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FRONTIER MARKETS:

An Emerging Opportunity for Diversifying Risks and Returns

WHITE PAPER
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Typically smaller and less developed than their better known emerging market (EM) counterparts, frontier market (FM) countries offer attractive long-term growth and diversification potential. However, investors must balance these possible rewards against a host of risks and challenges endemic to these markets, including greater political and economic uncertainty, varied degrees of capital market sophistication, underdeveloped banking systems, and liquidity constraints. ►►

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In this paper, we identify the risk and return characteristics associated with frontier markets, highlight recent trends observed in this space, and explore associated investment opportunities. We also outline the benefits of incorporating this asset class into a diversified investment strategy, while underscoring the importance of manager and trading expertise in the operational mechanics of these countries.

►► FRONTIER MARKETS, WHAT ARE THEY...?

The countries that fall into the frontier category tend to rely heavily on human capital rather than technology and have populations that are more rurally distributed, both of which generally contribute to lower overall economic outputs. With the possible exception of those nations with abundant oil and other natural resources such as Kuwait, Nigeria, and the United Arab Emirates, frontier markets typically lack extensive, well-diversified trade ties, resulting in economies that are generally more insulated from global economic developments.¹ Lastly, many frontier markets have only recently begun to develop sophisticated capital markets. As such, investors may overlook these countries in the quest for returns, instead preferring larger, more established markets, where improved liquidity and investor safeguards appear to be a path of less resistance and greater assurance.

As their name implies, frontier markets aren't your typical asset class. Investments in these markets typically entail higher risk, which is attributable to a host of external drivers ranging from political instability, to fragile economies, to underdeveloped and overextended banking systems. Additionally, investors willing to endure these risks still face a litany of challenges to gaining the desired levels of market exposure due to low trading volumes and considerable logistical hurdles, including varying foreign ownership restrictions, onerous investor registration processes, and complicated trading protocols. Despite these challenges, FM exposure can help to provide valuable benefits to an investment strategy seeking international diversification.

►► ...AND WHO ARE THEY...?

Similar to EM countries and other index groupings, the definition of what constitutes a frontier market varies and continues to evolve. Nevertheless, major index providers regularly communicate their methodologies for determining country assignments. In the international markets, the MSCI indices are the most broadly followed and, for the sake of simplicity, we will defer to the MSCI Frontier Markets Index (FMI) to define the universe of FM countries discussed in this paper.²

¹ Saudi Arabia—maintained as a stand-alone MSCI Index—can also be considered here in the context of its membership in the MSCI Gulf Cooperation Council (GCC) Countries Index. The other five GCC member countries are classified as frontier markets.

² Frontier markets represent a relatively new asset class. The FMI, for example, was inceptioned on 5/31/02. The MSCI Emerging Markets and EAFE indices were inceptioned on 12/31/87 and 12/31/69, respectively.

As shown in Table 1, the FMI is currently comprised of 25 countries, five of which are also members of the MSCI Gulf Cooperation Council (GCC) Countries Index. Although it is a GCC member, Saudi Arabia is notably omitted from the FMI because direct access to its market is limited to Saudi residents and GCC investors.³ By way of comparison, Tables 2 and 3 identify the countries that make up the MSCI Emerging Markets and EAFE (developed country) indices.

Table 1:

| MSCI Frontier Markets Index country members | | | | |
|--|------------|-----------|-----------|-----------------------|
| Argentina | Jordan | Lithuania | Qatar* | Trinidad & Tobago |
| Bahrain* | Kazakhstan | Mauritius | Romania | Tunisia |
| Bulgaria | Kenya | Nigeria | Serbia | Ukraine |
| Croatia | Kuwait* | Oman* | Slovenia | United Arab Emirates* |
| Estonia | Lebanon | Pakistan | Sri Lanka | Vietnam |
| * Also a member of the MSCI GCC Country Index. | | | | |

Source: MSCI

Table 2:

| MSCI Emerging Markets Index country members | | | | |
|---|-----------|----------|--------------|----------|
| Brazil | Egypt | Korea | Philippines | Thailand |
| Chile | Hungary | Malaysia | Poland | Turkey |
| China | India | Mexico | Russia | |
| Colombia | Indonesia | Morocco | South Africa | |
| Czech Republic | Israel† | Peru | Taiwan | |
| † Reclassified to developed markets (EAFE) in May 2010. | | | | |

Source: MSCI

³ MSCI does, however, maintain a stand-alone Saudi Arabia index.

