Russell

TITLE

Emerging Market Equities: An Australian Perspective

AUTHORS

Geoff Warren – Senior Research Associate, Capital Markets Research
Daniel Radcliffe – Investment Analyst, Asset Consulting

DATE

May 2007

ABSTRACT

This research report examines the case for investing in emerging market equities from the perspective of an Australian investor. Emerging markets should be viewed as a relatively risky equity sub-class that justifies its position in portfolios as a source of additional returns, rather than as a diversification opportunity. Risks in emerging markets relate to their high beta versus world equities; sensitivity to shifts in the world economy and investor risk appetite; and a propensity towards volatility, including occasional crises.

Investors can expect to be adequately compensated for these risks through returns in excess of developed equity markets. In addition, the attraction of emerging markets is augmented by two other factors. First, the positive correlation between relative returns from emerging markets and the A$ provides a unique reduction in volatility for Australian investors, as currency movements tends to offset the impact of emerging market weakness. Second, emerging market managers can generate relatively high alpha that is in turn uncorrelated with other alpha sources. Our analysis supports the case for considering an allocation to emerging markets that is in excess of benchmark weightings, and implemented via a portfolio of specialist active managers.

Russell Research

Executive Summary

Emerging markets should be considered a high risk but potentially high return sub-class of equities, which deserves a place in the portfolios of Australian investors. Our estimates suggest that an emerging markets allocation is warranted providing an annual return premium of approximately 1% – 2.5% over world equities can be generated. Such a premium seems readily achievable from a combination of market compensation for beta and illiquidity risk, plus expected alpha from active management.

The case for emerging markets essentially relies on return prospects that more than justify the additional risk. Contrary to widely held belief, diversification benefits are limited given high correlation with other equities. Indeed, direct substitution of emerging markets for a portion of the world equity allocation is likely to increase the volatility of the typical portfolio. A tendency for volatile and episodic performance means that emerging markets should be approached with a longer term horizon.

In evaluating the case for emerging market exposure from the perspective of an Australian investor, this report proceeds in three parts:

Part A: Nature of Emerging Markets

Part A investigates some broadly-held notions regarding the nature of emerging markets. We confirm that emerging markets have historically delivered high returns with high volatility. They demonstrate a tendency for episodic performance and occasional crises, as seen for example in the period extending from the mid-1990s through to the unravelling of the technology bubble. Emerging markets have a high beta versus world equities, estimated to have averaged about 1.36 when measured in US$ terms. We raise the notion that emerging markets seem relatively exposed to the world economy and investor risk appetite. Furthermore, we point out that the A$ appears to be partly driven by similar factors, suggesting a fundamental foundation for the observed positive correlation between relative returns to emerging markets and A$ movements.

Acknowledgements

This paper draws on a companion report by Wenling Lin and Francois Briand from Russell in Tacoma, who deserve a special thanks for permitting use of their materials. The authors also thank those who took the time to assist in the preparation of this report, including Scott Bennett, Richard Dinham, Scott Donald, Rob Hall, Andrew Lill, Madeleine Lethaby, Andrew Leung, Wenling Lin, Rob Pereira, Nicholas Taylor, Stan Yeo, and the London-based Russell emerging markets team.

Part B: Reviewing the Arguments for Investing in Emerging Markets

Part B discusses six arguments for investing in emerging markets. Three of these arguments provide strong support to the case for investment. The first is capturing a return premium as compensation for risk, i.e. rewards for taking 'beta' exposure. The second relates to the positive correlation with the A$. This relation offers unique risk reduction benefits for Australian investors, who can more than fully benefit from any risk premium set in global markets. The third strong argument relates to accessing alpha opportunities, which are both positive given relatively inefficient markets, and exhibit low correlation with other equity-based alpha sources. Two further arguments play supporting roles, being broadening of the investment opportunity set and the current outlook. In the latter case, we emphasise the underpinning effect of structural reforms. On the other hand, the argument that emerging markets provide diversification benefits is judged as weak, given a high correlation with world equities. If anything, adding emerging markets exposure is more likely to increase rather than lower the risk of the overall portfolio.

