

AN IN-DEPTH ANALYSIS

Emerging Markets Investing

Efficiently Adding Emerging Market Equities
to a Global Portfolio

JANUARY 2007

REVISED MARCH 2007



Northern Trust



FOREWORD

With double the economic growth rate of developed countries, robust company earnings and reduced political and financial risk as a result of substantial economic and regulatory reform, this dynamic asset class merits a core position in a long-term international equity portfolio.

Steven A. Schoenfeld
Chief Investment Officer

Alain Cubeles
Senior Investment Strategist

Global Quantitative Management Group
Northern Trust Global Investments

January 2007 (REVISED MARCH 2007)

CONTENTS

EXECUTIVE SUMMARY	3
OVERVIEW: WHY ADD EMERGING MARKETS TO AN INTERNATIONAL PORTFOLIO? .	5
PART ONE: WHY EMERGING MARKETS? HISTORICAL OUTPERFORMANCE AND STRUCTURAL REFORMS HAVE CREATED A MORE MATURE ASSET CLASS	11
PART TWO: EMERGING MARKETS – <i>TOO BIG TO IGNORE</i>	18
PART THREE: A VIRTUOUS CIRCLE OF CONFIDENCE LEADING TO DEEPER MARKETS AND EVEN GREATER STABILITY	22
HOW THE DEFINITION OF EMERGING MARKETS AFFECTS A COUNTRY’S INCLUSION IN AN INDEX AND HOW INVESTORS BENEFIT – OR DO NOT	24
PART FOUR: WHY HIGHER CORRELATIONS DO NOT ELIMINATE THE DIVERSIFICATION BENEFITS OF EMERGING MARKETS	26
PART FIVE: INDEX “VERSUS” ACTIVE MANAGEMENT: TIME TO END THE DEBATE	30
CONCLUSION: LOWER VOLATILITY, ROBUST EARNINGS, AND ENTREPRENEURIAL SPIRIT MAKE A COMPELLING CASE FOR EMERGING MARKETS	37
ENDNOTES	43

EXECUTIVE SUMMARY

Even after a four-year bull run, emerging market equities still offer investors some of the best long-term return prospects in the world. In our view, this is an asset class that has “grown up” from its volatile past. The numbers alone reinforce the case for core exposure to this asset class, and investors seeking a truly diversified portfolio should include exposure to emerging markets. Emerging-market countries are home to 85% of the world’s population, generating 48% of global economic output. They produce double the Gross Domestic Product (GDP) growth rate of the developed world, and despite occasional periods of dramatic underperformance, their equity markets have an 18-year history of outperforming both the U.S. and non-U.S. developed equity markets.

Emerging markets are simply too big and dynamic for investors to ignore. Overall GDP growth for these countries is likely to be more than 6% for 2006 and forecast to be close to that or above for 2007.¹ Such high growth rates support the prospects for robust earnings at companies that are evolving into world-class corporations. In addition, the economic and financial reforms implemented since the emerging markets crises of the 1990s promise the kinds of stability needed to make such earnings sustainable. In our quantitative analysis, we have found that measurable risk and volatility has declined in emerging markets over the past ten years, providing attractive long-term risk/return characteristics and a valuable source of diversification for global equity portfolios.

Today, investors seeking exposure to emerging markets can choose from among the following basic investment strategies: a) index-based strategies that seek to replicate the performance of one or more emerging markets benchmarks; b) risk-controlled quantitative approaches; or c) traditional active management. Each of these strategies is characterized by different costs and risks. Active managers have long played the dominant role in managing emerging-market portfolios, and many investors regard such managers as the *de facto* “experts” for this asset class. However, we encourage investors to take a multi-strategy approach to emerging-market investment and to seek an optimal mix of these strategies.

This paper examines the costs and benefits of these various approaches. In addition, we review the benefits of allocating to both the emerging and developed markets in a strategy that we term “*integrated international*” indexing. This approach utilizes index-based portfolios covering Europe, Australia, Far East, Canada and emerging markets. *Integrated international* indexing can be pursued using a benchmark such as the MSCI All Country World Index excluding the United States (ACWI ex-U.S.) or an equivalent benchmark from FTSE, Standard & Poor’s, Dow Jones Wilshire or Russell. Investors in *integrated international* can also benefit from “pro-active” exposure to countries that eventually graduate from developing to developed status, as occurred for Portugal in 1998 and Greece in 2001. We believe graduation is probable for South Korea, Taiwan and Israel before the end of this decade, with several other key emerging-market countries likely to follow soon thereafter.

As emerging markets continue to evolve, investors seeking higher long-term returns should not delay an implementation of emerging market exposure regardless of their choice of investment approach.

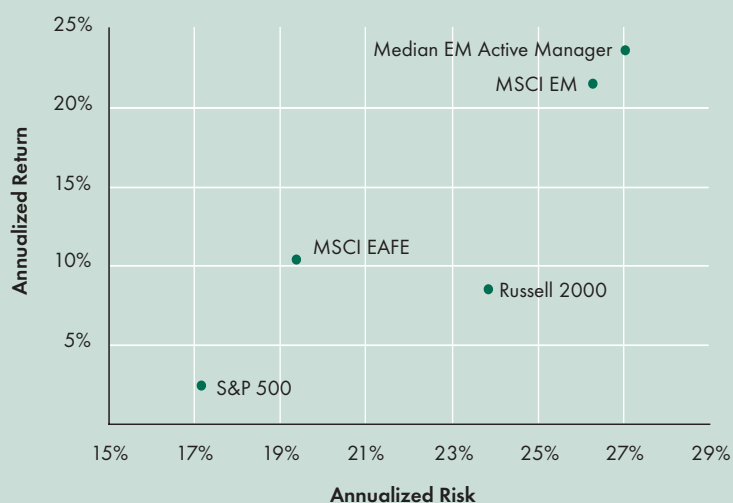
Exposure to emerging markets helps ensure that investment portfolios benefit from the growth potential of “emerging-market blue-chip” companies, which help drive the performance appeal of this asset class. Some of the fastest-growing, industry-leading companies — including global leaders such as Samsung, Cemex, Teva and Embraer — are domiciled within emerging-market countries. In many ways, these are “blue-chip” companies whose home addresses are far less relevant than their respective ability to operate profitably beyond the borders of their domiciles.

Another compelling reason for holding emerging market equities is their appealing risk/return characteristics. In Figure 1, we have charted the risk/return characteristics for emerging markets versus in those for a developed country international strategy and two different U.S.-focused strategies over the past five years. The median active emerging markets manager outperformed the MSCI Emerging Markets benchmark by about 200 basis points (bps) during the five years through June, 2006.² This relative performance does not reflect deduction of fees, which can range from 55 bps to more than 100 bps for institutional investment vehicles and much more for mutual funds.* We congratulate investors wise or fortunate enough to have chosen successful active managers and hope that, in the future, such investors will be able to repeat their past successes.

It is critical to note, however, that during this five-year period, emerging markets returned more than 20% annually, regardless of whether exposure to these markets was sourced through active management, quantitative approaches or index-based strategies. This return rate is more than double that of a purely developed-country international strategy based on the MSCI EAFE Index during the same period. Similarly, U.S. equity strategies tracking either the broad S&P 500 or the considerably riskier small-capitalization strategy of the Russell 2000 offered returns in the single digits.

For these and other reasons explored below, the most important decision for investors is *how much* they should allocate to emerging market investments, rather than whether or *how to* allocate. And as the flow of investment capital into the emerging markets continues to grow, we expect investors to seek out blends of traditional active, quant/active, enhanced/structured and pure index strategies, just as with developed international equity markets.

FIGURE 1: RISK-RETURN OF EMERGING MARKETS VS. INTERNATIONAL & U.S.(FIVE YEARS THROUGH JUNE 30, 2006)



Source: NTGI, Standard & Poor’s, MSCI, Frank Russell, Callan Associates

* Emerging Market mutual funds deduct their substantially higher fees (ranging between 100 to 200 bps) directly from the fund. The performance drag of fees is therefore more apparent when using S&P’s Index Versus Active (SPIVA) Scorecard, which for the third quarter of 2006 shows an underperformance of active managers by more than 400 bps.

OVERVIEW: WHY ADD EMERGING MARKETS TO AN INTERNATIONAL PORTFOLIO?

In the 1970s and early 1980s, many U.S.-domiciled investors thought they had sufficient U.S. market exposure by simply owning funds benchmarked to the Standard & Poor's 500 (S&P 500). But after years of experimenting with small- and mid-cap companies, they realized they could further diversify their portfolio by adopting a "total market" approach.

Some investors apply the same thinking to investing outside the United States – that developed world equities offer all the return and diversification needed for an effective international strategy. But we believe such investors would miss a great deal of opportunity by restricting themselves to the developed world, where headlines often paint a picture of economic malaise.

For example, Europe continues struggling to reduce unemployment, which for years has clung stubbornly to 10% in dominant countries such as France and Germany. Government efforts to introduce labor reforms in these countries have been met with work slowdowns, strikes and, in Paris, violence. On the corporate front, cross-border merger efforts have frequently been stymied by European Union regulatory obstacles. Japan, the other heavyweight in any developed world index, is just beginning to recover from more than a decade of stagnation. Japan's central bank only recently abandoned its zero interest rate policy, and Japanese consumers have only begun to spend just a small portion of their hoarded savings domestically.

By contrast, consider just a few of the concurrent developments in emerging markets in recent months:

- Brazil's Companhia Vale Do Rio Doce (CVRD), already the world's largest iron ore producer, bid \$18 billion cash for Canadian nickel producer Inco in its quest to lead the global nickel market by the end of the decade.
- In just over a decade, China increased its exports to the rest of the world from 20% to 90% of those of the U.S. by the first half of 2006.
- In India (where June 2006 figures showed consumer product production rising 20% year over year and capital-goods output even stronger at 23%), yet another major U.S. rating agency upgraded India's foreign currency sovereign rating, with the prospect of providing even more domestic liquidity, increased positive capital flows and additional fuel for even stronger GDP growth.

Many other companies in these emerging markets are showing similar strengths and are, in aggregate, more profitable than companies in the developed world. Return on Equity (ROE) for all companies around the world has risen during the last four years. But since 2002, companies located within emerging markets have consistently produced ROE figures that are one percent higher than those for companies in developed countries (see Figure 2). The aggregate ROE for emerging markets as of September 2006 was about 16.3%, as compared with 15.2% for the rest of the world.³

**FIGURE 2: RISING PROFITABILITY: RETURN ON EQUITY (ROE) FOR EMERGING VS. DEVELOPED COUNTRIES
JANUARY 1995–AUGUST 2006**



Structural reforms in emerging markets have provided a more stable investing environment

Dynamic macro- and microeconomic advances occurring in emerging-market countries stem from the serious structural reforms implemented since the various crises of the 1990s. Chief among these reforms are:

- Foreign currency-denominated debt reduction (mostly U.S. dollar-denominated) to 10% of GDP currently from 90% in 1999 for emerging-market countries, in aggregate;
- Reduction of fiscal deficits and creation of surpluses, in aggregate;
- Growth of current account surpluses away from historical deficits in many major developing countries;
- Reduction of inflation or hyper-inflation to single-digit levels in almost every market;
- Greater transparency of government and corporate-governance practices, with more emerging market companies moving to the Generally Accepted Accounting Principles (GAAP) standards used in the United States;
- Regulatory changes have created more flexibility for portfolio investment. For example, in 2004, the Mexican national pension fund regulator CONSAR amended the guidelines governing Mexico's private sector pension funds, or AFORES. This amendment allowed regulated pension funds to invest up to 15% of their respective assets in principal-protected notes linked to equity indices, including Mexico's benchmark IPC stock index.

Although our examples of problems in France and Germany suggest we are being a little hard on “Old Europe,” we are not proposing exposure to emerging markets at the expense of exposure to developed markets. Despite the obvious macroeconomic challenges, there are countless excellent companies in Canada, Europe, Japan and Australia that are global leaders in their respective industries and essential holdings for most global equity portfolios.

Our contention is that any investor who has or is considering international equities exposure should consider the best way to obtain return and diversification. In our opinion, the underlying qualities and positive developments occurring within emerging markets make a compelling case for including them in a long-term portfolio. Some factors contributing to this view follow:

- Emerging markets and the countries in which they are domiciled are too significant to ignore — geographically, demographically and economically. They comprise 90% of the world’s land mass, including some of its most valuable real estate; they constitute 85% of the world’s population; and they generate 48% of global economic output.
- Even with the 2005/2006 surge in oil and energy prices and the global rise in interest rates, emerging market economies are projected to grow at approximately 6.2% this year — more than double the growth estimated for developed countries — with implied benefits for company earnings.⁴
- Demographic trends in developing countries are likely to contribute to further productivity gains. By contrast with the population decline occurring in many developed countries (e.g., Japan, Italy and Belgium), the population of many developing-market countries is increasing. Developing countries also stand to gain from the likelihood that more women will enter the labor force and that more workers will leave agriculture work for higher value-added work.⁵
- Some of the world’s fastest-growing, and possibly best-managed, industry-leading companies are headquartered in emerging market countries. Korea’s Samsung, for example, is now a home-electronics leader boasting a market capitalization of nearly \$80 billion.

Reduced Volatility Makes for More Attractive Risk/Return Characteristics

Empirical evidence shows that portfolio risk in the emerging markets asset class declined over the past decade. This translates into more-sustainable returns that lend greater credibility to comparing the valuations of developed and emerging markets. Some analysts argue that the increasing correlation between the equity performance of emerging and U.S. markets during the past decade has diminished the diversification benefit of exposure to the developing asset class. However, lower volatility has accompanied the higher correlation, thereby reducing marginal risk.

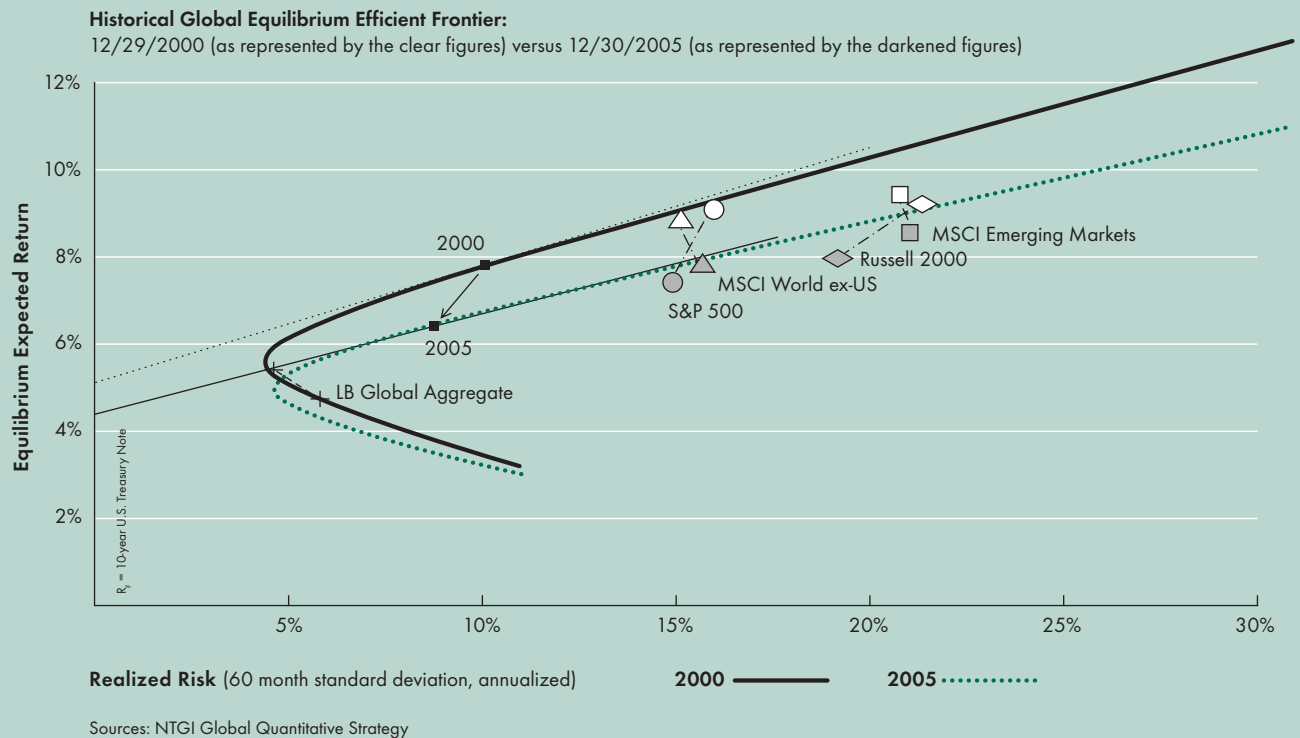
The asset class is truly “growing up.” Yet, despite a decline in risk, investors in emerging markets are still garnering higher returns as compared against developed markets returns. And though the term is overused, a true “paradigm shift” has occurred. Figure 3 shows clear improvement in the risk/return tradeoff in 2005 of emerging markets (represented in the graph by MSCI Emerging Markets) relative to other asset classes (represented by S&P 500, LB Global Aggregate, MSCI World ex-U.S. and Russell 2000) as compared to corresponding risk/return profiles in 2000. Volatility fell more than marginal risk declined. Marginal risk includes correlations and is the basis for expected

excess returns. Realized risk declined most dramatically for the emerging markets, as seen in the comparative squares. The darkened square shows the sharp decline in risk even as realized returns for emerging markets exceeded U.S. and global developed returns.

