

How Attractive Are Emerging Markets Equities? *The Importance of Price/Book-Value Ratios for Future Returns*

MICHAEL KEPPLER AND PETER ENCINOSA

MICHAEL KEPPLER is president of Kepler Asset Management, Inc. in New York, NY. michael.kepler@kamny.com

PETER ENCINOSA is director of research at Kepler Asset Management, Inc. in New York, NY. peter.encinosa@kamny.com

Emerging markets have long offered attractive characteristics compared to developed markets. Among the characteristics usually mentioned are demographic advantages (i.e., younger and faster-growing populations)¹ and a growing share of young people with higher education (Organization for Economic Cooperation and Development [2015]). At the end of 1990, the emerging markets' share of global total reserves was 17.7%. Twenty-five years later, in 2015, the emerging markets' share of global total reserves had grown to 65.1% (World Bank Group [2016]). Adjusted for purchasing power parity, the emerging markets' share of world gross domestic product (GDP) had grown from 29% to 53% during the same 25-year period; that is, emerging markets have now surpassed developed markets (International Monetary Fund [2016]). Given that demographic trends are very persistent—we call it the future that has already happened—there is a high likelihood that what we have experienced in the last 25 years may, in one form or another, continue in the years ahead.

COMPARING EMERGING AND DEVELOPED MARKETS

As of the end of October 2016, the market capitalization of the MSCI World Index² of the developed markets stood at

\$32,487 billion. The market capitalization of the MSCI Emerging Markets Index³ was \$4,091 billion, or 12.6% of the developed markets' total or 11.2% of the MSCI All Country (AC) Index total. Exhibit 1 shows how the largest five national markets compare within each asset class based on their respective MSCI capitalization.

Cumulatively, as of the end of October 2016, the five largest developed markets account for 82.4% of the total, whereas the five largest emerging markets add up to 69.8%. Even though the MSCI World Index and the MSCI Emerging Markets Index each contain 23 national markets, the weight distribution offers a higher geographic diversification in the MSCI Emerging Markets Index. This is also true with regard to the diversification of the underlying currencies—10 countries in the MSCI World Index use the Euro as their currency.

Comparing the emerging markets with the developed markets over the period from December 31, 1988 through October 31, 2016 (27 years and 10 months), for which reliable data are available for both asset classes, the MSCI Emerging Markets Index had a total annual return (with net dividends reinvested) of 9.6% in U.S. dollars, whereas the MSCI World Index of developed countries returned 6.4% per annum (p.a.). The 3.2% annual performance advantage, however, came at the price of higher volatility and

EXHIBIT 1 Market Capitalization

| | Billion USD | % of Total | Cumulative (%) |
|--------------------------|-------------|------------|----------------|
| Developed Markets | | | |
| United States | 19,260 | 59.3 | 59.3 |
| Japan | 2,982 | 9.2 | 68.5 |
| United Kingdom | 2,154 | 6.6 | 75.1 |
| France | 1,192 | 3.7 | 78.8 |
| Canada | 1,175 | 3.6 | 82.4 |
| Emerging Markets | | | |
| China | 1,079 | 26.4 | 26.4 |
| Korea | 584 | 14.3 | 40.7 |
| Taiwan | 502 | 12.3 | 53.0 |
| India | 344 | 8.4 | 61.4 |
| Brazil | 342 | 8.4 | 69.8 |

Sources: MSCI and Keppler Asset Management, Inc.

loss expectation for the emerging markets investor. The standard deviation of monthly returns was 6.7% for the MSCI Emerging Markets Index and 4.3% for the MSCI World Index of developed markets; the expectation of a monthly loss⁴ was 2.1% for the MSCI Emerging Markets Index compared to 1.4% for the MSCI World Index. Although most risk measures in Exhibit 2 point to lower risk in the developed markets, risk- and volatility-adjusted return measures (i.e., the Keppler Ratio⁵ and a short form of the Sharpe Ratio⁶) show that the MSCI Emerging Markets Index should have been the preferred choice during the observation period.