Table 3:

| MSCI EAFE† Index country members | | | | |
|--|-----------|-------------|-------------|----------------|
| Australia | France | Italy | Portugal | United Kingdom |
| Austria | Germany | Japan | Singapore | |
| Belgium | Greece | Netherlands | Spain | |
| Denmark | Hong Kong | New Zealand | Sweden | |
| Finland | Ireland | Norway | Switzerland | |
| † EAFE stands for Europe, Australasia, Far East. | | | | |

Source: MSCI

According to MSCI's Market Classification Framework dated June 2009, a country can be considered for frontier market status provided it meets minimum size and liquidity thresholds and offers a capital market that is generally accessible to foreign investors. Regarding size and liquidity, the country must have at least two publicly traded companies, in contrast to three for emerging countries and five for developed countries, which meet the following criteria:

- 1) Total company market capitalization must be at least US\$280 mm.⁴
- 2) Float-adjusted security market capitalization must reach US\$14.5 mm.⁵
- 3) Security liquidity must be at least 2.5% ATVR.⁶

In addition, MSCI requires that FM countries provide "at least some" vestige of openness to foreign ownership, "at least partial" ease of capital movements, and "modest" degrees of operational efficiencies and institutional stability. The bar is higher for EM countries, ranging from "significant" openness to foreign ownership/ease of capital flows and "good and tested" operational efficiencies. As of December 2009, there were 183 securities in the FM index versus 767 securities in the EM index. At the farthest end of the spectrum, developed markets (DM) must demonstrate "very high" degrees for each of the criterion.

The index composition changes over time as countries and companies attain or fail to meet these requirements for membership in the FM and other indices.⁷ The MSCI and other index providers identify and review potential changes throughout the year, frequently soliciting investor feedback to help inform their decisions. Unless there is a special mid-cycle adjustment, MSCI announces its classification changes each June, at which point it identifies other countries to be reviewed during the next cycle.

Now that we have defined what constitutes a frontier market, we will examine their associated investment characteristics, paying particular attention to those attributes that are designed to offer investors the most differentiation relative to more traditional international equity exposure.

⁴ Full market cap requirements for EM and EAFE indices are US\$560 mm and US\$1120 mm, respectively.

⁵ The hurdles are US\$280 mm for EM and US\$560 mm for EAFE.

⁶ The annualized traded value ratio (ATVR) is a measure of liquidity used by MSCI that is calculated using median monthly traded values of a security and the float-adjusted market capitalization of the associated company. The ATVR requirements for EM and EAFE are 15% and 20%, respectively.

⁷ Recent examples include MSCI's reclassification of Argentina, Pakistan, and Jordan from emerging to frontier and Israel from emerging to developed.

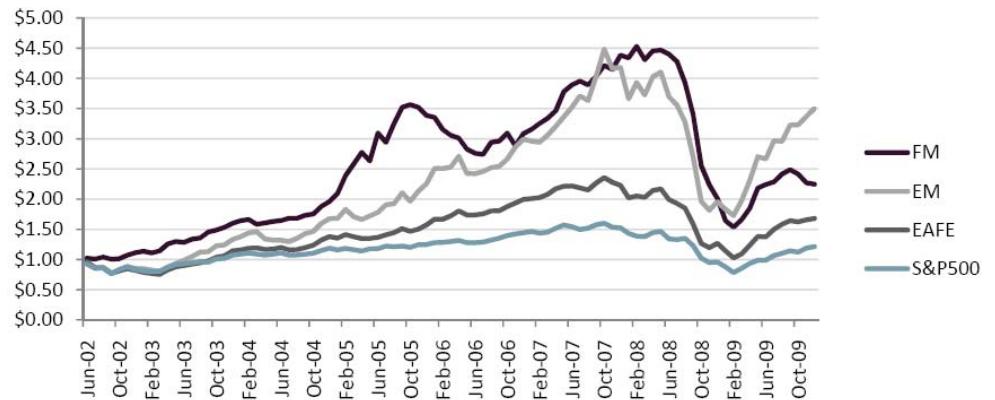
►► UNIQUE INVESTMENT CHARACTERISTICS

Despite a relatively short data series and added noisiness from the recent market turmoil, it is clear that FM equities as an asset class behave differently than those in the EM and DM spaces. The following sub-sections analyze FM returns and demonstrate how historically incorporating FM exposure increased portfolio returns while reducing overall risk.