A number of factors can explain higher correlations between markets:

- Global equity markets moved in closer sync during both the expansion of the technology bubble in the late 1990s and its collapse early this decade;
- Government and corporate reforms in emerging markets followed the economic and financial crises of the 1990s. Because these reforms are cumulative and sustainable, we believe they help lower systemic risk and enable emerging-market equities to behave more like their counterparts in developed countries;
- Globalization — the integration of economic activity resulting from stronger trade ties and more companies with greater international operations — also has helped increase correlations as compared against those of the early 1990s.

FIGURE 3: PARADIGM SHIFT: IMPLIED EFFICIENT FRONTIER: DECEMBER 2005 VS. DECEMBER 2000



Despite this 10-year trend, correlations actually fell during the first half of 2006. And the correlation over the last 14 years between the MSCI Emerging Markets Index (EM) and the S&P 500 is still only 63%. Thus, even after the powerful four-year rally in emerging markets since Autumn 2002, the asset class offers valuable diversification benefits.

Our Recommended Strategies for Gaining Exposure to Emerging Markets – A Blend is Better

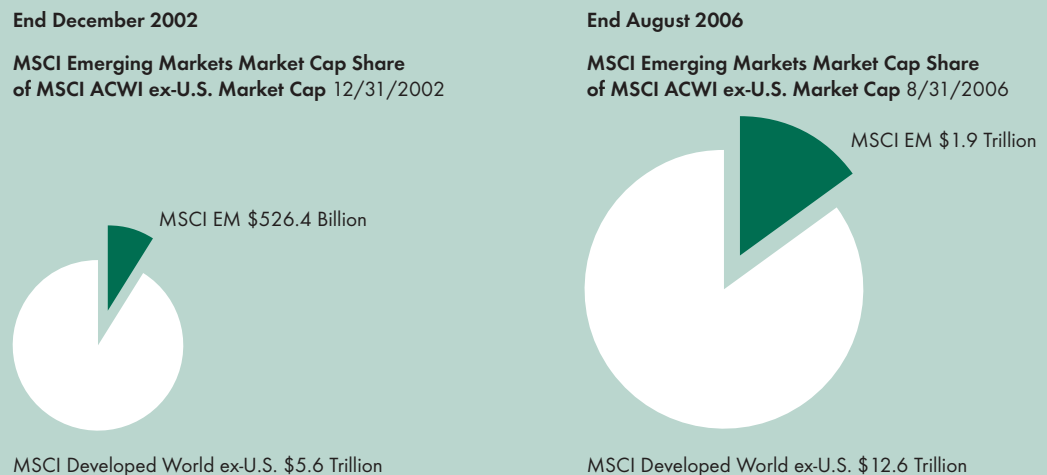
We suggest several strategies for benefiting from the return potential offered by emerging markets. As quantitative managers at Northern Trust Global Investments, we seek to provide efficient, low-cost exposure to emerging markets through index-based strategies. In addition, we can provide structured risk-controlled strategies seeking to outperform the benchmark while ensuring that other portfolio characteristics are close to the benchmark.

This suggestion does not preclude hiring skilled active managers. We will examine the performance of skilled active managers vs. the major benchmark indexes over the past five years. Though active management customarily entails higher fees than an index-based approach and higher active risk relative to the asset class benchmarks, we strongly believe emerging market investors will find value in *combining* index-based, quantitative and traditional active management strategies, much the same way that institutions approach both developed international and domestic equity markets.

“Being There” is the Most Important Decision

The most important decision an international investor can make is to give emerging markets adequate allocation relative to their weight in the overall global equities markets. As occurred for the character Chance the Gardener played by Peter Sellers in the 1979 film, success can occur simply by showing up or “Being There.”⁶ The two pie charts presented in Figure 4 illustrate the dynamic growth of this asset class. The MSCI market capitalization of the emerging markets index as a share of the MSCI All Country World Index excluding U.S. expanded to \$1.9 trillion at the end of August 2006 from \$526 billion at the end of 2002. An investor with a market-weight allocation to emerging markets during this period could have benefited from the nearly four-fold increase in the size of this “slice of the pie.”

FIGURE 4: “A BIGGER SLICE OF A BIGGER PIE” – THE GROWING RELATIVE MARKET CAPITALIZATION OF EMERGING MARKETS



Sources: NTGI, MSCI

Working with a Bigger Slice of a Bigger Pie

To gain effective exposure to this dynamic area of the international equities asset class, an investor can — and should — use multiple approaches, with an overall objective of achieving the optimal allocation and exposure to emerging markets. Beyond using an appropriate policy benchmark (and holding active managers accountable to that benchmark), investors should consider using an index-based approach to represent their core allocation to international equities, including emerging markets. Two such approaches are easily implemented, as follows:

- A U.S. index-based investor whose current international exposure is benchmarked to the MSCI EAFE index could make an allocation to an emerging market index fund in a weight reflecting the approximate market capitalization of emerging markets relative to the overall EAFE markets (i.e., currently about 12% as of the date of this publication).
- An investor seeking to achieve developed and emerging market exposure through a single allocation can use an *integrated international* index strategy (e.g., the MSCI ACWI ex-U.S., the FTSE All World ex-U.S., the S&P/Citigroup Global ex-U.S. or the recently introduced international benchmarks from Dow Jones Wilshire or Russell indexes*) to benefit from emerging-market countries that graduate to the developed-country status. As noted earlier, we believe that Taiwan, Israel and South Korea are examples of countries poised for such graduation. Another benefit of the *integrated international* approach is that it incorporates an allocation to Canada, which is not represented in EAFE but comprises approximately 4% to 5% of the non-U.S. market capitalization and includes many significant global companies (e.g., Nortel and Research in Motion, maker of the popular BlackBerry wireless hand-held device).⁷

Two of the biggest challenges currently facing institutional investors are the relatively low expected equity market returns for developed countries and under-funded pension plans. As a result, investors are spending much time and energy searching for higher returns. Even four years into the emerging-market bull run, investors who increase their allocation to this asset class stand to gain from:

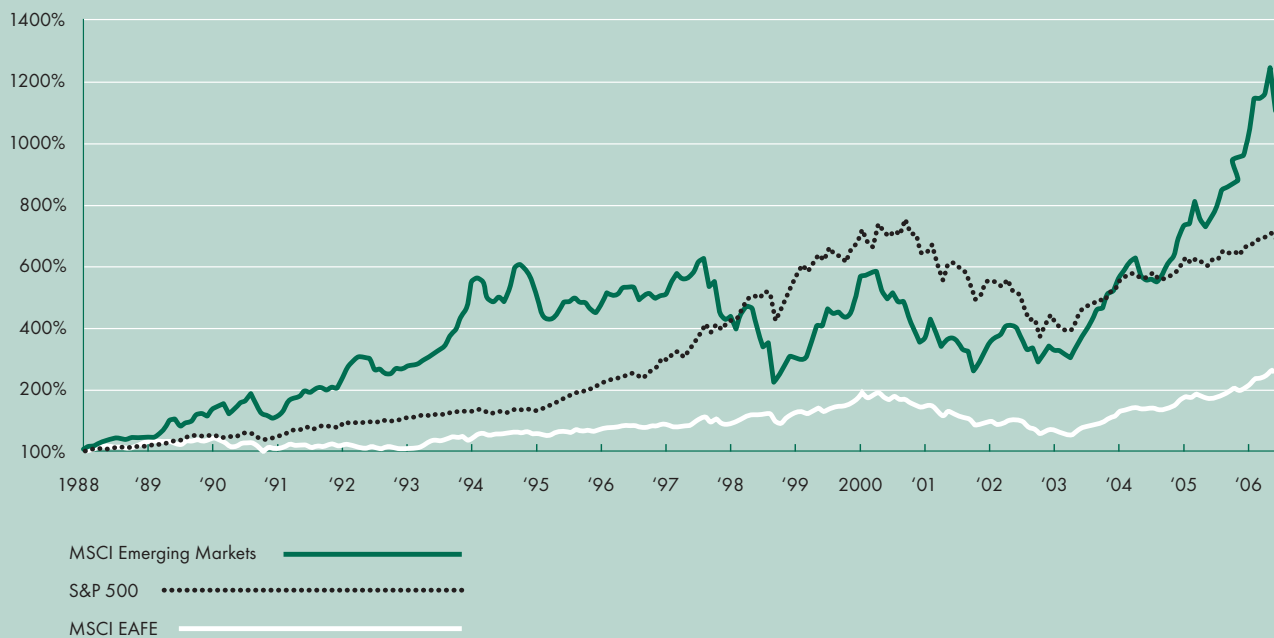
- continued portfolio diversification;
- improved risk/return characteristics at the macroeconomic level;
- undervalued multiples relative to developed markets; and
- robust corporate-earnings projections within the broader context of national improved financial conditions.

* NTGI's Global Quantitative Management Group is happy to provide our clients with a comprehensive assessment of all the major global index families. Please contact your investment relationship manager.

PART ONE: WHY EMERGING MARKETS? HISTORICAL OUTPERFORMANCE COMBINED WITH STRUCTURAL REFORMS ARE LEADING TO A MORE MATURE ASSET CLASS

A review of the long-term performance of emerging markets since the late 1980s provides the most compelling argument for a dedicated emerging market allocation. This performance, which is depicted in Figure 5 using three U.S. dollar-priced indexes, was achieved despite the significant single-market volatility and currency devaluations that have occasionally typified emerging markets.

FIGURE 5: LONG-TERM PERFORMANCE: EMERGING MARKETS VS. U.S. STOCKS AND DEVELOPED INTERNATIONAL EQUITY (JANUARY 1988 – JUNE 2006)



Source: Northern Trust, MSCI, Standard & Poor's

We note several attributes of the performance of emerging markets during the last two decades, as follows:

- Volatility — as occurred, for example, in the late 1990s — is prevalent when emerging markets generate headlines. However, despite adverse news-media coverage, the emerging market index outperformed the developed international markets (represented by the MSCI EAFE index) since January 1988, the earliest date for which adequate emerging markets data exists.⁸
- Emerging markets have also frequently outperformed U.S. equities (represented in Figure 5 by the S&P 500) during this period, with the noteworthy exceptions evident during the emerging markets crisis periods from 1994 – 1995 and 1997 – 1998.

- Investor exuberance in favor of telecoms, media and technology in the U.S. explains much of the S&P 500's outperformance of the late 1990s.
- Compared with the S&P 500 and EAFE, emerging markets have delivered substantially higher returns. Starting January 1, 1988, through the end of June 2006 emerging markets returned 648% compared with 414% for the S&P 500, and 140% for EAFE in U.S. dollar terms. (EAFE's lag stemmed from the collapse of the Japanese economy and stock market during much of the 1990s).
- In the current decade, emerging markets have once again become the darling of investors, soaring by 179% from September 2002 through June 2006 in U.S. dollar terms. During the same period, the S&P 500 index rose 49% and EAFE rose 101%.

The strong, but occasionally volatile, performance of emerging markets over the past 18 years has spawned a variety of *myths and misconceptions in the financial community*, including:

- “Emerging markets have great returns for a while, but in down markets, they don't just decline, they collapse. It's impossible to get the timing right.”
- “There's too much noise from politics, regulatory irregularities and unpredictable management — if you're not an insider, you'll never win at this game.”
- “They're a great play when the U.S. economy is booming and when commodities are hot. But forget about them in a downturn.”
- “You must pay an active manager high fees to run emerging markets portfolios, because they're the only ones who can handle all of the challenges and beat the market.”
- “Beware of the contagion effect. When Thailand gets a cold, Brazil contracts pneumonia.”

A Maturing Asset Class

We aim to dispel these popular misconceptions. We believe the prospects for growth and return in these countries are extremely strong, although we would not recommend that investors add exposure to emerging markets based solely on past returns. Instead, we aim to help investors understand that this dynamic asset class has matured significantly in recent years, despite a show of significant growing pains. It should always raise a red flag when commentators suddenly speak in unison of a “paradigm shift.” (Recall how technology entrepreneurs and analysts trumpeted the value of “website hits” over actual revenue in the late 1990s?) We are not suggesting that all of the past troubles characterizing emerging markets are permanently behind us. As innovative as they might be, pharmaceutical companies have yet to develop cures for greed and fear. But a look at macroeconomic reforms provides useful perspective on how the extreme boom-bust periods of the past may become less severe in the future. As a result of these developments, we are comfortable in declaring the growing maturity of both emerging stock markets and emerging markets investors a genuine “paradigm shift,” one which the pioneers of emerging market equity investing at the World Bank's International Finance Corporation could only have dreamed of.⁹

Emerging markets boomed in the first half of the 1990s due primarily to geopolitical and economic factors. After the collapse of the Soviet Union, much of the world rejected the economic model of government-run enterprises and centrally managed economies. As a result, many high profile privatizations of large state industries occurred, particularly in telecoms, oil companies and utilities in Central Europe, Asia and Latin America. Investment capital flowed into developing-country markets, and the increased interest in these emerging-market equities contributed to their three-fold out-performance of the S&P 500 until the Mexico peso crisis in December 1994. After some initial turbulence, an extensive multi-national program to stabilize Mexico preceded steady recovery in emerging-market equities over the next three years. In fact, the Mexican government succeeded in repaying all loans within a few years of its crisis. Despite that recovery, emerging markets saw another round of major volatility from 1997 – 1998, during and after the Asian currency crisis and Russia’s sovereign debt default and currency devaluation.