Part C: Investment Considerations

Finally, we address the investment implications for an Australian investor. Emerging markets exposure should be considered as a 'second stage' allocation of the world equity component, with the actual weighting depending on investor circumstances and risk tolerance. We examine the impact of including emerging markets in a 'typical' Australian portfolio, estimating a notional return hurdle of 1% – 2.5% p.a. in excess of developed equities in order to compensate for additional risk. We view this as an achievable hurdle, based on expectations for additional returns of well over 1% p.a. from risk compensation (for beta and illiquidity), plus 1% p.a. from alpha. Investors might consider benchmark allocations at minimum, if not greater. Implementation depends in part on investor circumstances. We recommend appointing a portfolio of specialist active managers, providing fund size permits. Currency exposure might be left unhedged[1] to maximise the risk reduction benefits of the correlation with the A$; although how this is applied depends on hedging policy. For investors wishing to limit the risk associated with emerging markets, any allocation might be funded by a more than proportional reduction in world equities, with the balance placed in world bonds.

Overall, we believe our analysis presents a solid case for an allocation to emerging markets in order to enhance portfolio returns via both beta and alpha contributions. However, investors should accept that this brings exposure to a volatile, high beta asset that can increase portfolio risk. Emerging markets offer potential for return enhancement, not risk reduction.

[1] Foreign currency exposure should at least be left unhedged on the upside, as may occur under dynamic hedging.

PART A: Nature of Emerging Markets

This part establishes the attributes of emerging markets as an investment. Emerging markets are revealed as a higher risk equity asset class, but one that offers higher returns in compensation. The status as a higher risk asset class arises from various sources. First, emerging markets are prone to volatility, including extended episodes of extreme performance and occasional crises. Second, they are high beta relative to world equities. Third, they appear relatively sensitive to the global economy and investor risk appetite. The latter aspect is shared with the A$, which we will later show to have unique implications for Australian investors.

Historical Performance versus World and Australian Equities

We commence by reviewing returns on emerging markets, world equities and Australian equities since December 1987, when the MSCI Emerging Market Index first became available. While there may have been substantial changes in index composition over time, we believe the data broadly captures the essence of the asset class.

Table 1 presents summary statistics based on monthly return data. Over the 19 year period from January 1988 to December 2006, emerging markets outperformed world and Australian equities by about 6.0% and 2.2% per annum respectively in A$ terms. A rising A$ reduced returns on emerging markets and global equities by a modest 0.5% p.a. over the period.

Emerging markets have also been commensurately more volatile. The standard deviation of monthly A$ returns from emerging markets has run at an annualised rate of about 22%, versus 14% for world equities and 13% for Australian equities. Emerging markets demonstrate greater negative skewness and 'fat tails' (kurtosis), indicating a higher frequency of extreme movements. Table 1 reveals a higher degree of such volatility when returns on emerging markets are measured in US$ versus A$ terms. This provides an initial hint that the A$ dampens the volatility of emerging markets for A$-based investors.

TABLE 1 **Summary Statistics for Equity Returns**
January 1988 to December 2006

Equity Return Index	Emerging Markets	World ex. Australia	Australia	
Jan 1988 - Dec 2006	MSCI (total return)	MSCI (net dividends)	S&P/ASX300 Accum	A$/US$
Cumulative A$ Returns	14.7%	8.7%	12.5%	0.5%
Analysis of Monthly A$ Returns				
Mean (pa*)	16.5	9.4	12.5	
Standard Deviation (pa*)	22.4	14.5	12.9	
Skewness	-0.24	-0.07	-0.13	
Kurtosis (>0 => 'fat tails')	1.18	0.80	0.18	
Analysis of Monthly US$ Returns				
Mean (pa*)	16.9	9.6		
Standard Deviation (pa*)	23.0	14.1		
Skewness	-0.64	-0.41		
Kurtosis (>0 => 'fat tails')	1.69	0.63		