Higher returns...

Undoubtedly, a large part of the appeal of a riskier asset class comes from the possibility of achieving higher rates of return and the frontier markets are no exception to this. Total returns for the FMI were higher throughout the measurement period (6/02-12/09) compared to those in DM countries and, for long periods of time, managed to exceed those of some EM countries. Consider Figure 1, which shows the growth of a \$1 investment made in each of the FM, EM, EAFE, and S&P 500 indices.⁸ The FM investment outperformed EAFE throughout the period despite posting a precipitous drop in value during the global financial crisis. It was during this period that EM exposure gained the upper hand—especially as FM countries lagged in the recovery phase—after trailing the FM investment for the majority of the period. Frontier market performance during the crisis period, including the recovery lag, and future growth projections will be covered more fully in the next section. Despite giving up much of the gains, FM countries still produced a respectable annualized return of 11.3% versus 18% for EM, 7.1% for EAFE, and 2.6% for the S&P 500. Figure 2 details the yearly returns beginning in 2003.

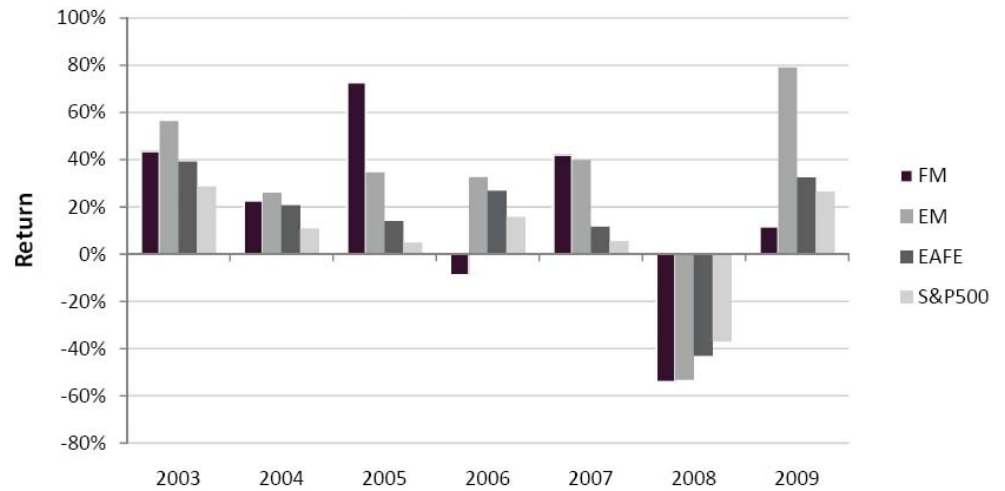
Figure 1:
GROWTH OF \$1



Source: FactSet

⁸ For illustrative purposes only. You cannot invest directly in an index.

Figure 2:
YEARLY RETURNS



Source: FactSet

...as compensation for higher volatility...

Not surprisingly, in exchange for these higher returns, the FMI incurred greater levels of risk relative to EAFE and the S&P 500. The annualized standard deviation of total returns was 22.8% for the FMI, higher than the 18.5% registered for EAFE and 15.8% for the S&P 500. Nevertheless, commonly accepted measures for comparing realized risks and returns among competing investment choices, such as the Sharpe Ratio, indicate that the FMI gained more return for each unit of assumed risk than did EAFE and the S&P 500.⁹ In other words, FMI investors were rewarded for undertaking the additional risk. However, this may only be a reflection of the higher amounts of liquidity and hence higher frequency of price observations in the EM countries, which allow the underlying price volatility to be observed. In contrast, lower liquidity in the FM countries may mask a similar (or even higher) level of volatility in these countries. Table 4 shows the annualized returns, standard deviations, and Sharpe Ratios that were observed over the period. Given the levels of volatility involved, the length of the data set is too short to draw strong distinctions between FMI and EMI returns, other than to note that they did not move in lockstep (see differences in returns for 2005, 2006 and 2009) and that both had higher risk and higher return levels than the developed markets.