From the Ashes, Rises the Phoenix

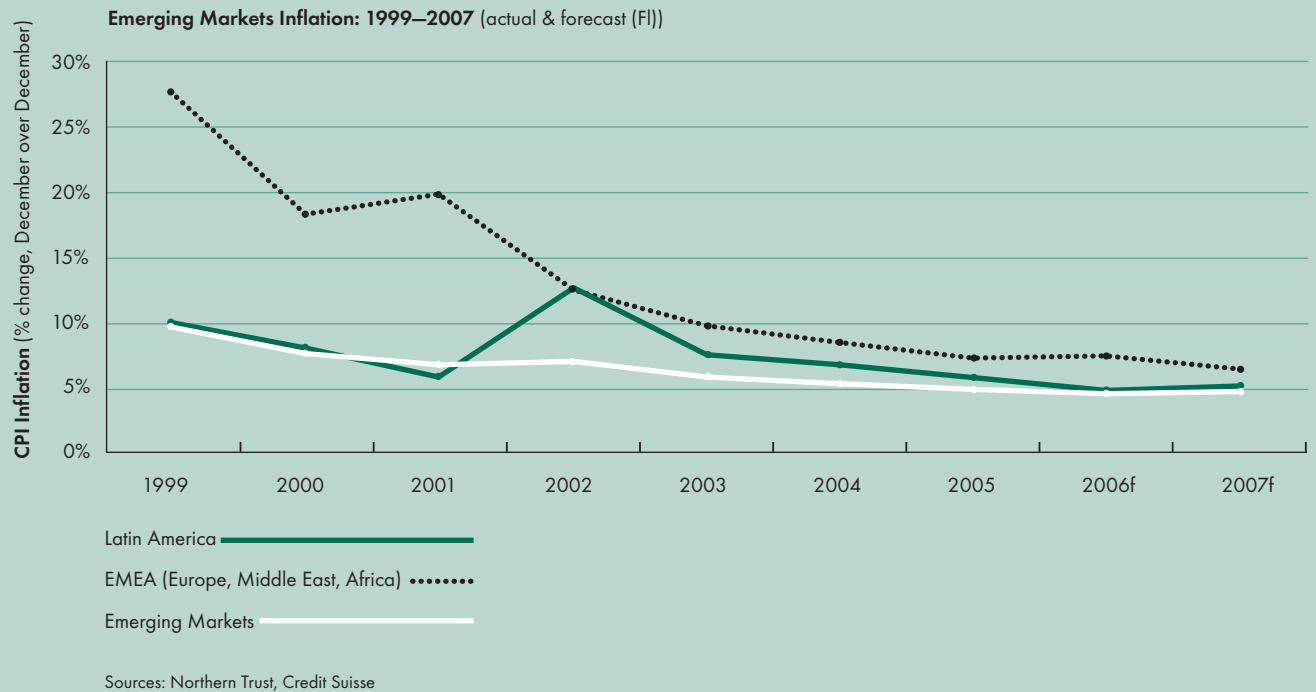
Those same crises, however, led to major macro- and microeconomic reforms in many emerging market countries, which support our conviction that future returns in these markets will not reflect the extreme risks that characterized the 1990s. More effective economic and financial shock absorbers have been implemented to help prevent the widespread and dramatic market declines seen in the past two decades.

The achievements made since the late 1990s include:

- Reduction of foreign-currency-denominated debt (most in U.S. dollars) to slightly more than 10% currently from nearly 90% of GDP on average for emerging market countries in 1999, replacing it with domestic-currency-denominated debt.¹⁰
- Improved fiscal balances to a slight deficit of 0.3% of GDP last year for all emerging markets, with slippage to 0.5% of GDP forecast for this year. Emerging Europe stands out with a fiscal surplus of 1.6% of GDP last year and 1.2% surplus projected for 2006. By contrast, the United States ran a fiscal deficit of 2.6% of GDP last year and is running an estimated 2.3% shortfall for 2006.¹¹
- The transition from current account deficits to surpluses as a result of improved terms of trade and the shift to floating exchange rates from widespread fixed exchange-rate mechanisms in most emerging market countries. Emerging market countries in aggregate posted an account surplus of 3.5% of GDP in 2005 and a projected 2.9% surplus for 2006. Healthy surpluses relieve pressure on emerging markets currencies to suddenly depreciate, as has been the case in the past prior to the posting of such surpluses. For perspective, the U.S. ran a current account deficit of 6.6% of GDP in 2005, a shortfall not expected to change this year or next. This deficit has been a large contributing factor to the weaker dollar, despite the multi-year rise in U.S. interest rates.¹²
- Single-digit inflation (Figure 6), which was 5% on average for all emerging markets last year and projected to be about the same this year and in 2007. The mere fact that inflation figures for all emerging-market countries during the past decade can be depicted on one chart without truncation or distortion is an impressive achievement, considering the past hyperinflation experienced in regions like Latin America (e.g., Brazil’s hyperinflation of 2,076% in 1994).¹³

- Improved access to and transparency for financial reporting by governments and corporations alike. Many emerging-market companies have adopted U.S. GAAP standards. Similarly, the governments of many developing countries now prepare and distribute valuable financial data. For example, before Mexico's currency peg collapsed in December 1994, data concerning Mexico's foreign-exchange reserves was not publicly available, as it is today.

FIGURE 6: DECLINING INFLATION IN EMERGING MARKETS



Big Improvements in Big Emerging Markets¹⁴

Much of the systemic risk in emerging markets has been significantly reduced in countries with the greatest weights in any emerging markets index (*i.e.*, Brazil, China, India, Mexico, Russia, Taiwan and South Korea). While Turkey suffered a sharp currency depreciation in June 2006, the impact on emerging markets indexes overall was minor. This partly reflects the fact that Turkey has had a weight of less than 2% in the main emerging markets indexes for the relevant time period. However, it is important to note that Turkey's depreciation did not trigger a pan-emerging markets downturn, suggesting that investors in these markets are able to discern the analysis concerning the events that occur in one market but not others. To paraphrase Las Vegas' marketing slogan, *what happens in Turkey for the most part stays in Turkey*.

The major country risk and bond rating agencies (notably S&P, Moody's and Fitch) are decisively recognizing the improvements occurring throughout emerging markets. Below is a snapshot of the sovereign ratings upgrades underway as we were writing this paper:

- Fitch upgraded its sovereign bond ratings for Argentina in August 2006, bringing its assessment of Argentina's creditworthiness more into line with those of S&P and Moody's (at B and B3, respectively), both with a stable outlook. Fitch cited low financing requirements and favorable economic prospects in the near term as the factor driving its upgrade of the country ceiling to B+ from B.¹⁵
- At Fitch and S&P, Brazil was two notches away from investment grade after Fitch in June 2006 upgraded its rating to BB (with a neutral outlook) from BB- (on a positive outlook). Moody's, with a rating one notch below the others at Ba3, announced August 1 it was reviewing its long-term foreign currency sovereign rating for the country, seeking to "evaluate Brazil's capacity to maintain the improving trend in external indicators under situations of international instability, such as a possible drop in commodity prices."¹⁶
- S&P raised its long-term foreign currency sovereign credit rating for China to A in late July 2006 with a stable outlook from A- to reflect "China's persistent efforts to strengthen the banking sector to reduce the future fiscal burden" as well as its "continuing economic liberalization and reform."¹⁷
- Fitch upgraded its foreign currency sovereign rating for India in Autumn 2006 by one notch from to BBB- from BB+, citing fiscal consolidation and progress on structural reforms.

This flurry of sovereign upgrades filters down to very tangible benefits for company balance sheets in terms of lower costs of debt service. Historically, in the months and quarters leading up to the assignment of investment grade status at the sovereign level, a subject country's equities market often rallies. We note that, as of the date of this publication, all developed countries held investment-grade status as measured by S&P.

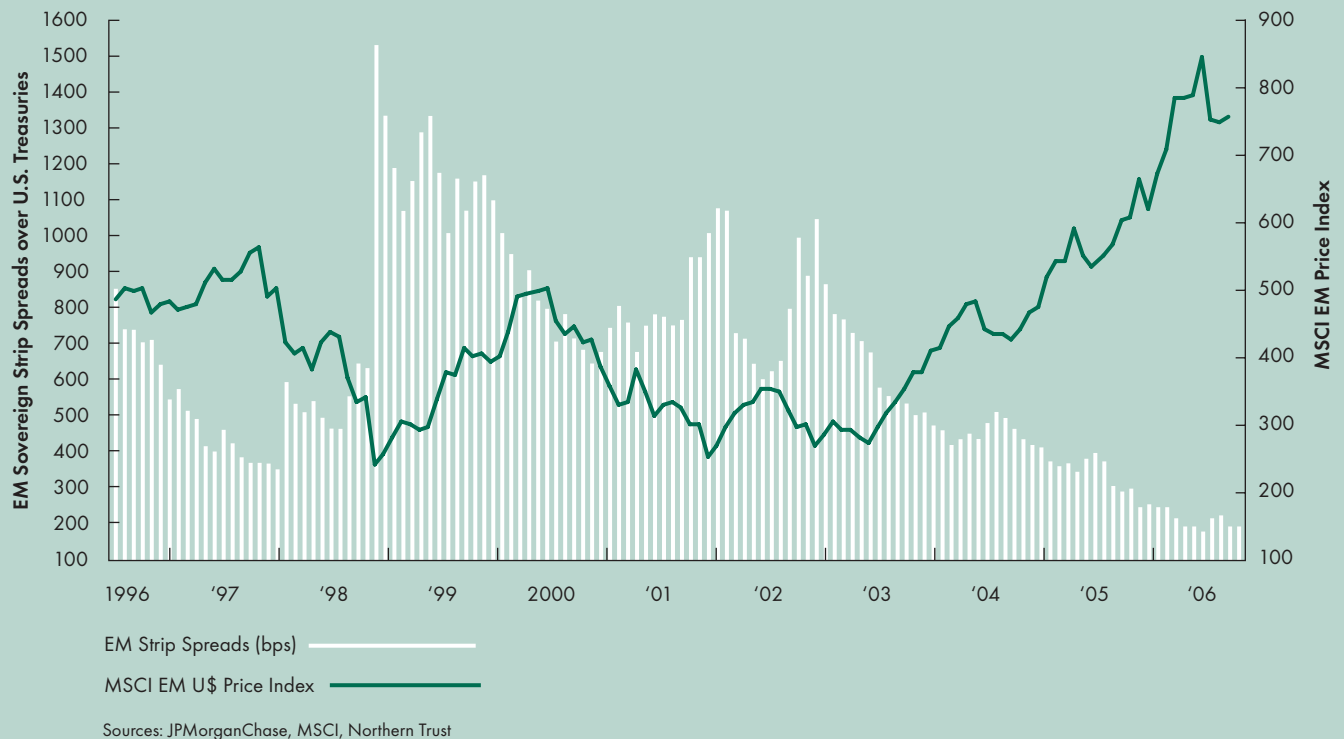
Improved overall sovereign risk ratings in the emerging markets asset class is most clearly reflected in the dramatic decline of sovereign bond spreads over the past eight years. The consequent benefit to emerging markets equity performance is illustrated in Figure 7, which plots sovereign bonds spreads over U.S. Treasuries. These are represented by JP Morgan's Emerging Markets Bond Index Plus (EMBI+) on the left axis, against emerging markets equity performance (represented by the MSCI EM Index) on the right axis.

Due to a combination of diminished default risk, lower perceived political risk, rising liquidity, lower inflation and increased savings rates, spreads on emerging markets sovereign bonds have plummeted to all-time lows, below 200 bps, and have remained there for most of 2006 (Figure 7).

For perspective, consider that these spreads spiked above 1500 bps in 1998 at the peak of the Asian financial crisis and Russian default and devaluation.

The spreads later declined but spiked again above 1000 bps in late 2001 around the time that, under President De La Rúa, Argentina’s government announced its so-called “restructuring” plan — widely perceived as a *de facto* default — and abandoned the Convertibility Plan that had pegged the peso to the U.S. dollar for nearly a decade. A similar spread spike occurred in 2003 when Argentina’s then newly elected President Kirchner officially defaulted on a \$2.9 billion debt payment to the International Monetary Fund (IMF).

FIGURE 7: EMERGING MARKET EQUITIES VS. SOVEREIGN BOND SPREADS: AN INVERSE RELATIONSHIP



Overall emerging market equities recovered fairly quickly after the last Argentine default, on account of Argentina’s relatively small weight in emerging markets indexes and by virtue of investor convictions that Argentina’s troubles should not affect other emerging markets. Argentina represented 0.46% of the MSCI Emerging Market Index in December 2002 and just 0.74% as of the end of August 2006. Even more important for the aggregate recovery of these markets, large developing countries like neighboring Brazil had implemented important macroeconomic reforms and had its own positive economic momentum. In addition, a global economic recovery was beginning.

When Country Risk Falls, Equities Tend to Rise. . .

Figure 7 also illustrates the inverse relationship between sovereign bond spreads and equity performance. Generally when bond spreads decline, equity markets tend to rise. Because sovereign bond spreads are a good proxy for perceived country risk, the improved financial stability of many emerging-market countries holds positive implications for future equity performance.

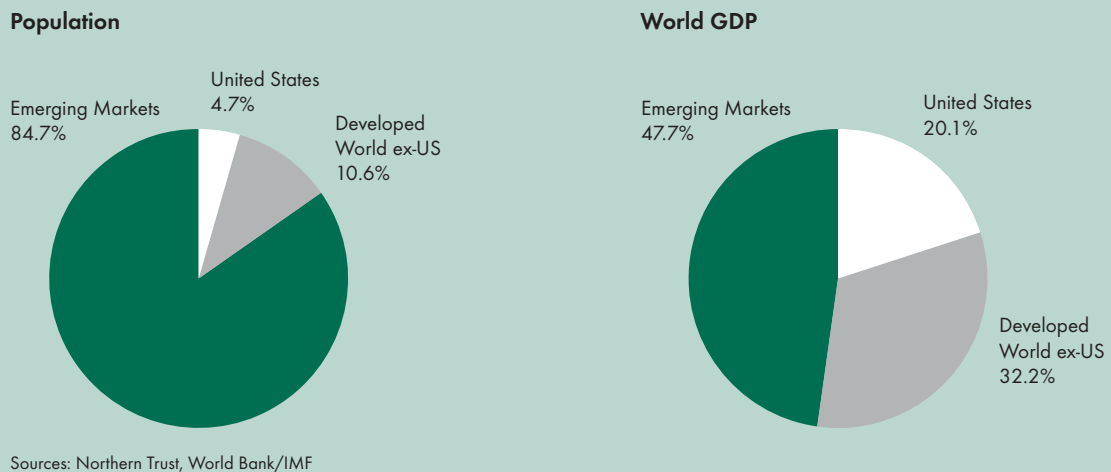
Spreads have been low and stable for most of 2006, reaching an all-time low of 178 bps in April. They remained around 200 bps for most of the year, and were steadily below 200 bps during June, July, August and September. Although it would be imprudent to dismiss or disregard the potential for adverse changes in these or any other markets, we believe that bond spreads are unlikely to widen in the near term for the following reasons:

- The U.S. Federal Reserve is likely to leave the federal funds rate unchanged for quite some time, diminishing any further rising interest rate pressure on dollar-denominated corporate or government debt within emerging markets. As we noted earlier, developing country debt denominated in foreign currencies has been dramatically reduced to only about 10% of overall emerging market GDP from about 90% as recently as 1999.
- Economic growth in Europe and Japan should be even stronger in the second half of 2006 than the first as well as for 2007. In September, the IMF issued its World Economic Outlook, forecasting global economic growth of 5% for 2006 and 2007 — largely because of steady growth in China and other developing countries.
- Continued robust demand from China and India, in particular, should continue to keep commodities prices at relatively high levels. Considering the effects of a slight U.S. slowdown, however, commodities prices are not likely to retrace their peaks reached earlier in 2006.
- Unlike in the past, none of the largest emerging market countries face any major debt repayment pressure, particularly given the overall current account in surplus for the group. In fact, we expect a continuing gradual trend of country Sovereign Risk upgrading in the coming years.
- Many emerging market countries have become net capital exporters, and some of the larger economies (like Korea, Taiwan and China) are becoming significant global institutional investors in their own right.