A$ dampens skewness and volatility, i.e. clips the extremes

Source: MSCI, S&P, Russell

* Monthly mean is multiplied by 12. Standard deviation is estimated as square root of 12-times the monthly variance

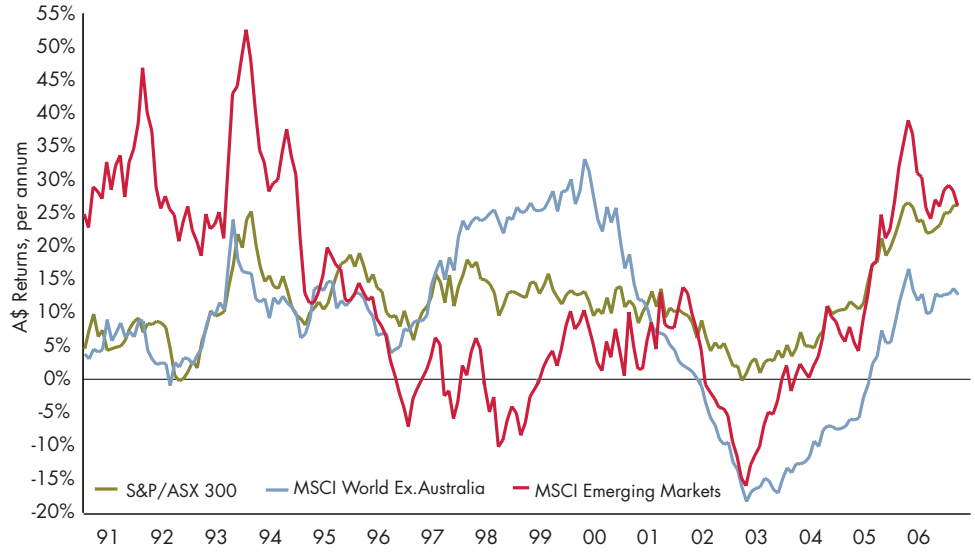
Figure 1 plots rolling 3-year returns in A$ terms for the three indices. The chart provides visual confirmation of the relative volatility and the propensity for extreme movements from emerging markets, particularly relative to Australian equities.

Performance of emerging markets versus world equities has tended to be episodic. Three distinct phases can be identified:

- Outperformance prior to the mid-1990s, with returns for emerging markets exceeding developed world equities by 23.0% p.a. between December 1987 and September 1994.
- A phase of comparatively poor performance extending from the mid-1990s until the early-2000s, coinciding with financial/currency crises of the mid-1990s and the post-technology boom fall-out. Emerging markets underperformed world equities by 15.4% p.a. between September 1994 and September 2001.
- A further phase of strong outperformance occurred thereafter, amounting to 18.4% p.a. between September 2001 and December 2006.

The potential for high volatility and persistent swings in relative performance have a number of implications. First, investors should approach the asset class with a longer term outlook, e.g. 5-10 years, or even more. Second, it lowers the confidence that can be placed on past returns as a guide for future expected returns. For instance, we do not consider the historical 6.0% p.a. outperformance versus world equities as a good guide to future expected returns. Third, investors might try to establish a degree of confidence that the asset class is *structurally* well-placed to deliver returns in the future. Some comfort will be provided on this point within Part B.

FIGURE 1 **3-Year Rolling A$ Returns for Emerging Markets, Australian & World Equities**



Source: MSCI, S&P

Crisis Periods in Emerging Markets

The downside risks in emerging markets can be better appreciated by examining the crisis periods between mid-1990s and early-2000s. The underperformance of emerging market equities from mid-1990s stemmed from financial crises, associated with fluctuating capital flows, balance of payments problems, and fixed exchange rate systems. These crises resulted in large market declines, with contagion across emerging countries and markets.[2] As shown in Table 2, the 1994 Latin American crisis and 1997 Asian currency crisis led to plunges of 25% and 42% respectively. Emerging markets also declined following the bursting of the Telecommunication, Media, and Technology (TMT) bubble. The latter instance appears an example of sensitivity to global economy and risk appetite, rather than sovereign risk.