⁹ Sharpe Ratios were calculated using a risk-free rate of 0%.

Table 4:

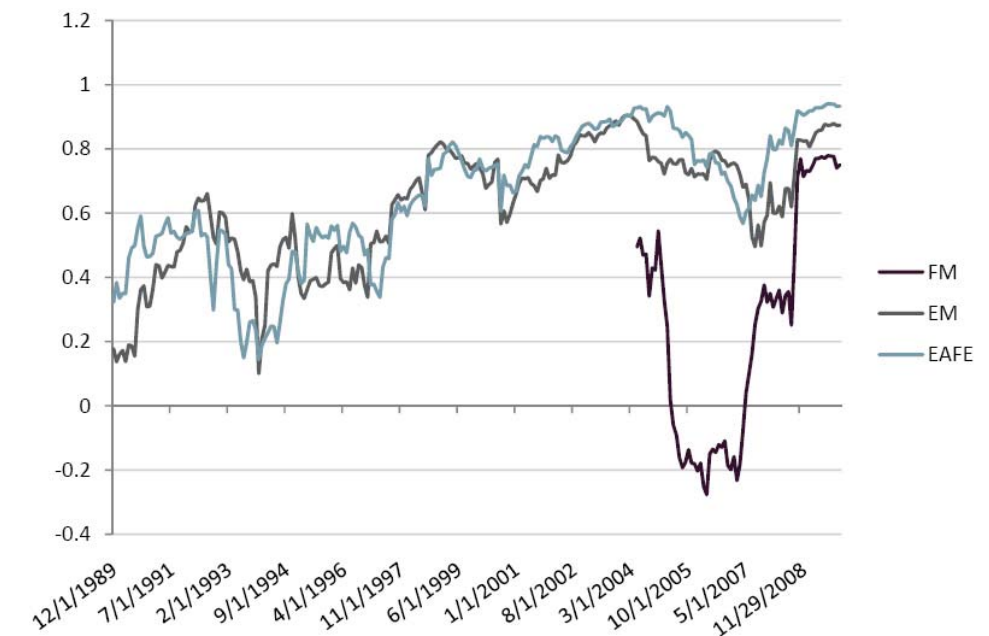
| Annualized return-for-risk characteristics, June 2002 – December 2009 | | | | |
|---|--------|--------|--------|--------|
| | FM | EM | EAFE | S&P500 |
| Return | 11.27% | 17.98% | 7.08% | 2.59% |
| Risk | 22.80% | 25.16% | 18.50% | 15.78% |
| Sharpe Ratio | 0.49 | 0.71 | 0.38 | 0.16 |

Source: FactSet

...plus overall diversification benefits

The index-level correlations relative to the S&P 500 offer some insights into the diversification benefits attained using the FM index. Figure 3 displays correlations to S&P 500 using a 24-month interval for the the FM, EM, and EAFE indices. Correlations between EAFE and the S&P 500 have increased markedly, approaching unity at the end of 2009. Viewed in this context, EAFE provided relatively little investment diversification relative to holding the large-capitalization US stocks encompassed in the S&P 500 index. EM reveals a similar trend while FM demonstrates lower degrees of correlation throughout the period despite the notable uptick during the crisis.