PART TWO: EMERGING MARKETS ARE TOO BIG TO IGNORE

Developing economies contribute nearly half of the world economic activity and are growing at double the rate of developed-country economies. For international equity portfolios, this observation provides the most fundamental argument for allocating to emerging markets equities. In addition, approximately 85% of the world's population is domiciled in emerging-market countries. This compares with less than 5% in the United States and the remaining 10% in the other developed countries. It is likely that the growth of developing-country populations will continue to outpace those of the developed world, owing to increased birth and fertility rates. In fact, in the European Union and Japan, birth and fertility rates have been declining for years and are insufficient to sustain even current population levels.¹⁸ More importantly, the economic output from developing countries is contributing a greater share to overall global GDP. Developing countries contributed 47.7% of world GDP in 2005 measured in terms of purchasing power parity (PPP).¹⁹

**FIGURE 8: POPULATION AND ECONOMIC OUTPUT BY REGION IN JULY 2006
(MEASURED IN PURCHASING POWER PARITY GDP)**



As they do for all equity markets, global economic cycles of growth and slowdown will continue to contribute to bull- and bear-market periods, including in the emerging markets. However, in the future, a greater degree of diversification in the local and regional economies formed by developing countries is likely to dampen abrupt market swings. Within emerging-market countries, sources of domestic growth are increasingly diverse and less reliant on the historically dominant source of such growth, the export of commodities and low value-added manufactured goods.

To illustrate this point, even if the U.S. economy were to slow in the next few years, it has contributed proportionately less to world GDP each year, accounting for just one-fifth of world output in 2005. By contrast, while a country such as Mexico still has extremely close economic ties to the United States, Mexico's cultivation of trade relations with Europe and Asia makes it less vulnerable to a U.S. slowdown than it has experienced in the past. For example,

Mexico's unit vehicle exports were up 43.5% through August of 2006 vs. the same period in 2005.²⁰ Contrast that with sales troubles and layoffs at Ford and GM in Detroit during 2005 and 2006.

Thus, the sources of growth-sustaining global output over the next several years are not limited to the economic recoveries of Europe and Japan. Emerging markets themselves contribute to an increasingly significant portion of such output. The economic rise of China and India shows no immediate signs of slowing, providing plenty of continued strong demand for commodities exported by many emerging markets (e.g., iron ore from Brazil, copper from Chile). The bull market in commodities — related to strong global economic growth — has undoubtedly been a crucial factor supporting emerging market equities over the last few years, particularly for those countries that are net exporters of commodities. And while there is heated debate among market analysts over how long oil, copper and gold, for example, can stay at relatively high levels, there is compelling evidence that demand for commodities in China and India should remain strong in order to support the demand for these countries' export-driven manufacturing output.

For a sense of the role China alone has been playing in contributing to global demand for commodities, consider the following figures from the Bank of International Settlement (BIS). In 2005, China accounted for more than 57% of the incremental demand for aluminum, 60% of demand for copper and 30% of demand for oil. These figures are likely to remain constant in 2006. The continued strength of global economic output — 5% this year and next as forecast by the IMF — reduces the likelihood of a sharp, rapid downturn in commodities prices. And the BIS sees no signs of real economic growth slowing in China and India from their recent 8% – 10% annual rates.²¹

The emergence of a middle class in countries like Brazil, China, India and Russia, in particular, has meant that consumption is contributing a greater portion of GDP than in the past. Domestic value-added services industries are just in their infancy in many cases. The home finance industry, for example, is only beginning in the majority of larger developing countries.

This is not to suggest that all is rosy for emerging-market countries. Low-income oil importers, for example, have only recently begun to feel the squeeze of high oil prices and remain vulnerable to future spikes. Crushing poverty is still pervasive. Inadequate health care, lack of widespread education and limited access to basic services are still problems in much of the developing world. Despite these deficiencies, several factors contribute to our long-term optimism: a) the gradual emergence of technology, which has already led to greater gains in productivity in some countries (e.g., Brazil, China and India); b) the migration of an increasing number of workers from agricultural business to higher value-added sectors; and c) increases in the number of working women.²²

Emerging Market Corporations: World Class Leaders

Emerging markets economies are less dependent on raw commodities exports and are gradually becoming more sophisticated, with some stand-out global industry leaders. Some of the world's top companies are based in emerging-market countries and are benefiting from improvements in technology, foreign competition, the

privatization of formerly state-run industries, foreign direct investment (FDI) and the liberalization of capital flows. The following corporations are all domiciled in emerging-market countries:

- Samsung (electronics) in Korea;
- Embraer (aviation) in Brazil;
- Cemex (cement) in Mexico;
- Taiwan Semiconductor in Taiwan;
- Teva (generic drugs) in Israel;
- Gazprom (energy) in Russia;
- InfoSys (software and outsourcing) in India; and
- Haier (home appliances) in China.

For a view onto the extensive reach of these companies, consider the following anecdotes:

- That 50-seat regional jet you flew on during a recent hop within North America, Europe or Asia may very well have been manufactured by Brazil-based Embraer, the world's third largest aircraft maker. Privatized by the government in 1994, Embraer has more than 1,000 of its planes in operation around the world, approximately 850 of which are its popular 50-seat passenger jet. In 2005, the company delivered \$446 million in profits on \$3.83 billion in revenues. 93% of Embraer's 2005 sales came from outside Brazil. JetBlue alone has ordered 101 of Embraer's newest and most advanced plane, the 95-seat Embraer 190, an order worth more than \$3 billion. Embraer's new generation of 75-118 seat passenger planes is currently making in-roads into the vast markets served by Boeing's and Airbus's planes. In addition, Embraer is also entering the newly developing VLJ (Very Light Jet) market.²³
- Samsung now dominates the home flat-screen television market. Within the semiconductor and semiconductor equipment industry in the MSCI All Country World Index (including the United States), Samsung holds the second-largest weight (13.85%) after Intel (18.38%) and ranks higher than Texas Instruments (8.88%). While many U.S. consumers recognize Sony as the dominant home electronics brand, it may not be well known that Samsung's market capitalization is twice as large as that of Sony.
- Cemex is the world's third-largest cement company, with \$15 billion in sales and some \$2.1 billion in net profits in 2005. With operations in 50 countries, it has 11,000 employees in its U.S. operations alone. As an indication of how quickly investors perceived Cemex's importance to the U.S. economy, its ADRs rose 18% on the New York Stock Exchange during the two weeks following Hurricane Katrina in August 2005. In other words, investors promptly associated Cemex with the anticipated reconstruction of the U.S. Gulf Coast.

- In 1999, after leading the home appliance market in its native China, Haier expanded into the U.S. market and has since become the top-selling brand of compact refrigerators. It is now the fourth-largest home-appliance manufacturer in the world, with 2005 sales of \$12.8 billion.²⁴
- In a recent study titled “The New Global Challengers,” Boston Consulting Group (BCG) selected 100 companies from “rapidly developing economies” and argued that these companies are poised to become important multinational corporations. BCG sifted through data on more than 3,000 companies from a dozen developing countries to compile their list. Examined companies accounted in aggregate for \$715 billion in revenue in 2005, with 28% of that coming from international sales. Embraer and Cemex are among BCG’s “New Global Challengers.”²⁵

These examples demonstrate that the emerging markets category includes scores of blue-chip companies, for which global competitiveness exceeds the relevance of their respective domiciles or the address of their stock exchange listings. Such companies have benefited directly from globalization, improved trade ties, effective management and effective use of the latest technologies. Investors seeking to benefit from the breadth, experience and future growth potential of these companies and their less mature brethren should allocate to emerging market equities, whether in reliance on an active emerging markets manager, through an *integrated international* approach or through quantitative, risk-enhanced strategies.

PART THREE: A VIRTUOUS CIRCLE OF CONFIDENCE LEADING TO DEEPER MARKETS AND A MORE STABLE PLATFORM FOR FUTURE GROWTH

One of the main reasons emerging markets sold off so dramatically in the past, particularly in the mid-1990s and the 1997 – 1998 period, is that the investor pool was much more shallow than it is today (see chart of returns in Figure 5). A confluence of factors over the last 10 years has contributed toward creating a virtuous circle of greater capital commitment on the part of both domestic and foreign investors, and thus, deeper markets. Chief among these factors are:

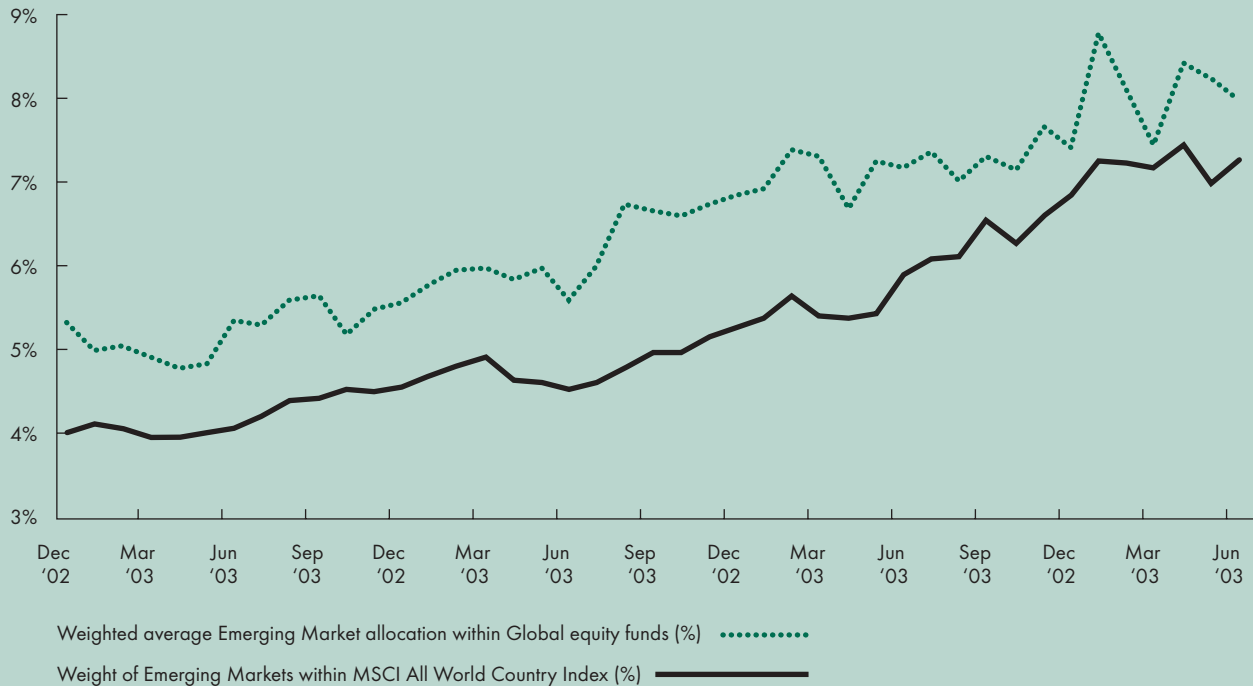
- The expansion of the middle class within the larger emerging markets, resulting in more portfolio capital remaining within the country.
- Less restrictive capital control mechanisms allowing for greater entrance and exit of foreign portfolio investors.
- Greater diversification of economic composition within countries. This should make emerging economies less vulnerable to a sharp decline in growth when a single commodity, such as copper, iron ore or soybeans falls in price.
- The growing market domination of leading companies, such as Gazprom, which has risen to become the third-largest company in the world, as measured by pure market capitalization.
- Less conservative attitudes towards emerging markets on the part of institutional investors.

In a reflection of this maturity, the weight of emerging markets within the total world equity market as measured by MSCI All Country World Index (ACWI) has risen from below 4% in late 2002 to just over 7% currently, as can be seen in Figure 9.²⁶

In a recent report, the Credit Suisse emerging markets research team makes the case that global equity funds are favoring emerging markets as a core long position — as opposed to their past behavior, when they bought emerging market equities in sync with accelerating global leading indicators or, conversely, were sellers when such indicators were declining. Using data from Emerging Portfolio Fund Research, the researchers found that the average weighting for emerging markets within a global fund (including the United States) has risen from slightly below 5% in early 2003 to around 8% as of August 2006. This positive trend is powerfully represented in the top line of Figure 9.²⁷

What are the implications of this? Larger and deeper markets. By the broadest measure, the total market capitalization of all 154 emerging market countries has grown from 11% of total world market capitalization in 1996, to 16.3%, or \$7.1 trillion, at the end of 2005.²⁸ Impressive as that figure is, however, it covers total market capitalization and, thus, includes those government, corporate and family holdings to which a foreign investor does not actually have access.

FIGURE 9: THE RISING WEIGHT OF EMERGING MARKETS WITHIN GLOBAL FUNDS (DECEMBER 2002–JUNE 2006)



Source: Credit Suisse

It also includes very small companies with almost no liquidity. So, even if an investor were enamored with a small cap company in, say, Pakistan or Colombia, he might not be able to find a way to actually purchase the stock.

Defining the Asset Class: “Investable Emerging Markets” Varies According to the Index Provider

Index providers vary in how they define the emerging markets universe considered investable. For example, after selecting 25 emerging market countries and adjusting for free float, MSCI calculates the investable portion of that total \$7.1 trillion at about \$1.9 trillion, or 7.5% of total world investable market capitalization. Without the free-float adjustment, MSCI calculates the total market capitalization of the emerging markets universe at \$4.4 trillion. That is still \$2.7 trillion less than the Standard & Poor’s definition. The sidebar starting on the next page details the important elements of defining emerging markets.

The role of U.S.-based institutional investors in deepening the market capitalization of emerging markets, in our view, has been the result of a gradual, thoughtful evolution and a long time in coming. A helpful analogy for understanding the change in thinking among international investors is to consider the changing mindset of the U.S.-dedicated investors of the past. Historically, when U.S. investors sought non-U.S. exposure, they focused mainly on developed countries. It is similar to the way that U.S. investors traditionally focused on the S&P 500 index as the main vehicle for U.S. investment. By the mid to late 1980s, however, these same investors came to recognize the gains that stemmed from broadening their exposure to mid- and small-capitalization stocks.

HOW THE DEFINITION OF EMERGING MARKETS AFFECTS A COUNTRY'S INCLUSION IN AN INDEX AND HOW INVESTORS CAN BENEFIT

What determines whether a market is classified as an emerging or developed market – and why does it matter to investors?

The major global index providers – MSCI, S&P and FTSE – use a number of different quantitative and qualitative factors to determine how they classify an emerging-market country. Their differing criteria affect all the major index-based investment managers, who use the parameters defined by the index providers to determine what countries are included in their management of index funds.

Broadly, an important quantitative measure to classify an emerging-market country includes the World Bank's definition, which currently encompasses low and middle-income developing countries where Gross National Income is less than \$9,385. At present, 154 countries are classified as "Emerging Markets" according to the World Bank definition. However, the generally accepted emerging markets equity universe, as defined by MSCI, FTSE and S&P/IFCI, comprises only 24-28 countries. The MSCI EM universe, for example, is an exclusive club that has admitted only 25 of these countries.²⁹

When reviewing the major qualitative factors for emerging market classification, the index providers tend to agree on some points. But they can vary in their interpretation of how to measure country-specific particulars, including:

- Level of economic development;
- Perceived political risk;
- Measurement of a market's depth and breadth;
- Assessment of its operational efficiency and accessibility to institutional investors;
- Qualification of the market and regulatory environment; and
- Efficiency of custody and settlement.

Making the "investable" cut is what matters for investors

While the universe of countries classified as emerging markets is broad at 154, what matters for investors is the determination of which countries make the cut as being realistically "investable," that is, being open to foreign investors, having sufficient liquidity and having transactional efficiency.

A country's ability to meet these various "investable" factor levels has determined its inclusion – or exclusion – from the universe of stocks that meet the definition of being "investable" by each of the major index providers. It is this "investable" subset of the emerging market universe that populates the primary benchmarks – and thus, attracts the bulk of foreign portfolio investment – or not.