THE SPECIFIC CASE

Because the available data for the developed markets go back to the end of 1969, we decided to show the full history between price/book-value ratios and future total annual returns of the MSCI World Index in our regression analysis. We do so because we would like to make a generic case in showing the importance of price/book-value ratios for forecasting future returns rather than a time-specific one (i.e., what is true in general for the developed markets may also be true for the emerging markets); for that purpose, a longer period is preferable to a shorter one. At the time of writing, we have a history of 46 years and 10 months with reliable data in the developed markets (DM observation period) and 27 years and 10 months from the beginning of 1989

EXHIBIT 2 Risk and Return Characteristics (returns with net dividends reinvested in U.S. dollars)

| | MSCI EM Index | MSCI World Index |
|---|---------------------|------------------------|
| December 31, 1988–October 31, 2016 | | |
| Number of Months | 334 | 334 |
| Average Monthly Return (%) | 1.00 | 0.61 |
| Compound Annual Return (%) | 9.63 | 6.38 |
| Number of Winning Months | 201 | 199 |
| Highest Monthly Return (%) | 19.0 | 11.3 |
| Probability of Monthly Gain (%) | 60.2 | 59.6 |
| Average Gain in Winning Months (%) | 5.12 | 3.34 |
| Expectation of Monthly Gain (%) | 3.08 | 1.99 |
| Number of Losing Months | 133 | 135 |
| Lowest Monthly Return (%) | -28.9 | -19.0 |
| Probability of Monthly Loss (%) | 39.8 | 40.4 |
| Average Loss in Losing Months (%) | 5.23 | 3.41 |
| Expectation of Monthly Loss (%) | 2.08 | 1.38 |
| Longest Losing Streak (months) | 6 | 6 |
| Largest Drawdown from Previous High (%) | 61.6 | 54.0 |
| Standard Deviation of Monthly Returns (%) | 6.71 | 4.31 |
| Monthly Risk-Adjusted Return (Keppler Ratio) | 0.48 | 0.44 |
| Monthly Volatility-Adjusted Return (Sharpe Ratio) | 0.15 | 0.14 |

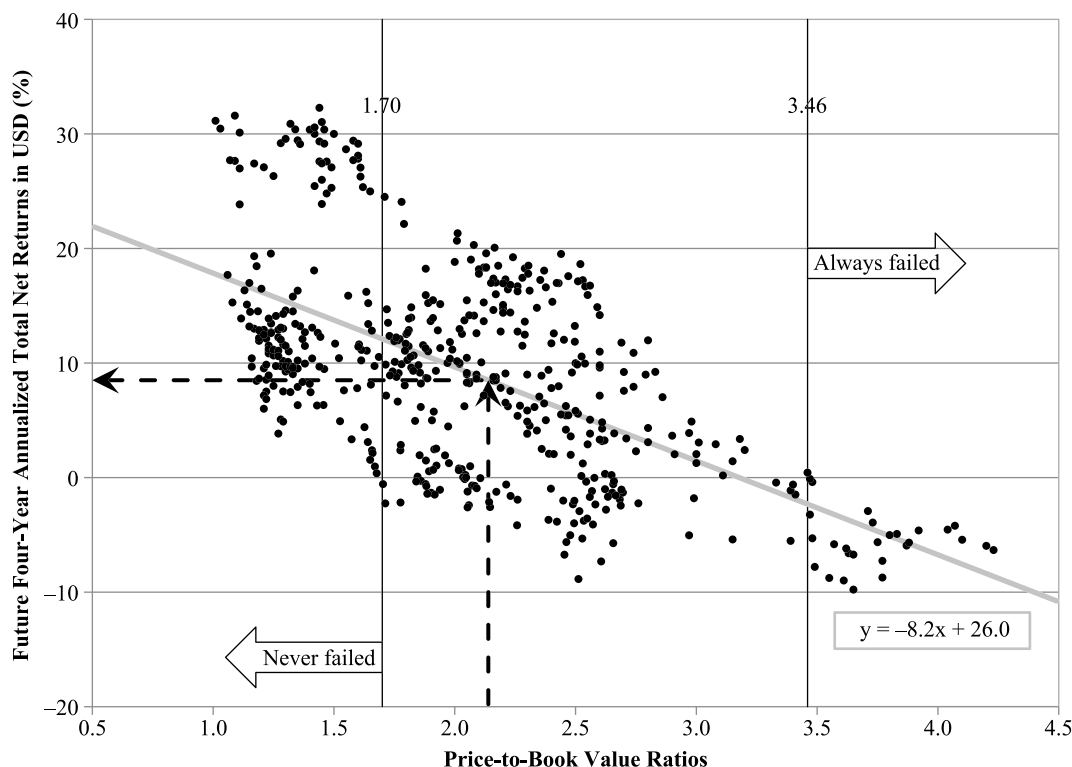
Sources: MSCI and Keppler Asset Management, Inc.