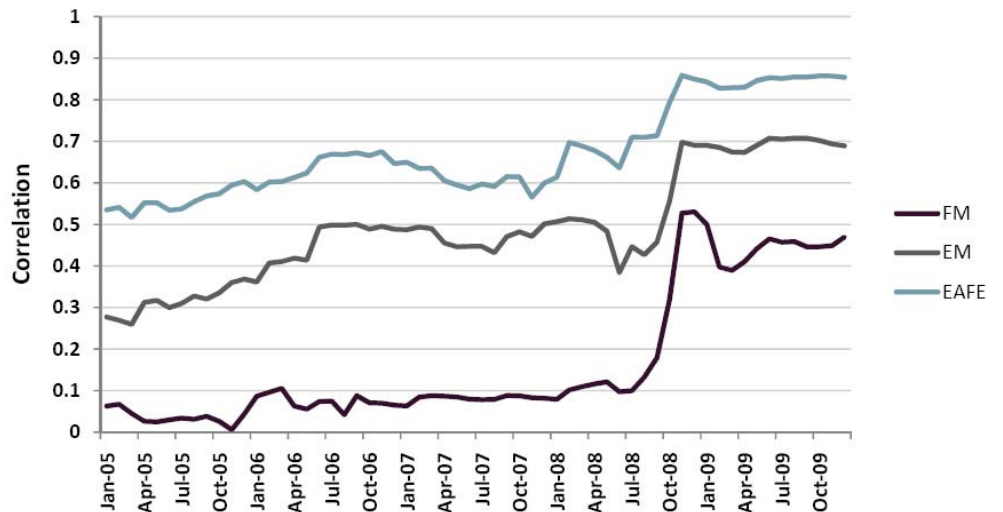
Figure 3:
CORRELATIONS WITH S&P 500



Source: FactSet

Differences in these countries’ political regimes, financial markets, and economic integration levels have translated into lower average, cross-country correlations, making them attractive diversification candidates. Unlike GCC members—whose dependence on oil exports may make their economies more intertwined at times—the events in one FM country often have little or no bearing on the economic prospects of another, whereas EM and DM countries do tend to be more linked. From an investment standpoint, these lower, cross-country correlations may help investors to achieve higher returns for lower levels of total portfolio volatility. Additionally, frequent independent returns movements (e.g., some country returns will “zig” while others “zag” as opposed to emulating each other) coupled with higher levels of volatility make FM countries excellent candidates for rebalancing. Investment managers who can exploit this volatility can capture a “rebalancing alpha.” Figure 4, shows the average cross-country correlations of EM, FM, and DM countries during the years 2005-2009. The trailing 12-month correlation is calculated between each country within the asset class and then averaged. Although the cross-correlations for all three have increased (especially during the height of the most recent crisis), FM countries continue to offer potential for greater diversification benefits.