Relative to developed markets, emerging markets have tended to suffer steeper price declines followed by more significant rebounds. Generally, the price recovery takes a longer time than the price decline. The type of performance during crises makes emerging market equities riskier than other equities, not only in terms of higher volatility, but also in terms of greater downside risk.[3] Patience is accordingly the key to investing in this asset class.

TABLE 2 **Equity Performance During Crisis Periods**

Cumulative A$ returns, %pa	MSCI Emerging Markets	MSCI World Ex Australia	S&P/ ASX 300	Months to Trough in Index	Months for Recovery in Index
Oct 94–Feb 95 Latin American Crisis	-25.2	-0.5	-3.9	5	29
Aug 97–Aug 98 Asian Crisis	-42.7	26.4	-5.5	13	19
Apr 00–Sep 01 TMT Bubble	-35.7	-19.3	1.9	18	28
Oct 01–Present TMT Bubble Recovery	163.5	11.0	136.3		

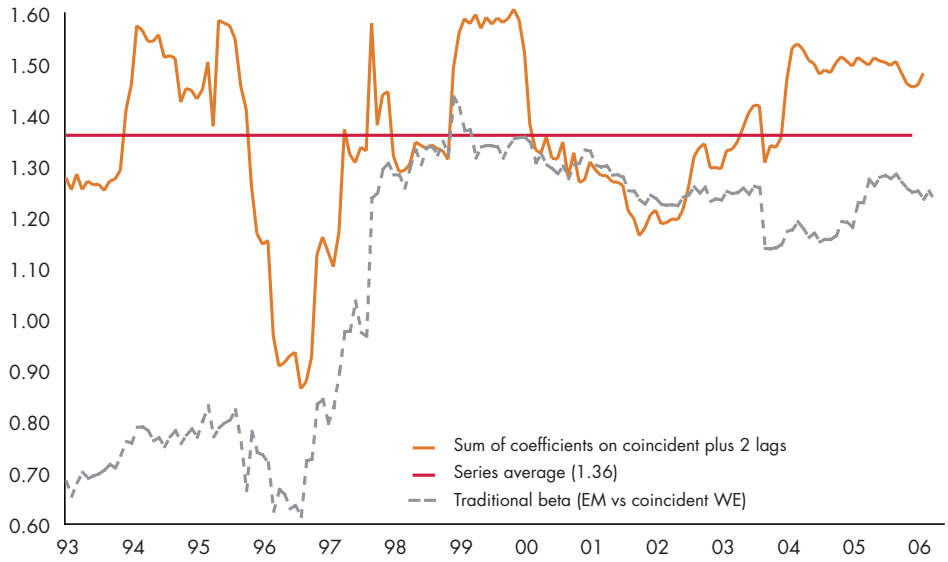
Source: MSCI, S&P, Russell

[2] See Martinez (1998); Patel and Sarkar (1998).
[3] Bekaert et al. (1998) notes the impact of skewness and kurtosis of emerging market returns on asset allocation.

A High Beta Equity Sub-Class

As well as being volatile, emerging markets are high beta in the context of a world equity portfolio. Figure 2 plots two time series of beta estimates for emerging markets versus world equities, based on rolling 60-month windows of US$ returns (to focus on pricing in the context of global markets). Traditional beta estimates appear as the dashed line. Alternative beta estimates appear as the heavy line. The latter is based on summing the regression coefficients on coincident, 1-month lagged and 2-month lagged world equity returns.[4] The alternative estimates account for serial correlation in the emerging markets return series, which is particularly prominent in the early part of the series. On this preferred measure, the beta on emerging market fluctuates around an average of 1.36. The main implication is that a one-for-one substitution of emerging markets for a slice of the world equity weighting will tend to raise the net beta exposure of the portfolio, i.e. an investor will be taking on more equity risk.