Because emerging markets historically have been such a dynamic asset class, the past two decades have seen various phases, growing from 12 to 18 investable markets in the late 1980s to 22 to 28 markets by the late 1990s, with the range in these cases reflecting the different inclusion factors by the various index providers. The latter period was also the first time a country, specifically Portugal, "graduated," to developed status in 1998. In that same period, Malaysia and Zimbabwe were "demoted" and removed from the "investable" universe. Malaysia has since been reinstated, but more recently Venezuela has been removed from all three major emerging markets indexes, MSCI, S&P and FTSE. (See Figure 10).

Candidates that could soon "graduate" to developed classification include South Korea, Israel and Taiwan. In a subsequent wave, South Africa and Mexico would likely come next, in our view. It is important to note, however, that the index providers themselves do not agree on what constitutes a developed market. For example, while South Korea remains classified as emerging according to MSCI, it has already made the S&P developed market index.

The portfolio manager of an emerging markets index fund must make some discretionary decisions in addressing such dynamic changes. To mitigate transaction costs, for example, the manager needs to anticipate these index changes and also decide whether it is most cost effective to buy shares on the local market or via American Depository Receipts (ADRs), or gain exposure to the country through index futures where available. The very active decision-making involved in indexed portfolio management makes the practice anything but passive.

An investor in an *integrated international* strategy, such as one tracking the MSCI ACWI ex-U.S. Index, which includes both emerging and developed countries, will ensure that he already has exposure to countries that benefit from "graduating" to developed status. Exposure via such an index strategy also helps an investor to stay ahead of, and thus potentially benefit from, re-weightings and new country additions. To cite some of these examples:

- Gazprom in Russia was re-weighted by MSCI in the summer of 2006. It now accounts for almost half of the weighting of the Russia index within MSCI. Gazprom is now the third-largest company in the

world in pure market cap terms, i.e., not adjusted for free float.

- Chinese “A” shares may be “upgraded” to full investable status in emerging markets, as China opens up its domestic stock market to foreign investors.
- New countries for future inclusion may include certain Gulf markets in the Middle East and Slovakia, Slovenia and Estonia in Eastern Europe.

FIGURE 10: HISTORY OF MSCI EMERGING MARKET SERIES COUNTRY INCLUSION
(dates countries entered or left the MSCI Emerging Market index)

Date	Countries
1 Jan '88	Argentina, Brazil, Chile, Jordan, Mexico, Phillipines, Malaysia, Portugal
1 Sep '89	Turkey
2 Feb '94	Columbia, India, Pakistan, Peru, Sri Lanka, Venezuela
2 Mar '95	Israel, Poland, South Africa
3 Sep '96	China, Czech Republic, Hungary
2 Jun '97	Indonesia, Thailand
30 Nov '97	Malaysia removed, Portugal graduation announced
1 Dec '97	Russia
31 Mar '98	Portugal graduated
1 Sep '98	Korea
3 Mar '01	Sri Lanka removed
31 May '01	Greece graduated
1 Jun '01	Egypt, Morocco
3 Jun '02	Taiwan
31 May '06	Venezuela removed

Sources: Northern Trust, MSCI

Broad exposure through an *integrated international* index-based strategy tracking on a benchmark such as ACWI ex-U.S. essentially eliminates the need for turnover in a fund when such country-level changes occur. Rebalancing is not cheap. In general, it is much less expensive to transact in developed markets than in emerging markets, where such costs can be quite high. Total transaction costs – coming from the combination of commission and taxes along the bid-ask spread – can run as high as about 2.18% in the Czech Republic, 1.84% in Chile and 1.77% in Thailand. For a complete range of emerging markets transaction costs, see Figure 17.³⁰ This compares with transactions costs of about 0.52% in Germany and 0.38% in Japan.

In September 2006, FTSE announced the results of its annual country classification review, as yet another example of the dynamic nature of emerging market classification – and a signal of likely future changes. This is the process by which stock markets are classified as either developed or emerging markets within the FTSE Global Equity Index Series. Although the FTSE Equity Index Committee confirmed no immediate changes to the designations of any country, it added five markets to the Watch List, the first step in a change of designation status. Israel was added for a possible move to Developed status, Poland and Hungary were added for possible moves to Advanced Emerging status, while Pakistan was added for possible removal from FTSE Global Equity Index Series.

On FTSE’s Watch List as of November 2006 were:

- South Korea – possible promotion to Developed from Advanced Emerging;
- Taiwan – possible promotion to Developed from Advanced Emerging;
- China “A” shares – possible inclusion in FTSE Global Equity Index Series as Emerging;
- Israel – possible promotion to Developed from Advanced Emerging;
- Poland – possible promotion to Advanced Emerging from Emerging;
- Hungary – possible promotion to Advanced Emerging from Emerging;
- Greece – possible demotion to Advanced Emerging from Developed; and,
- Pakistan – possible demotion from Secondary Emerging (removal from FTSE Global Equity Index Series).

All of the countries above will be assessed again at the next formal country classification review in September 2007.³¹

Finally, in late 2006 and early 2007, two new entrants into the global benchmark competition – Dow Jones Wilshire and Russell – launched indexes that cover non-U.S. markets. Both of these vendors have different country classifications and coverage. For example, Dow Jones Wilshire places Israel, Korea and Taiwan as developed markets, and also includes six additional emerging markets not in MSCI or FTSE.

PART FOUR: WHY HIGHER CORRELATIONS DO NOT ELIMINATE THE DIVERSIFICATION BENEFITS OF EMERGING MARKETS

Because correlations among world equity markets are generally rising, some investors cite this as a reason to avoid exposure outside their own or other developed markets. A recent MSCI Barra yearly study reviews the correlations between the various emerging markets regions and the MSCI World Index³² over three different five-year intervals from 1991 to 2005 (see Figure 11). It would appear that rising correlations suggest a persistent long-term trend.

However, the surges in correlations need to be put into perspective. During the late 1990s, world equity markets followed a similar pattern across regions as they enjoyed a global technology-driven rally. Similarly, the market collapse in 2000 and its two-year aftermath affected all markets nearly equally.

Figure 12 scrutinizes these data even further. Correlations between the MSCI Emerging Index and the S&P 500 reflect the patterns in the MSCI Barra study; that is, rising from 71% for the five-year period ending in December 2000 to 81% for the five-year period ending December 30, 2005. However, volatility of MSCI EM, as measured by the standard deviation, declined from 27.2% in the earlier period to 21% in the more recent period. Thus, while correlations between the two periods increased, volatility declined. Decreasing volatility means that an investor's marginal risk is lower.

FIGURE 11: REGIONAL CORRELATIONS WITH MSCI WORLD INDEX

	1991-'95	1996-'00	2001-'05
Emerging Market	43.6%	69.3%	83.0%
Emerging Asia	28.1%	62.3%	70.6%
Emerging Latin America	32.2%	59.5%	79.5%
Emerging Europe	29.4%	43.3%	69.6%

Source: Northern Trust, MSCI Barra, July 2006

FIGURE 12: MSCI EMERGING MARKETS CORRELATIONS AND VOLATILITY

5-yr Period Ending 12/30/2005

Correlation	S&P500	World ex-US	Russell 2000	MSCI EM	LB Global Agg	Weight	Standard Dev
S&P500	1.00	0.88	0.84	0.81	-0.16	23%	14.9%
MSCI World ex-US	0.88	1.00	0.83	0.87	0.07	26%	15.6%
Russell 2000	0.84	0.83	1.00	0.83	-0.14	3%	19.2%
MSCI Emerging	0.81	0.87	0.83	1.00	-0.05	3%	21.0%
LB Global Aggregate	-0.16	0.07	-0.14	-0.05	1.00	44%	5.8%
						100%	8.7%

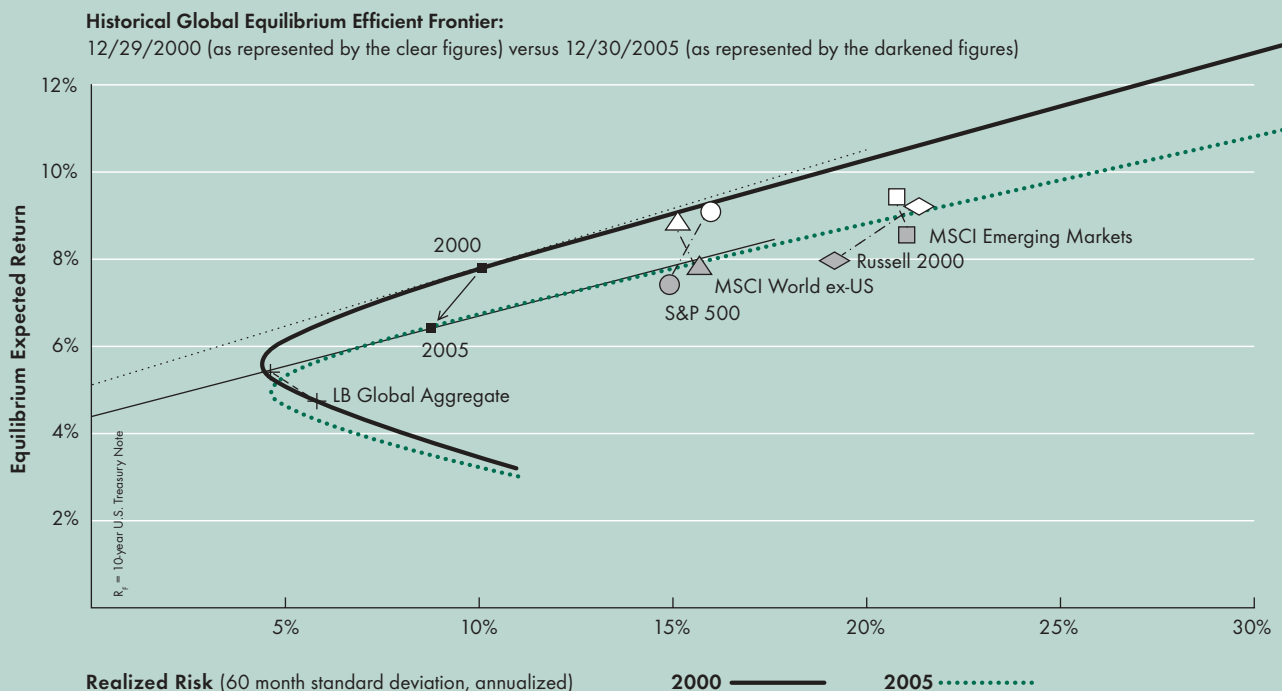
5-yr Period Ending 12/29/2000

Correlation	S&P500	World ex-US	Russell 2000	MSCI EM	LB Global Agg	Weight	Standard Dev
S&P500	1.00	0.78	0.65	0.71	0.10	32%	16.0%
MSCI World ex-US	0.78	1.00	0.67	0.82	0.10	28%	15.1%
Russell 2000	0.65	0.67	1.00	0.67	0.05	2%	21.3%
MSCI Emerging	0.71	0.82	0.67	1.00	-0.14	3%	27.2%
LB Global Aggregate	0.10	0.10	0.05	-0.14	1.00	35%	4.6%
						100%	10.1%

Sources: Northern Trust, MSCI Barra, S&P

To elaborate, while increasing correlation actually increased marginal risk, this has been more than offset by declines in volatility — meaning that an investor’s net marginal risk is significantly lower. This has thought-provoking consequences. When the equilibrium expected return is plotted against realized risk for the two periods (as in Figure 13, which is the same chart as Figure 3 on page 8), the global equilibrium efficient frontier actually shifted leftward from the first period to the later period. Most of the downward shift occurs as a result of the risk-free rate falling. But the risk/return tradeoff of emerging markets has improved as volatility fell more than marginal risk, which includes correlations and is the basis for expected excess returns.³³

FIGURE 13: IMPLIED EFFICIENT FRONTIER: DECEMBER 2000 VS. DECEMBER 2005



Emerging markets in particular, as represented by the light square for the 1995 – 2000 period and the darkened square for the 2000 – 2005 period, experienced the greatest downward shift. In other words, expected return declined by a few percentage points in the second period. But more importantly, the realized risk fell substantially.

Therefore, it is apparent that some element of the diversification gains from exposure to emerging markets in a portfolio has declined over the past 10 years. Greater trade links between countries has helped enable this development, despite some high profile setbacks for truly global agreements, such as the collapse of the Doha Round of international trade talks. The North American Free Trade Agreement (NAFTA) between the U.S., Mexico and Canada, is a perfect example of the slow but steady fundamental changes that occur through regional trade agreements. While signed by the three countries in 1994, elements affecting different products — some as

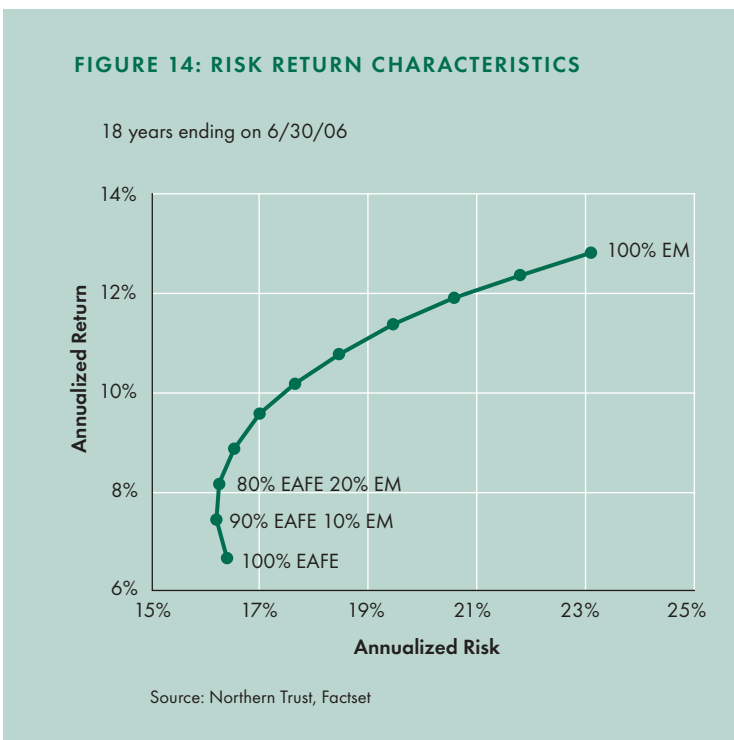
basic as tomatoes and corn — have actually taken another five to 10 years or more to actually implement. With each successive level of implementation, economic integration between the three countries increases.

Emerging markets have evolved in their maturity as the result of this greater global integration, or globalization, where large companies are conducting more and more of their business globally. A company may be domiciled in China, for example, but manufacturing may take place there and elsewhere, with additional assembly in a country like Mexico, and final value-added assembly and sale in the United States. This is increasingly the case for successful automobile companies, as much so for Hyundai of South Korea as it is for Japan's Honda. And so while some element of return may have declined over time, more important is the level of risk that has diminished. Put another way, if emerging markets have become somewhat less volatile over these two periods, earnings potential for a company — and the ability to compare valuations across borders — may be becoming more reliable.

Diversification Benefits — Past and Potential

By broadening their international exposure to include emerging markets, investors nevertheless still increase their opportunity for higher returns than in developed markets while also enjoying reduced portfolio risk. Drawing from 18 years of data, Figure 14 plots the efficient frontier of risk/return characteristics of a portfolio shifting from 100% exposure to MSCI EAFE to 100% EM in 10% increments. The monthly returns start on January 1, 1988, which was the inception date for the MSCI EM index. The increase from a 10% to a 20% allocation to emerging markets over this time period would have provided investors with a “free lunch” from diversification.

Put simply, investors would have achieved an additional 100 basis points of added return — at no additional risk to the portfolio. The second point on the chart, with 90% exposure to MSCI EAFE and 10% exposure to MSCI EM is very close to what a market-capitalization-weighted strategy would be, approximately 82% for MSCI EAFE and 12% for MSCI EM. On that particular point, the portfolio sees its annualized risk reduced by 0.21% while the annualized return gains almost 1%.