Figure 4:
CROSS-COUNTRY CORRELATIONS



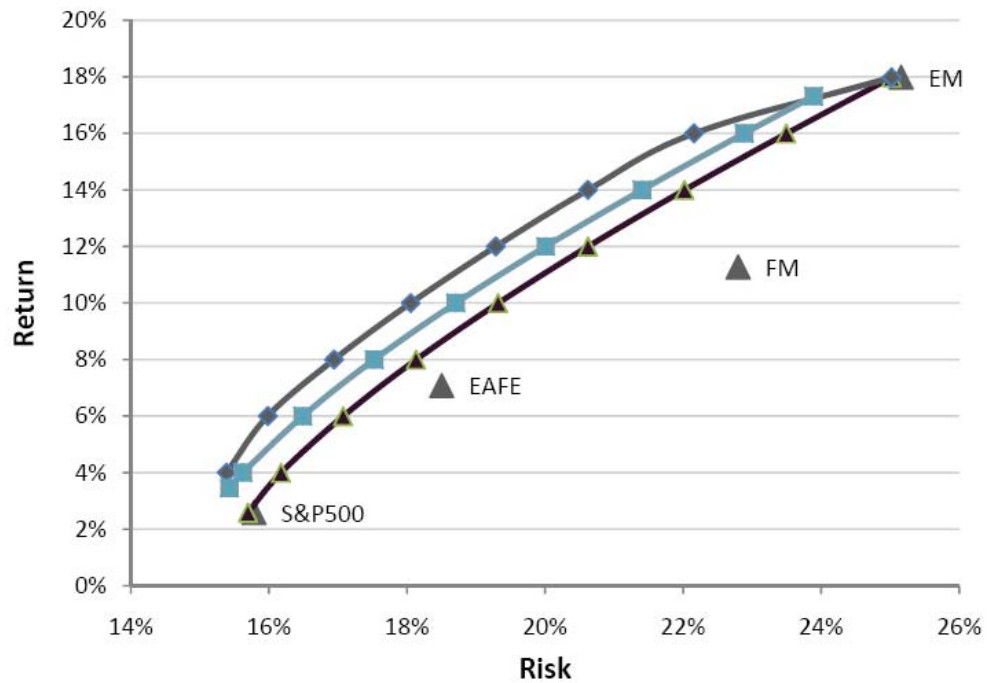
Source: FactSet

All told, FM exposure can improve a portfolio’s risk-and-return profile. Figure 5 shows mean-variance plots for portfolio allocations to the S&P 500, EAFE, and EM indices with varying degrees of FM exposure.¹⁰ Compared to the base case with no allocation to FM, incorporating FM exposure improved the frontiers—shifting them further into the northwest quadrant, reflecting higher returns for the same levels of risks—in each of the

¹⁰The mean-variance plots were calculated using monthly returns data from May 2002 through December 2009.

three scenarios tested. Introducing a 5% fixed allocation to FM, for example, increased the minimum portfolio annual return to 3% (from 2.6%), while reducing portfolio volatility to 15.3% (from 15.7%). A 10% fixed allocation improved the minimum return to 3.5%, with only slightly higher volatility of 15.4%; an unconstrained allocation increased the return to 4% with the same level of volatility as the 10% case. This latter scenario especially, should be viewed for its illustrative properties rather than as a suggested allocation. Indeed, allocations above 10% to FM countries would certainly be considered quite aggressive. The key point is that within the context of a well-diversified portfolio, appropriate allocations to FM countries may yield superior risk-adjusted returns.

Figure 5:
MEAN-VARIANCE PLOTS WITH AND WITHOUT FM



Source: FactSet

►► PERFORMANCE DURING THE CRISIS

The impact of the recent global crisis clearly has been far-reaching, in many cases stripping away long-held, commonly accepted “truisms” regarding the degree to which diversification and other traditional financial risk-management controls alone can safeguard investors during periods of chaotic volatility. Frontier market returns were no exception to this reality, falling more during the crisis than those in EM or DM countries. While panicked investors began to unravel their most liquid exposures first, the FM countries largely escaped the initial sell-off wave. However, they ultimately succumbed, declining 67% from peak to trough between January 2008 and March 2009. In comparison, EM performance began to trail off much earlier. The EMI peaked in October 2007 before bottoming out 12 months later, for a total decline of 65%.¹¹

Not surprisingly, FMI and EMI volatility increased substantially between October 2007 and March 2009. Using rolling 20-day returns volatilities as measured by standard deviation, FM and EM volatilities increased threefold and fivefold in October 2008. During this same period, the correlation (calculated from trailing 12-month returns) between frontier markets and the S&P 500 rose from 0.16 to 0.80; emerging markets correlation with the S&P 500 increased from 0.29 to 0.89. Correlation between developed markets and the S&P 500 rose even higher, increasing from 0.71 to 0.93. It appears reasonable to conclude that FM and EM diversification benefits narrowed significantly during the crisis. Nevertheless, save for one small exception in late 2007, FMI correlations remained below those of the EMI throughout this period, suggesting persistent relative diversification benefits. As such, we found that frontier market exposure can still contribute more relatively to reducing overall portfolio volatility, while positioning for a possible reversal effect following lackluster performance in 2009.

►► INVESTMENT OUTLOOK FAVORABLE

While the frontier markets were not immune to the global sell-off pressures, it is worth emphasizing that they demonstrated greater independence from both returns and timing perspectives than EM and DM countries. FM countries will potentially offer valuable risk and return and other diversification benefits going forward, especially when viewed from a total portfolio perspective.

Potential risks notwithstanding, frontier markets continue to have greater room to grow and may continue to afford larger risk-adjusted rewards as they develop politically and economically and attract greater international interest and investment. Using the latest estimates available as of July 2009, FM countries (including Saudi Arabia) accounted for around 8% of the world’s labor force, but just 0.5% of the total float-adjusted market capitalization, as measured by the MSCI ACWI (i.e., EM and DM countries, including the United States) and FM indices.¹² And despite possessing more than 40% of the world’s proven oil reserves, these countries only managed to attract an estimated 3.6% of all

¹¹The MSCI EAFE and S&P 500 Indices shed 60% and 55% during their respective peak-to-trough periods, which were nearly identical in their timing, lending further support to the assessment of a high degree of returns correlation. For example, both indices peaked in October 2007 before reaching lows on March 9, 2009.

