional	Uzbekistan	Off Benchmark
Qatar	Transitional	Venezuela	Off Benchmark
United Arab Emirates (UAE)	Transitional	Zimbabwe	Off Benchmark



## Appendix III: Calculation of stock-level and regional-level cross-sectional volatility

Stock-level cross-sectional volatility is calculated as

$$\sigma_x = \sqrt{\sum_i w_i (r_i - R)^2},$$

where

$w_i$  = the beginning of period, float adjusted capitalization weight of stock  $i$ ,

$r_i$  = the total return of stock  $i$  for the period and

$R$  =

the published return of the relevant Russell regional index (developed, emerging or frontier)

for the period.

Regional-level cross-sectional volatility is calculated as

$$\sigma_x = \sqrt{\sum_i w_c (r_c - R)^2},$$

where

$w_c$  = the beginning of period, float adjusted capitalization weight of country  $i$ ,

$r_c$  = the total return of country  $i$  for the period and

$R$  =

the published return of the relevant Russell regional index (developed, emerging or frontier)

for the period.

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### Disclosures

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