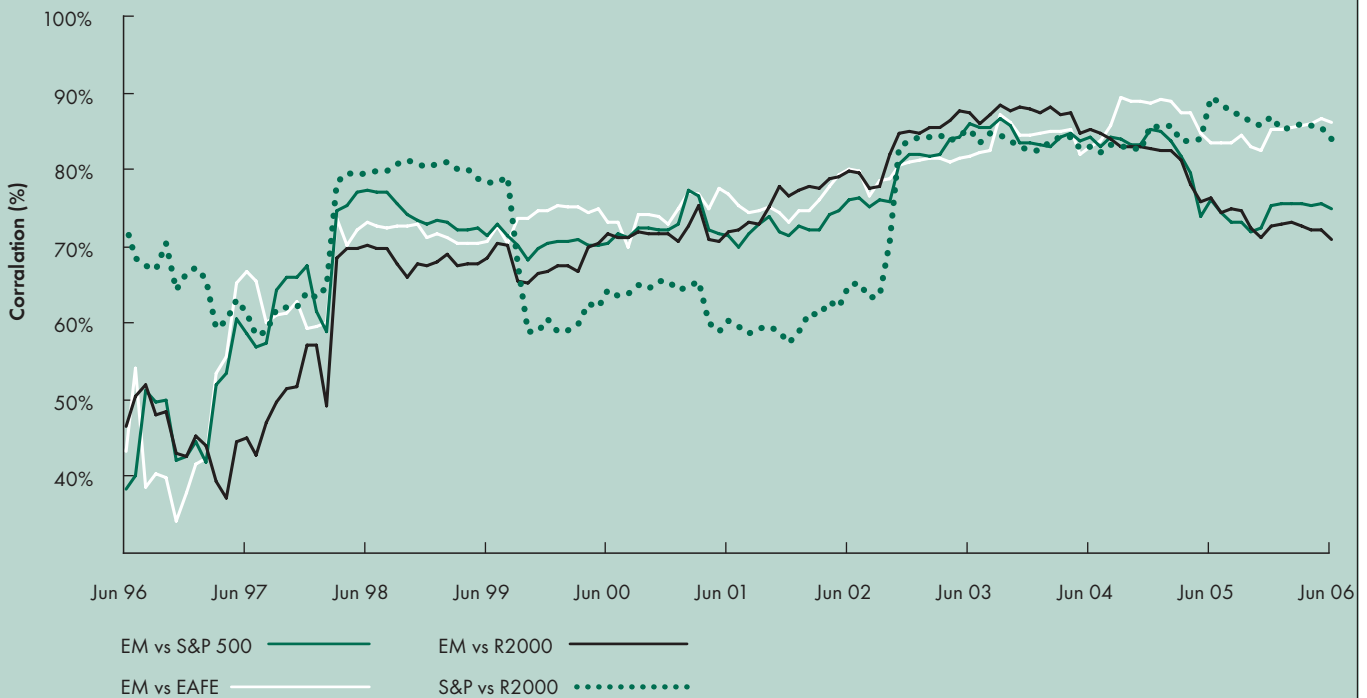


For additional perspective, it is helpful to consider that amongst investors in U.S. equities, market exposure to the small cap segment is a well accepted source of diversification. The correlation of returns between the S&P 500 and the Russell 2000 has been between 80% and 90% for the last three years, a range similar to the correlation between the S&P 500 and MSCI EM.³⁴

We also note that despite the higher correlations in those two periods observed, emerging markets correlations with the U.S. have been declining since late 2005 (see Figure 15). Looking over a longer period of 14 years, the correlation between MSCI EM and the S&P 500 is 63%, which still makes a strong case for the benefits from diversification. As investors consider the benefits of including emerging markets, we consider “seamless” or holistic approaches, such as *integrated international* indexing as the ideal starting point for this exposure.

Investors have many choices when it comes to selecting an *integrated international* approach to investing. The more complete an index — the broader and deeper its coverage — the greater the opportunity set offered, and the more effectively it represents the “investable” universe for both index and active managers. And by spreading its allocation among most of the available securities and markets, a comprehensive benchmark maximizes diversification and thereby can contribute to risk reduction. The broadest possible opportunity set allows investors the most optimal portfolio, using mean variance investment theory. (Figure 15 shows the three-year rolling correlation between the MSCI emerging markets index and other significant indexes).

FIGURE 15: THREE-YEAR ROLLING CORRELATIONS BETWEEN EMERGING MARKETS AND OTHER INDEXES (JUNE 1996–JUNE 2006)



Source: Northern Trust, Factset

PART FIVE: INDEX VERSUS ACTIVE MANAGEMENT: OUR COST-BENEFIT ANALYSIS

Emerging Markets Portfolio Investment can Utilize a Range of Approaches Spanning Active and Passive Strategies.

Two prevalent and interrelated misconceptions regarding indexation in emerging markets are deeply embedded in investors' outlook, namely: 1) that emerging market investment should be active; and 2) that the inefficiency of emerging markets makes the benchmark indexes easy to beat. Both common sense and empirical evidence are gradually eroding these myths.

The notion that active and passive management are mutually exclusive is as erroneous for emerging market investing as it is for developed markets — U.S. or international. Institutional investors in both developed and emerging markets often use indexes at one or more levels of the decision-making process, especially with regard to defined liabilities, such as pension fund benefits. Furthermore, even purely passive investing involves substantial active decision-making with regard to strategic and tactical allocation. Active and passive approaches to emerging markets investing are therefore best viewed as complementary.

By providing broad and efficient exposure to emerging markets through an index-based strategy, an investor avoids one of the greatest challenges for an active portfolio manager: making the correct country-specific allocations. A top-performing equity market in one year is by no means guaranteed to win in subsequent years. Over the past decade, a country that has shown the best equity market performance in one year can become one of the worst performing equity markets in as little time as the following year. For example, Turkey was one of the top-five performing countries in the world in 1997, but in 1998 it was one of the bottom-five performing markets. Conversely, Brazil was one of the bottom-five performers in 2002 but rose to become one of the top-five performers in 2003.

So while active managers put substantial effort into stock picking, even the best stock will suffer poor performance if it happens to be located in a poorly performing country. Broad exposure to the emerging markets asset class through an index-based strategy helps attenuate the country-risk and sector-risk elements of active management.

Myths & Facts of Active Management in Emerging Markets

The deeply held conviction that active managers easily outperform is simply not supported by comprehensive data and analysis by Standard & Poor's, known as its "SPIVA Scorecard."³⁵

- Active managers have neither outperformed S&P's Emerging Market index during the bull run of the last five years nor protected investors during the sharp downturn in the second quarter of 2006 and subsequent recovery for the rest of the year.
- The S&P/IFCI Composite outperformed 76.8% of actively-managed emerging markets funds over the last three years and outperformed 88.3% of active funds over the past five years (see Figure 16, which also includes MSCI Emerging Markets Index data for comparison).

From a cost basis, investors should review how much they are paying traditional active managers to manage funds in these markets. Emerging markets active managers have a great deal of flexibility in raising and sitting on cash levels. By contrast, when investors implement an index strategy, funds are fully invested in the market and are not sitting in cash.

Unlike index portfolio managers, active managers experience cash drag. After raising cash levels when bearish about the markets, they may have difficulty efficiently reentering the market when they are feeling more optimistic because it may be difficult to find available stocks. Conversely, when they are turning bearish, they may have difficulty selling stocks due to illiquidity in some markets.

Furthermore, many of the most successful emerging markets managers are “victims of their own success” and must restrict new investors into their strategies. Of necessity, these managers protect their potential for out-performance by restricting (or closing) their funds as major new inflows might cause the strategy to create market impact and jeopardize returns.

One argument made in the past to support active management alleges it is easier to add value above the benchmark return because of market inefficiencies such as lack of company coverage, earnings reporting delays and unresponsive company management in some developing countries. However, many of these inefficiencies have declined over time. As the pool of international investors in the asset class has increased, greater scrutiny of these companies has taken place with much wider sell-side analyst coverage. In addition, some emerging market companies have become global leaders in their sector and are cited for their best business practices.

In some contrast to the S&P SPIVA data, recent analysis from Callan Associates shows that the median active manager beat the MSCI benchmark by about 200 basis points *before fees* for the five-year period ending June 30, 2006. However, it is important to note that fees for active management can range from as high as 100 basis points for commingled institutional products to more than 200 basis points for mutual funds. As a result, on a net-of-fee basis the median manager barely beats the index — and that is before survivorship bias is taken into account. Obviously, there are some very successful active managers—and we are friends with quite a few of them — but we believe that it is just as difficult to identify successful active emerging market managers in time to benefit from their out-performance as it is with respect to developed international and domestic equities.

Survivorship bias is also quite severe among emerging markets managers. As funds shut down because of poor results, their performance is removed from databases effectively distorting historical performance.

- Among U.S.-based emerging markets mutual funds, 88.4% of the 69 funds that started out three years ago are still in existence, according to the Standard & Poor’s SPIVA Scorecard for Q2 2006.
- Survivorship bias increases the further back the data go. Over the last five years, only 66.2% of the original 77 funds are still in existence.

FIGURE 16: AVERAGE EMERGING MARKET MANAGER PERFORMANCE (ASSET WEIGHTED) VS. INDEXES



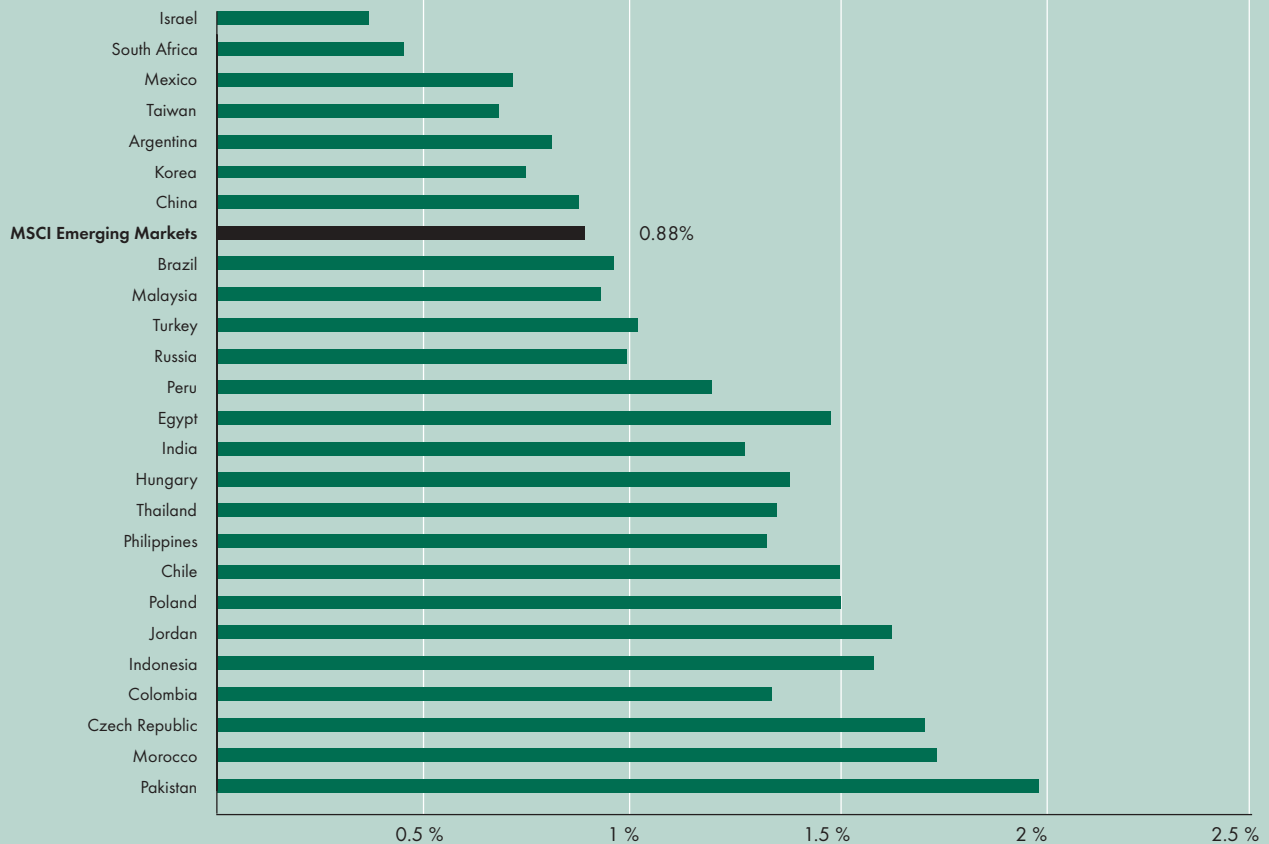
Sources: NTGI Global Quantitative Management, Standard & Poor's, MSCI

Active managers failed to outperform the S&P/IFCI or the MSCI EM, even during the past five years of extraordinarily strong returns for the indexes, as shown in Figure 16. Perhaps more troubling, active managers as a group did not protect their investors during the downturn in the second quarter of 2006 and were worse performers than the benchmarks.

Additional Challenges for Traditional Active Emerging Markets Managers

One of the main issues faced by any manager, but especially by active managers, is the transaction costs of trading in developing countries. These costs include commissions, bid-ask spread and market impact. Although these markets are becoming more efficient, transaction costs, as displayed in Figure 17, remain high as compared against those for

FIGURE 17: TRANSACTIONS COSTS IN DIFFERENT EMERGING MARKETS (ONE WAY)



Source: NTGI Global Quantitative Management, June 2006

developed markets. These high costs combined with high turnover pose a significant hurdle for active managers to overcome. Whereas among developed markets transaction costs are generally well below 40 basis points (and even lower in the U.S.), the average one-way transaction cost, weighted by market capitalization, is just under 90 basis points for emerging markets.

There are four main challenges facing active managers in the emerging markets equity asset class, as follows:

1) Capacity constraints

A large portion of successful managers face serious challenges when they reach a certain level of assets. These managers protect the existing performance of their funds by closing them to additional investors as it becomes increasingly difficult and costly to invest new funds without market impact due to low liquidity. Alternatively, managers who accept new flows but still encounter capacity constraints may need to hold large amounts of un-invested cash as they wait for opportunities or to invest over time to prevent market impact.

2) Benchmark methodology improvement

By increasing their coverage, the major index providers have reduced the opportunities for active portfolio managers to add value by going outside the existing benchmark. Major emerging market index providers (MSCI, S&P, FTSE) regularly review liquidity criteria for the stock names that make an index. In the past, when the indexes themselves had fewer constituents and were less comprehensive, an active portfolio manager could add value by discovering opportunities that the marketplace had not yet identified. But as indexes have grown to reflect important changes on a timely basis, fewer of these outlier opportunities exist.

3) Growth of assets under management

With flows increasing into a market that is still far less liquid than more mature markets, active managers are facing increasing difficulties in investing. Opportunities are short-lived as there are more managers pursuing a limited number shares in a limited number of attractive companies. In addition, sophisticated local asset management within emerging markets is becoming a larger factor.

4) Improved data/information quality

Although these markets are still considered inefficient, better local and global coverage of companies makes it more difficult to discover the rare gems ahead of other investors. Furthermore, the recent introduction of new, deeper emerging market benchmarks by Dow Jones Wilshire and Russell will further increase transparency of these markets.

As a result of these challenges, we suggest that there are *four compelling reasons* to use an index-based approach for at least a portion of an investor's emerging markets exposure:

1. Indexing provides country, sector and stock diversification. An investor seeking to gain exposure to emerging markets can do so by buying an index fund which provides broad and efficient exposure to the asset class.
2. Indexing eliminates style drift. Index strategies provide characteristics very similar to the benchmark without surprises. An investor in an index fund does not have to worry as one might with an active manager if his pursuit of growth stocks ends up with greater allocation to value stocks because of changes in the market cycle, for example.