¹²CIA World Factbook 2009, FactSet.

foreign direct investment in 2008.¹³ While these types of statistics are frequently repeated to help illustrate possible future investment benefits of the larger emerging markets, it is worth emphasizing that because frontier markets are at a much earlier stage in their investment lifecycle, they may therefore offer potentially greater and more rapid gains relative to EM and DM countries.

Regarding returns patterns between them, it took more than four months after the EM trough for the FM countries to bottom out. Since then, they have lagged in the recovery phase much as they resisted the downturn during the beginning stages of the crisis. Although they have clawed partway back, Figure 6 reveals that their post-trough (non-annualized) return of 49% through December 2009 paled in comparison to the EM recovery of 124%. Through the end of 2009, the FMI remained 51% below its peak, while the EMI was down only 22%. Although there are no guarantees that FM countries will catch up with EM countries, the FMI has already outperformed EMI by 9% in the first quarter of 2010.

Figure 6:
CUMULATIVE DAILY RETURNS FROM PEAKS THROUGH 12/31/09



Source: FactSet

Frontier markets appear to be well-positioned for a recovery from a pure fundamentals perspective. They currently maintain, for example, several comparative investment advantages over their EM counterparts, including lower P/E and P/B ratios and compelling dividend yields. Industry analysts note that FM countries have historically performed well in mature market cycles as investors seek out other, lesser-tapped opportunities.¹⁴

¹³CIA World Factbook 2009.

¹⁴Citigroup Global Markets, "Frontier Markets: The Dust Settles," 3 February 2010.

►► GAINING FM EXPOSURE

A significant hurdle to acquiring FM exposure is just that...acquiring exposure. While some countries have generally made substantial strides towards greater market liberalization, many FM countries remain quite difficult to access as a foreign investor. It should be noted that inadequate investor accessibility continues to be a constraint in many EM countries as well. For example, many countries require foreigners to complete involved registration processes before they are allowed to transact in local securities.¹⁵ Registering in Vietnam can be especially cumbersome and time-consuming, often taking several months. Unfortunately, registration is not the only difficulty to contend with as investment managers and traders must still procure and navigate potentially challenging custodial and sub-custodial arrangements even after being "cleared" for trading in a country. Finding and developing these solid custodial and brokerage relations are paramount to investment success in this space. Some markets, for example, require the transfer of stock between custody and trading accounts before an execution can occur. Vietnam also requires trades to be funded in local currency prior to execution (as does EM country Taiwan). Further, others such as Lebanon and Romania require sub-custodial accounts to be linked to their own list of approved brokers, thereby preventing trading with other, possibly more capable brokers.

Frontier markets are generally less liquid in comparison to emerging and developed markets, and investors expect a liquidity premium in exchange for this added risk. Indeed, investors may encounter significant challenges in both acquiring and liquidating larger positions in markets with more thinly-traded securities, especially in the context of incurring higher market impact costs and wider bid-ask spreads. For example, a \$200,000 trade in a typical single name in EM country Taiwan will frequently amount to less than 1% of the average daily volume (ADV) of that name. By contrast, this trade size could amount to more than 200% of the ADV for securities in FM countries like Estonia and Mauritius. Although program trades or "block offers" can be utilized to overcome some of these liquidity challenges, the fact remains that larger investors have to work harder and bear greater explicit and implicit costs in these markets to achieve desired allocations. It is important to note that liquidity patterns can be quite asymmetrical for purchases and sales. Liquidations can become especially difficult in volatile, down markets. As noted earlier, many investors turned first to the more liquid EM and DM countries during their flight to sell out positions.

Despite these challenges, FM exposure is attainable and is becoming more so as countries embrace greater political and economic openness and gain operational expertise and efficiencies. Before investing directly in local securities, many investors choose to invest in the American Depositary Receipts (ADRs) or Global Depositary Receipts (GDRs) of FM country securities. Offered on several well-established exchanges such as the NYSE Euronext and the London Stock Exchange, ADRs/GDRs tend to trade in greater, more accessible volumes and may avoid stringent country registrations as investors and managers can trade more freely on these exchanges.