through the end of October 2016 for the emerging markets (EM observation period).

At the end of October 2016, the price/book-value ratio of the MSCI World Index stood at 2.14, compared to a low of 1.01 in July 1982, a high of 4.23 in December 1999, and an average of 2.06 in the DM observation period. For our purpose, we divide the price/book-value range into three intervals. For 169 observations, the ratio was below 1.70. In those cases, the average total annual return in U.S. dollars in the following four years never fell below zero (never failed); on average, it was 15.4% p.a. For 319 observations, the price/book-value ratio fell into the second interval between 1.70 and 3.46. In those cases, the average annual total return four years later was 7.2%. Finally, in the third interval, when the price/book-value ratio exceeded 3.46 (27 observations), the total annual returns four years later were

EXHIBIT 3

MSCI World Index (December 31, 1969 to October 31, 2016) Price-to-Book Value Ratios and Future Net Returns (in U.S. dollars)



Sources: MSCI and Keppler Asset Management, Inc.

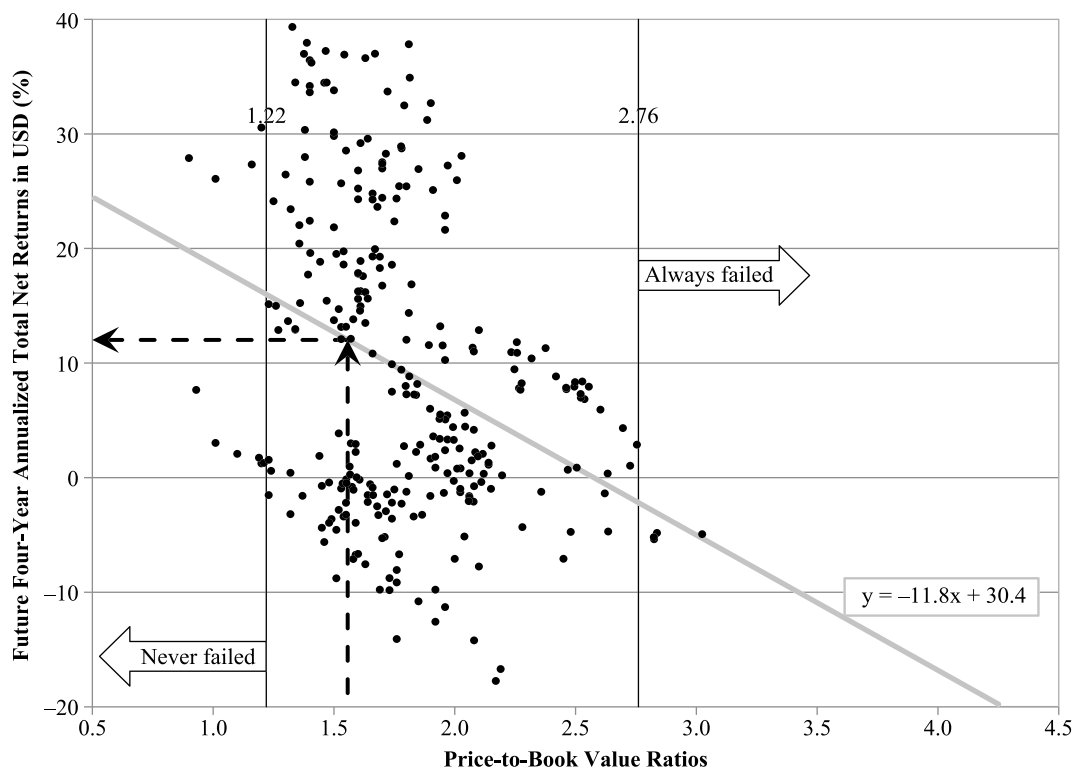
always negative (always failed); on average, they were down 5.6% annually. We therefore conclude, based on empirical data for the developed markets going back to the beginning of 1970, that a negative relationship has existed between price/book-value ratios and the subsequent four-year total annual returns. Based on the current price/book-value ratio of 2.14 for the MSCI World Index, our regression analysis points to an expected total annual return of about 8.5% over the next four years. The range of possible outcomes, however, may very well be between an annual loss of 2.1% and an annual gain of 20.1%, according to our analysis.