3. Indexing is cost-effective. Fees for index strategies are much lower than for active managers. Institutional emerging market index management fees start at about 30 basis points and can be substantially lower for large mandates, whereas active managers typically impose fees as high as 100 basis points for institutional mandates and even higher fees for retail funds. In addition, lower turnover greatly reduces transaction cost incurred by investors in index strategies. Finally, as securities lending develops within emerging markets, index fund managers are leading the way in extracting additional value for their clients.
4. Cross-sectional dispersion has declined in emerging markets. This has led to reduced opportunities to add value through “stock picking” (see Figure 18). The decline in cross-sectional volatility of asset returns present more challenges for active managers who employ stock selection strategies. As managers are operating in a less risky environment than the past, there are declining opportunities for out-performance through traditional “stock picking.”

Given this challenging environment, more sophisticated and disciplined approaches should yield better results. Cross-sectional volatility measures the cap-weighted dispersion of stock returns at one point in time and can be notated as follows:

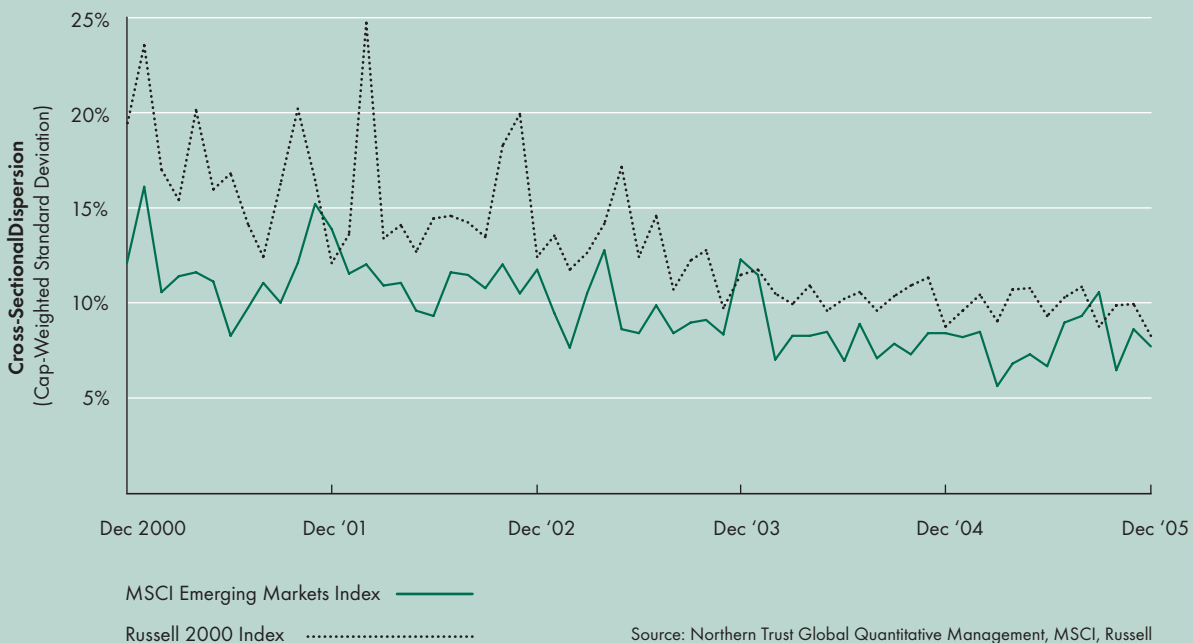
$$\sigma_{c.s.} = \sqrt{\sum_i X_i (r_i - \bar{r})^2}$$

where σ = cross sectional standard deviation

x = weight of asset i

$r_i - \bar{r}$ = return of asset i less the average return of asset i

FIGURE 18: DECLINING CROSS-SECTIONAL VOLATILITY (2000–2005)



It is an appropriate gauge of the opportunity set available to managers to generate active returns in excess of the benchmark. If all assets had the same return, there would be no need or opportunity to generate alpha. Conversely, as dispersion increases, so does the opportunity to outperform (or underperform) one's benchmark. We believe that this decline will also herald the development of more quantitative-active and enhanced/structured approaches to emerging market investing.

A Comprehensive Emerging Markets Approach Should Utilize Both Active and Index Strategies

Indexing and active management are not mutually exclusive; in fact, they can complement each other in a technique commonly referred to as core-satellite investing. An index-based approach can provide the efficient, low-cost core exposure as the anchor for a larger emerging markets allocation, including an allocation to active strategies.³⁶ Around this core, the investor has the option to:

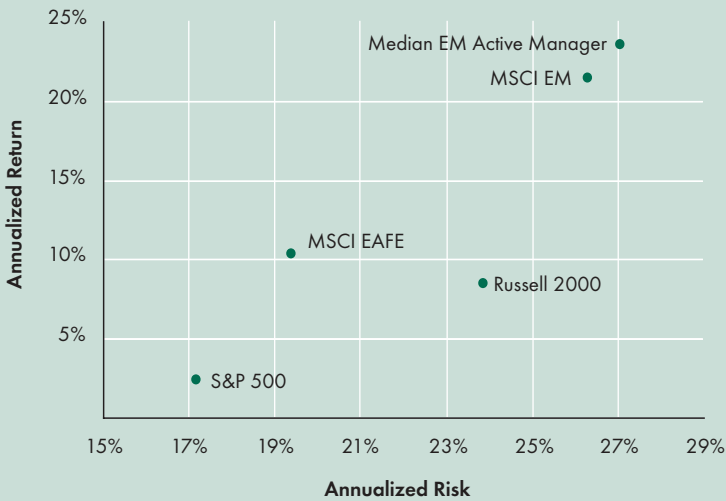
- Add regional specialist managers, or simply overweight a region;
- Use traditional or quantitative active managers that are expected to add value through stock selection;
- Add private equity in emerging markets;
- Include a “structured” or “alternatively-weighted index” strategy;³⁷
- Add managers that specialize in “frontier” markets beyond the more “investable” core;
- Tilt toward a management style such as a deep-value orientation; or
- Add an investment vehicle that follows a long/short strategy (e.g., a 130/30 program) or a market-neutral strategy.

Indexing can also provide investors with effective market exposure as they seek or evaluate active managers. Once a successful manager is identified, his/her addition should improve the risk/return characteristics of the overall portfolio thanks to added diversification and potential to generate higher returns. But this begs the following question: How much of the performance improvement is generated by the manager's skill and how much is due to the *Beta* of the overall asset class itself? While the median active manager did have slightly better performance than the index before fees (see Figure 19) it is the *Beta* of the asset class that was significantly higher than developed markets, and thus the larger contributor to the portfolio.

Finally, it should be noted that indexing in emerging markets is no longer an untested approach. Since the launch of the first emerging markets index funds in the early 1990s, cost-effective, emerging market indexation is available from at least six global index-based management firms in a variety of global, regional and single-country vehicles.³⁸

In fact, since the World Bank's International Finance Corporation (IFC) \$42-million launch of the first global emerging markets index fund in 1993, emerging markets index assets have increased more than a thousand-fold,

FIGURE 19: RISK-RETURN OF EMERGING MARKETS VS. INTERNATIONAL & U.S. (FIVE YEARS THROUGH JUNE 30, 2006)



Note: Median manager performance is gross of fees.

Source: NTGI, Standard & Poor's, MSCI, Frank Russell, Callan Associates

with total indexed assets exceeding \$50 billion as of September 2006. We expect this figure to rise dramatically, perhaps reaching \$100 billion, by the end of this decade.³⁹

No matter the choice of the investment approach — whether active, structured or index-based — the investor seeking higher returns should not wait to gain exposure to emerging markets. The expected return and diversification benefits are too great and the imperative to have a stake in these growing companies and economies too strong. Referring again to Figure 19, both strategies landed the investor in the sweet spot in terms of return. Emerging markets produced more than double the return of a purely developed international strategy

tracking the MSCI EAFE Index. U.S. strategies tracking either the broad S&P 500 or the considerably riskier small-capitalization strategy of the Russell 2000 offered returns in the single digits. While it is true that the risk exposure increases, the higher historic returns justify this greater allocation of the risk budget.

CONCLUSION: LOWER VOLATILITY, ROBUST EARNINGS, AND ENTREPRENEURIAL SPIRIT MAKE A COMPELLING CASE FOR EMERGING MARKET EQUITIES

Even with their dramatic bull run of the last four years, valuations of emerging markets remain well below their historic average. As seen in Figure 20, the current 12-month forward P/E ratio of approximately 11 is below the average of just above 13 over the past 16 years. Given our conviction about the sustainability of strong economic growth, we believe future earnings of companies in these countries have the potential to maintain this advantage over their developed-market peers.

FIGURE 20: GLOBAL EMERGING MARKETS 12-MONTH FORWARD P/E AS OF END-JULY 2006



Source: MSCI, I/B/E/S International, Datastream, Credit Suisse

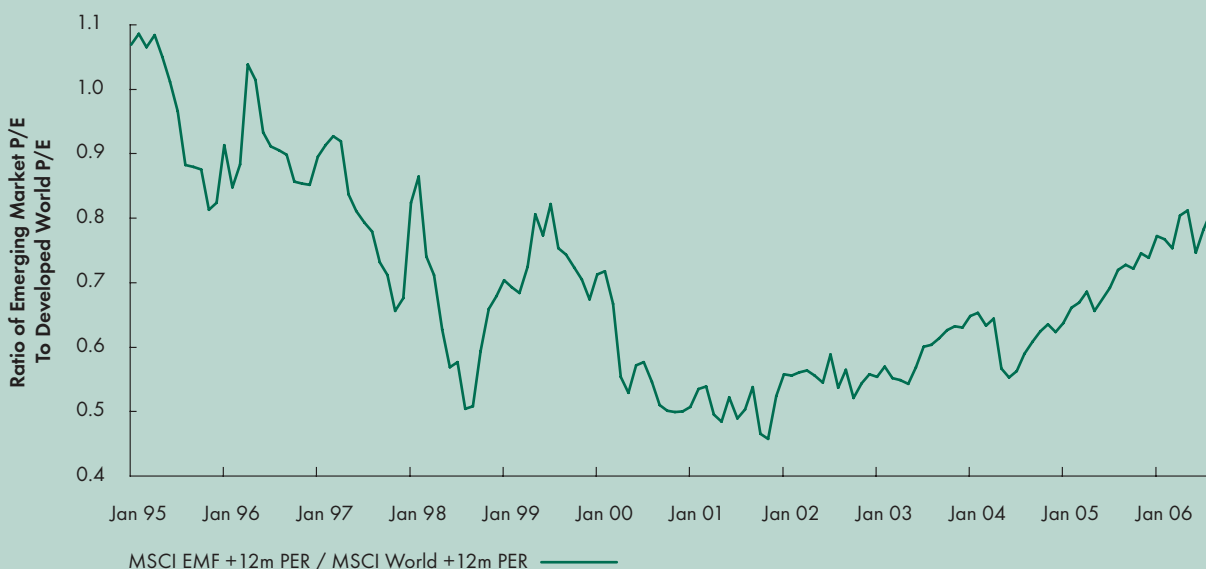
Furthermore, emerging market valuations remain attractive when compared with developed markets:

- The trailing P/E ratio for the MSCI Emerging Markets Index was 13.8 in August 2006, compared with 16.4 for the MSCI World developed market index.⁴⁰
- Earnings, or EPS growth, while similar at about 12.8% for both categories in 2006, are estimated to be much higher for the emerging-market countries in 2007, at 13.1% versus 10.6% for the developed world.⁴¹
- The aggregate ROE for emerging markets at 16.3 compares with 15.2 for the rest of the world (as of August 2006). The asset class has achieved a profitability advantage consistently over the past four years.

- Despite their strong run of the past four years, emerging markets, as measured by the MSCI Emerging Markets Index, were still trading at a 20% discount (based on P/E ratios) relative to the developed world as measured by the MSCI World Index as of August 2006 (see Figure 21).

Valuations, of course, change daily. But it is helpful to compare the long-term relationship between emerging market P/E and developed world P/E over time (as we do in Figure 21, below). In general, emerging markets have traded at a discount to their developed market peers. It was an exception when they traded at a slight premium for a brief period in 1995, then again in 1996. This surpassing of parity with the developed world can be explained in part by the proliferation of large-scale privatizations in developing countries. In general, the P/E of emerging markets has traded at varying levels of discount compared to the developed world for 10 years. This is only logical, considering the higher historic risk associated with investing in these countries. The past five years, however, show a significant trend in terms of a steady narrowing in the gap between valuations. This is of course partly a reflection of the growing appetite for emerging market equities, but it is also a powerful indicator of the gradual maturing process taking place.

FIGURE 21: EMERGING MARKETS P/E RELATIVE TO DEVELOPED WORLD P/E – STILL AT 20% DISCOUNT



Sources: Credit Suisse research, MSCI

With most of emerging markets' past problems having been addressed by structural reform since the financial crises of the 1990s, emerging markets have matured in many ways. This maturity is seen through the lower sovereign risk — also known as country risk — of declining bond spreads versus U.S. Treasuries. As measured by the JP Morgan EMBI+ Index, these spreads hit a historic low just under 200 basis points in May and had remained at roughly those same levels in the four months through September 2006 (see Figure 7 on page 16).

These tighter spreads are a reflection of generally more stable conditions: lower equity market volatility; decreased foreign currency-denominated (mostly dollar) debt at both the corporate and governments levels; more diversified economic sources of growth; the successful deregulation of many industries; and broadly increased global competition. As our analysis shows, emerging market equities now offer much more attractive risk/return characteristics for investors than they did 10 years ago.

Throughout this paper we have encouraged investors to pursue a variety of approaches in gaining exposure to emerging market countries. Active managers have long played a dominant role in managing both institutional and retail funds, and top-quartile managers have tended to perform very well. But we also remind investors of the higher fees they pay for their exposure via traditional active managers. An index-based approach provides efficient and cost-effective *Beta* of this attractive asset class. Regardless of which approach is selected, the most important decision an investor must make is to sufficiently allocate their portfolio to emerging markets.

We believe that investors — both institutional and individual — should aim for a minimum core emerging market allocation that is close to its relative market cap in the international equity universe. For U.S. investors this currently implies 12 – 14% of international equity or 7 – 8% of a global equity portfolio. While this may appear high to many investors, we would encourage readers to review the implications of the data in Figure 8 (on page 18). Furthermore, the strong fundamental case for emerging markets would warrant an even higher allocation for investors willing to bear the additional risk.

If investors are not comfortable with a stand-alone emerging markets index strategy (or do not wish to be concerned about rebalancing their emerging-market/developed-market allocation,) they should consider achieving the benefits of diversification through an *integrated international* approach using a comprehensive international fund (e.g., based on MSCI ACWI ex-U.S. or an equivalent index). The active manager using MSCI or S&P/IFCI as its benchmark for emerging markets will have a lot of work to do in finding sufficient companies to buy at whatever time Korea, Taiwan or Israel “graduate” from emerging to developed status in the coming years. The investor utilizing an *integrated international* approach will be positioned to reap the potential gains of such an event and, more importantly, minimize disruption to their portfolios.⁴²

Perhaps the chart of the global economic pie we presented in our overview (Figure 8, page 18) is an oversimplified depiction of the place of emerging markets in the world. A reader might be mistaken in thinking that one region’s gain in share of growth detracts from another country’s output. But economic growth is not a zero-sum game. In fact, the opposite is true: the absolute size of the pie is getting bigger and bigger every year. Investors need to remember that expanding economic growth has brought — and will continue to bring with it — brand new companies, the creation of wealth in the form of earnings that never existed previously, new domestic investors within emerging markets and, naturally, returns for foreign investors in global markets.