¹⁵Experienced EM investors know full well that many of these challenges are not limited solely to FM countries. For example, country registration in India—the fifth largest country by float-adjusted cap weight in the MSCI EM Index as of February 2010—can take more than six months, limiting interested foreign investors to ADR/GDR's, equity substitution products, and other non-direct access vehicles during this waiting period.

While ADRs/GDRs may provide efficient access to certain securities, limiting FM investments to these types of vehicles can constrain exposures to a smaller set of countries, sectors, and securities, capping potential diversification benefits. Such is the case with the Claymore/BNY Mellon Frontier Markets ETF (ticker: FRN), which tracks depository receipts offered on major exchanges in the U.S. and U.K. As of December 31, 2009, FRN's exposure—spread across 43 securities—was largely concentrated in five countries accounting for more than 75% of holdings.¹⁶ However, four of these countries are currently defined by MSCI as emerging markets. Other FM countries for which FRN maintained geographic exposure included Argentina, Lebanon, Nigeria, and Oman. As such, frontier market exposure, by MSCI's definition, amounted to just over 22% of FRN holdings. Notably, the harder-to-invest-in countries such as Kuwait, United Arab Emirates, and Qatar are currently omitted from FRN, despite representing over 50% of the FMI weight. Ultimately, while ADRs/GDRs can provide a viable pathway to obtaining international equities, the issues noted above underscore some of the difficulties associated with trying to round out a diversified exposure with depository receipts.

Investors may also pursue FM exposure through other equity vehicles, including country funds and equity-linked securities, although both offer advantages and disadvantages. Country funds, for example, can provide a greater degree of sector and security-level diversification relative to depository receipts, which are typically offered on only the largest and most liquid names. Closed-end funds, however, can at times trade at substantial premiums or discounts to their net asset values and can be more difficult to liquidate in down markets. Additionally, both closed-ended and open-ended funds may contain positions such as fixed-income instruments that an investor probably would not otherwise pursue as part of their investment strategy.

Equity-linked securities are swap contracts whereby an approved investor can pass along the return stream of an otherwise unavailable security to an unapproved investor. Oftentimes set up as 144A securities, participatory notes offer the investor virtually all of the potential benefits of holding the underlying stock as well as the ability to pursue a more granular asset allocation relative to depository receipts and country funds.¹⁷ Additionally, utilizing these access vehicles avoids the need to register in the associated countries. There are disadvantages though, including higher minimum investment sizes, increased costs, and the introduction of counterparty risk.

¹⁶The five countries are Chile (32.9%), Egypt (14.1%), Poland (11.8%), Colombia (10.7%), and Kazakhstan (7.1%), FRN Fact Card, 12/31/2009.

¹⁷Equity-linked securities are also commonly referred to as participatory notes, equity pass-throughs, and low exercise price options. Equity-linked security investors are not typically granted voting rights on the underlying positions.

►► CONCLUSION

Frontier markets possess many of the same favorable investment characteristics as emerging markets, including the potential for higher risk-adjusted returns and improved diversification relative to developed international equities. The asset class is largely in its infancy though—the MSCI Frontier Markets Index is still in its first decade—and interested investors may face added risks and well as difficulties in acquiring exposure in an effective and cost-efficient manner. Additionally, their lower levels of cross-country correlations were unable to offer a safe haven during the height of the global financial crisis when investors needed diversification the most.

Despite recent underperformance, FM countries represent an attractive asset class for investors who are interested in diversifying their exposure to international equities. In many ways, these markets offer a natural evolution for investors who have already embraced the investment characteristics of the EM asset class and are looking for additional return opportunities that can also reduce overall portfolio volatility. Frontier markets do appear to possess these necessary attributes and may even have potential for greater, near-term returns owing to their lagged, post-crisis recovery and higher projected country growth rates. Nevertheless, higher returns may also be viewed, in part, as compensation for the added explicit and implicit costs and risks associated with trading in these markets. Interested investors would be well-advised to be mindful of these added risks, and carefully select investment managers with established contacts and operational know-how in these esoteric markets.

►► DISCLOSURE

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