At the end of October 2016, the price/book-value ratio of the MSCI Emerging Markets Index stood at 1.56, compared to a low of 0.90 in January 1989, a high of 3.02 in October 2007, and an average of 1.75 in the EM observation period. For our purpose—as in Exhibit 3 for the developed markets—we divide the price/book-value range into three intervals. For 10 observations,

the ratio was below 1.22. In those cases, the total annual return in U.S. dollars in the following four years never fell below zero (never failed); on average, it was 12.9% p.a. For 273 observations, the price/book-value ratio fell into the second interval between 1.22 and 2.76; in those cases, the average total annual return in the following four years was 9.4%. Finally, in the third interval (four observations), when the price/book-value ratio exceeded 2.76, the total annual returns in the four subsequent years were always negative (always failed). On average, in those cases, returns were down 5.1% annually. We therefore conclude that, based on empirical data during the EM observation period—similar to the results shown in Exhibit 3 for the developed markets—there has been a negative relationship between price/book-value ratios and the subsequent four-year total annual returns (Exhibit 4). Based on the current price/book-value ratio of 1.56 for the MSCI Emerging Markets Index, our regression analysis points to an expected annual

EXHIBIT 4

MSCI Emerging Markets Index (December 31, 1988 to October 31, 2016) Price-to-Book Value Ratios and Future Net Returns (in U.S. dollars)



Sources: MSCI and Keppler Asset Management, Inc.

rate of return of about 12.0% over the next four years. Unfortunately, our analysis also shows that the range of possible outcomes may be rather wide. In similar cases during the last 27 years and 10 months, the extreme outcomes lay between an annual loss of 8.8% and an annual gain of 36.9%.

CONCLUSION

Our work shows that there has been a negative relationship between the price/book-value ratios of the MSCI Emerging Markets Index and the ensuing four-year annualized total net returns. Although the expected total annual return of about 12.0% for the MSCI Emerging Markets Index—based on its current price/book-value ratio of 1.56—is some 3.5 percentage points higher than our point estimate of 8.5% for the MSCI World Index of the developed markets, the range of potential outcomes—between an annual loss

of 8.8% and an annual gain of 36.9%—shows that an investment in the MSCI Emerging Markets is anything but a free lunch. Nevertheless, we hope that our work provides global equity investors with a decision framework for their asset allocation decisions given their specific risk tolerance.

ENDNOTES

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¹U.S. Census Bureau [2016], International Database.

²Developed markets are understood as those markets that are included in the MSCI World Index. Currently, 23 markets are included in this index (Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, United Kingdom, and the United States).

³Emerging markets are understood as those markets that are included in the MSCI Emerging Markets Index. Currently, there are 23 markets included in this index (Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and the United Arab Emirates). Regarding valuation ratios, before August 1995, we use data from the International Finance Corporation (IFC), a member of the World Bank Group. Total returns are based on data from MSCI only.

⁴The expectation of loss, which focuses both on the frequency and the magnitude of losses, is calculated as the product of the probability of a monthly loss (number of losing months divided by the total number of months of the observation period) and the average monthly loss (total monthly losses divided by the number of losing months).

⁵The monthly risk-adjusted return (Kepler Ratio) is defined as the average monthly return divided by the expectation of a monthly loss.

⁶The monthly volatility-adjusted return (a short form of the Sharpe Ratio) is defined as the average monthly return divided by the standard deviation of monthly returns.

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