FIGURE 22: TOP 25 COMPANIES IN THE MSCI ACWI EX-U.S. INDEX IN MID-1996 (WEIGHT IN TOP 25)

Rank	Company	Weight
1	Mitsubishi UFJ Financial Group	8.64%
2	Toyota Motor Corp	8.05%
3	Royal Dutch Petroleum Co.	7.09%
4	Sumitomo Mitsui Financial Group	5.08%
5	Mizuho Financial Group	5.02%
6	Roche Holding Genusschein	4.56%
7	Industrial Bank of Japan	4.48%
8	BP	4.47%
9	GlaxoSmithKline	4.29%
10	Nestlé	3.96%
11	Allianz	3.60%
12	Novartis	3.44%
13	Singapore Telecom	3.29%
14	Matasushita Electric Industrial	3.23%
15	ENI	3.16%
16	BT Group	3.11%
17	Nomura Holdings	3.03%
18	Tokyo Electric Power Co.	3.02%
19	Sakura Bank	2.95%
20	Hitachi	2.67%
21	Ciba-Geigy Namen	2.64%
22	Siemens	2.60%
23	SmithKline Beecham	2.57%
24	HSBC Holdings	2.53%
25	Mitsubishi Heavy Industries Ltd.	2.52%

Sources: Northern Trust, MSCI

TOP 25 COMPANIES IN THE MSCI WORLD INDEX AT END-AUGUST 2006 (WEIGHT IN TOP 25)

Rank	Company	Weight
1	Gazprom	7.92%
2	BP	6.55%
3	HSBC Holdings	6.04%
4	Toyota Motor Corp	5.63%
5	Total	4.81%
6	GlaxoSmithKline	4.77%
7	Novartis	4.52%
8	Mitsubishi UFJ Financial Group	4.28%
9	Nestlé	4.03%
10	China Mobile	3.89%
11	Royal Dutch Shell A	3.86%
12	Roche Holding Genusschein	3.72%
13	UBS	3.60%
14	Sanofi Aventis	3.55%
15	ENI	3.55%
16	Vodafone Group	3.33%
17	Royal Bank of Scotland Group	3.16%
18	Astrazeneca	2.97%
19	Samsung Electronics Co	2.90%
20	Royal Dutch Shell B	2.86%
21	BNP Paribas	2.85%
22	China Construction Bank	2.82%
23	Banco Santander Central Hispanico	2.81%
24	ING Groep	2.80%
25	Mizuho Financial Group	2.79%

Sources: Northern Trust, MSCI

In Figure 22, we show the top 25 companies by market capitalization outside the U.S. 10 years ago and at present, as measured by the MSCI ACWI ex-U.S. Index. We note the following:

- In mid-1996, not a single emerging markets-based company showed up on the list. In fact, four out of the top-five names in 1996 were Japanese companies.
- It is a very different story today with four of the top 25 companies being domiciled in emerging-market countries. Russia's Gazprom tops the list with a 7.92% weighting. China Mobile shows up at number 10 with a 3.92% weighting.

We must point out that the list was generated by total market capitalization. When adjusted for free float, these same company names do not make the list. So while these emerging market companies have grown in importance relative to the companies of developed countries, their weight in investable indexes — and most active portfolios — is smaller.

Today, emerging markets economies are less dependent on raw commodity exports and are gradually becoming more sophisticated economies, featuring some stand-out global industry leaders. The mortgage industry is only in its infancy in most developing countries. Greater home-ownership in the future will spawn brand new sources of equity and wealth. With improvements in technology, greater opening of local markets to foreign competition, the privatization of formerly state-run industries and gains from both foreign direct investment (FDI) and increased liberalization of capital flows, some of the world's top companies — leaders in their sector — are domiciled within emerging market countries.

With such dynamic long-term potential, we consider it vital for investors to gain exposure to emerging markets. Certain fast-growing, industry-leading companies with global reach — such as Cemex, Teva, Samsung and Embraer — are already well known. These are blue-chip companies, for whom global competitiveness is far more important than the geographic address of their headquarters or the stock market of primary listing. They have benefited directly from globalization, improved trade ties, effective management and the application of the latest available technologies. By owning an emerging markets index fund, an investor often benefits from the breadth, experience and future growth potential of these and other companies that may grow to become similar global leaders. Future successful companies may still be mere adolescents at present.

And the best may be ahead of us. Some of the most dynamic entrepreneurial talent resides in two countries where 40% of the world's population lives — China and India. Cacophony from the media regarding trade, copyright and currency issues between the United States and China will probably grow louder in coming years, particularly heading into the 2008 U.S. elections. But despite the U.S. media headlines and the rhetoric coming out of Washington — and Beijing — investors should keep in mind that the relationship between the two countries is symbiotic — both countries grow and benefit from their trade and investment flows.

To reiterate our fundamental belief, there are numerous positive developments in emerging-market countries. GDP growth rates have been double those of the developed countries. Emerging market companies in aggregate boast ROEs averaging one percent higher than the developed countries over the past four years. The labor force is becoming more sophisticated through a combination of population growth, innovation and productivity gains from globalization. As Professor Jeremy Siegel noted last year, “the developing world need only replicate existing technology to achieve far more dramatic increases in growth,” and it is “likely that by the middle of this century (developing countries) will produce over half of the world's GDP.”⁴³ We are equally confident the contribution from emerging markets to both global economic output and international corporate earnings will continue to gain bigger shares of bigger pies in the years to come.

We cannot fully imagine what the top 25 non-U.S. company chart by market cap will look like in 2016. But if the trends of the past couple decades remain on their current course we are reasonably confident that even more of those companies will be domiciled within emerging markets. Broad exposure to an emerging markets investment strategy will help ensure investors do not miss out on the potential outsized gains to their portfolios.

ACKNOWLEDGEMENTS:

The authors would like to thank the following Northern Trust partners and former colleagues for their contributions, analysis, research and support in the production of this paper:

Jeremy Baskin, CFA

Peter Ewing

Rodney Fernandes

James Francis, CFA

Stefanie Jaron

Shaun Murphy, CFA

Chad Rakvin, CFA

Andy Rakowski

Alex Ryer, CFA

Terry Toth

Jason Toussaint

James Upton

Michael A. Vardas, Jr., CFA

Lisa Wang

REFERENCES:

MSCI Barra, "In Search of Global Diversification: Developed and Emerging Markets," July 18, 2006.

Standard & Poor's "Global Stock Markets Factbook," 2006, 2005, 2004.

Standard & Poor's, "Indices Versus Active Funds Scorecard, Second Quarter, 2006" (SPIVA).

World Bank, "Global Economic Prospects 2006."

Citigroup, "Emerging World: Market Turmoil Not a Major Setback," June 26, 2006.

Credit Suisse, "Global Emerging Markets Portfolio Weekly," August 4, 2006 and July 27, 2006.

Credit Suisse, "Debt Trading Monthly," July 20, 2006.

Credit Suisse, "Why Demographics Matters? And How?" Amlan Roy, July 18, 2006.

Credit Suisse, "A New Investment World for Mexico's Pension Funds," Alonso Cervera, May 3, 2004.

UBS Investment Research, "Russian Gas," July 12, 2006.

UBS Investment Research, Global Emerging Markets Strategy, August 18, 2006.

Active Index Investing, Steven A. Schoenfeld (Ed.), Wiley Finance, 2004.

Emerging Markets Quarterly, An Institutional Investor Journal, "Index-Based Investment in Emerging Stock Markets," Steven A. Schoenfeld, 1998.

"Indexing Emerging Markets," in Association for Investment Management and Research (AIMR), Steven A. Schoenfeld, 1997.

International Finance Corporation (IFC), *Emerging Markets Factbook*.

"Demographics and Equity Investing," Credit Suisse First Boston, May 2002.

The Big Ten: Big Emerging Markets and How They Will Change Our Lives, Jeffrey Garten, Basic Books, 1997, 1998.

JPMorganChase emerging markets research.

ENDNOTES

1. Sources: NTGI Global Quantitative Strategy, Citigroup, UBS, Credit Suisse.
2. Median EM active manager performance reflects the total return of the median (institutional) manager with Callan Associates' Active Emerging Markets Equity Universe. As of June 30, 2006, the Callan Universe contained 25 composites/funds. Performance of the median EM active manager assumes the deduction of fees and transaction costs but does not reflect the deduction of investment management fees. An investor's actual returns would have been reduced by these fees.
3. Sources: MSCI, Credit Suisse research.
4. Sources: Citigroup, Credit Suisse.
5. Demographics and Equity Investing, Credit Suisse First Boston, May 2002; Why Demographics Matters? And How? Credit Suisse, July 2006.
6. "Being There," Warner Brothers, 1979.
7. "International Equities—Are Investors Missing the Opportunity?" Robert Ginis & Steven Schoenfeld, Northern Trust Global Investments, August 2005.
8. Longer index time series for emerging markets are available going back to the early 1980s. The original IFC Emerging Markets Data Base has some country indexes commencing in 1975. But the earlier indexes are not "investable," i.e., screened for foreign investor restrictions and limited float, and therefore are not an "apples-to-apples" comparison with developed market indexes.
9. The first efforts to launch funds focused on developing country stock markets were made by the IFC's Capital Markets Department in the mid- to late-1980s. At the same time, the IFC created its "Emerging Markets Data Base" (EMDB), which both tracked companies in emerging markets and created the first emerging markets indexes. EMDB is now owned and managed by Standard & Poor's.
10. Datastream, Credit Suisse research.
11. Credit Suisse, "Debt Trading Monthly," July 20, 2006
Citigroup, "Emerging World: Market Turmoil Not a Major Setback," June 26, 2006.
12. Credit Suisse, "Debt Trading Monthly," July 20, 2006
Citigroup, "Emerging World: Market Turmoil Not a Major Setback," June 26, 2006.
13. Credit Suisse, "Debt Trading Monthly," July 20, 2006
Citigroup, "Emerging World: Market Turmoil Not a Major Setback," June 26, 2006.
14. The term "Big Emerging Markets" was first coined within the U.S. Commerce Department during the first Clinton Administration and subsequently described by Clinton Commerce Undersecretary Jeffrey Garten in his book, "The Big Ten: Big Emerging Markets and How They Will Change Our Lives," Basic Books, 1997, 1998.
15. Jonathan Garner, "Global Emerging Markets Portfolio Weekly," Credit Suisse, August 3, 2006.
16. "Global Emerging Markets Portfolio Weekly," Jonathan Garner, Credit Suisse, August 3, 2006.
17. *ibid.*
18. Demographics and Equity Investing, Credit Suisse First Boston, May 2002; Why Demographics Matters?, Credit Suisse, July 2006.
19. World Bank's "Global Economic Prospects 2006."
20. UBS, Global Emerging Markets Weekly, September 18, 2006.
21. Bank of International Settlement, Credit Suisse "Debt Trading Monthly," July 20, 2006.
22. "Demographics and Equity Investing," Credit Suisse First Boston, May 2002, World Bank, IMF.
23. Embraer: An Ugly Duckling Finds Its Wings Businessweek Online, July 31, 2006.
24. Haier: Taking A Brand Name Higher Businessweek, July 31, 2006.
25. Emerging Today, Global Tomorrow, Businessweek, May 30, 2006.
26. For comparison, the weight of Emerging Markets within the S&P/Citi BMI Global index has risen similarly to 6.5% currently. Source: MSCI, S&P/Citi BMI Global.

27. Credit Suisse, “Global Emerging Markets Portfolio Weekly,” August 2, 2006.
28. Source: Standard & Poor’s Global Stock Market Factbook 2006.
29. For more information on the criteria used to define emerging market classification, please see the following websites of the major index providers:
http://www.msci.com/stdindex/MSCI_May06_STMethod.pdf
http://www.globalindices.standardandpoors.com/data/citi/factsheet/SP_Citigroup_Methodology_Final.pdf
http://www.ftse.com/Indices/FTSE_Global_Equity_Index_Series/Downloads/geis_ground_rules.pdf
 Dow Jones Wilshire and Russell have recently introduced global indexes. See their websites for their country classification approach.
30. These transactions costs range from a low about of 0.50% to a high of nearly 2.50%).
31. For more information on the FTSE classification process and current status of all countries in the FTSE Global Equity Index Series and Watch List Series, see to www.ftse.com.
32. The MSCI World Index tracks 23 developed countries: U.S. + EAFE + Canada.
33. The marginal risk of an asset equals twice its covariance with the portfolio. This, in turn, is a weighted average of the covariances with other asset classes, which are a function of standard deviations and correlation. Expected excess return (EER) then equals the marginal risk times a risk tolerance. This risk tolerance is calibrated to yield and EER for the S&P 500 of 4.0% over the risk free rate as of year-end 2000.
34. Although outside the scope of this paper, we urge investors to similarly allocate “holistically” within international equities, including non-U.S. small cap stocks. This is the subject of a separate white paper, to be published by Northern Trust Global Quantitative Management in 2007.
35. The Standard & Poor’s Indices Versus Active Funds Scorecard (SPIVA), is updated quarterly. We cite data from the Second Quarter 2006 report of July 19, 2006. The website is www.spiva.standardandpoors.com.
36. See Chapter 30, *Active Index Investing*.
37. See Chapter 18 of *Active Index Investing*.
38. The World Bank’s International Finance Corporation (IFC) partnered with SSgA in 1993 to launch a global emerging markets index fund tracking the IFC Investable Indexes (now the S&P/IFCI indexes), and in 1994, Vanguard launched the Vanguard Emerging Markets Index Fund, tracking a highly modified MSCI EM Index. Also in 1994, IFC launched the IFC Latin American Index Fund, in partnership with NatWest Investment Management. In 1996, the first emerging market ETFs were launched, with Morgan Stanley’s *World Equity Benchmark Shares* (WEBS) for Mexico and Malaysia and Deutsche Bank’s *Country Baskets* for Mexico.
39. This figure includes institutional emerging market index strategies (global and regional), emerging market mutual funds, emerging markets ETFs listed in developed markets such as the U.S., Europe and Asia, and emerging markets ETFs listed on local emerging market exchanges, notably in Taiwan, Korea, Israel, South Africa and Turkey.
40. Sources: MSCI, I/B/E/S, Credit Suisse, “Global Emerging Markets Portfolio Weekly,” August 9, 2006.
41. Sources: MSCI, I/B/E/S, Credit Suisse.
42. As noted previously, investors who “go beyond EAFE” in an integrated approach also benefit from the added diversification of Canada. See the NTGI White Paper “International Equities—Are Investors Missing the Opportunity?” Robert E. Ginis & Steven A. Schoenfeld, August 2005.
43. Jeremy Siegel, Wall Street Journal, March 25, 2005, “The Next Wave of Growth.”

NORTHERN TRUST LOCATIONS

Amsterdam

Bangalore

Beijing

Chicago

Dublin

Guernsey

Hong Kong

Isle of Man

Jersey

London

Luxembourg

New York

Singapore

Tokyo

Toronto

This information is provided for informational purposes only and does not constitute a recommendation of any investment strategy, security or product described herein. Opinions expressed herein may not reflect those of the Northern Trust Corporation and are subject to change at any time without notice. Past performance is not necessarily a guide to the future. Index performance returns do not reflect any management fees, transaction costs or expenses. One cannot invest directly in an index. Index performance is based upon information provided by the index providers. There are risks involved with investing, including possible loss of principal. There is no guarantee that the investment objectives of any fund or strategy will be met. Risk controls and asset allocation models do not promise any level of performance or guarantee against loss of principal.

Northern Trust Global Investments (NTGI) comprises Northern Trust Investments, N.A., Northern Trust Global Investments Limited, Northern Trust Global Investments Japan, K.K., the investment advisor division of The Northern Trust Company and Northern Trust Global Advisors, Inc., and its subsidiaries.

IRS CIRCULAR 230 NOTICE: To the extent that this message or any attachment concerns tax matters, it is not intended to be used and cannot be used by a taxpayer for the purpose of avoiding penalties that may be imposed by law. For more information about this notice, see <http://www.northerntrust.com/circular230>.

northerntrust.com