FIGURE 2 **Beta Estimates for Emerging Markets vs World Equities**
Based on rolling 60-month windows of US$ returns



Source: Russell

[4] This is a version of the Dimson (1979) method for estimating beta.

Industry Sector and Country Make-up

Understanding the nature of emerging markets is assisted by examining their make-up. Table 3 compares the industry sector weightings in the MSCI Emerging Markets Index with the MSCI World ex. Australia Index as at 2006 and 1998 (sorted by 2006 weighting difference). Emerging markets are revealed as relatively exposed to commodities and other economically-sensitive sectors, and relatively unexposed to consumer related areas.

Relative to the MSCI World ex Australia, emerging markets are overweight materials (+8.6%), energy and oil (together +7.8%), utilities (+5%), and technology (+2.8%). Underweightings in health care, consumer discretionary, financial services and consumer staples sum to a total of 20.0%. This make-up undoubtedly contributes to the high beta of emerging markets, in addition to their economic sensitivity as discussed below.

TABLE 3 **Industry Sector Weightings in MSCI Emerging Market Index**

	December 2006			December 1998		
	Emerging Markets	World ex. Australia	Difference	Emerging Markets	World ex. Australia	Difference
Sector:						
Materials and Processing	16.9%	8.3%	8.6%	17.0%	6.9%	10.1%
Utilities	13.8%	8.7%	5.0%	21.3%	13.2%	8.2%
Other Energy	8.2%	3.3%	4.9%	3.9%	0.9%	3.0%
Integrated Oils	8.5%	5.6%	2.9%	2.9%	4.5%	-1.6%
Technology	11.6%	8.8%	2.8%	6.0%	12.6%	-6.6%
Autos and Transportation	3.7%	4.2%	-0.6%	2.8%	4.8%	-2.0%
Other	2.4%	3.8%	-1.5%	4.5%	3.3%	1.1%
Producer Durables	3.4%	5.4%	-2.0%	2.8%	3.4%	-0.6%
Consumer Staples	3.4%	6.6%	-3.2%	11.2%	8.8%	2.4%
Financial Services	21.1%	25.1%	-4.0%	21.2%	19.2%	2.0%
Consumer Discretionary	5.4%	10.8%	-5.4%	5.3%	11.4%	-6.1%
Health Care	1.8%	9.3%	-7.4%	1.2%	11.0%	-9.9%
TOTAL	100.0%	100.0%	0.0%	100.0%	100.0%	0.0%

Source: MSCI

A country breakdown appears in Table 4. The MSCI Emerging Market Index is over 50% exposed towards Asia, whose weighting has risen from around 36% in 1998 (in a large part due to China). The main counterpart has been declining weightings in the Americas, which have fallen below 20% in 2006 from 35% in 1998. Potential to dynamically alter the shape of the index going forward arises from both the phenomenal growth of China, and from the possibility of countries being promoted to the developed index (e.g. South Korea).

TABLE 4 **Country Weightings in MSCI Emerging Market Index**

As at December:	**2006**	**2004**	**2002**	**2000**	**1998**
Total Market Value (US$ billion)	2397	1120	526	1008	626
AFRICA/MIDDLE EAST					
Egypt	0.8%	0.4%	0.2%	–	–
Israel	2.3%	3.7%	3.3%	5.8%	3.3%
Jordan	0.1%	0.2%	0.2%	0.1%	0.2%
Morocco	0.2%	0.3%	0.3%	–	–
South Africa	8.3%	12.4%	14.0%	9.7%	10.3%
Total Africa / Middle East	**11.8%**	**17.0%**	**18.1%**	**15.7%**	**13.8%**
AMERICAS					
Argentina	0.8%	0.5%	0.5%	1.4%	4.6%
Brazil	10.5%	9.6%	6.9%	10.6%	12.0%
Chile	1.5%	1.9%	1.6%	3.1%	4.5%
Colombia	0.3%	0.2%	0.1%	0.3%	0.8%
Mexico	6.2%	6.4%	7.9%	9.6%	11.3%
Peru	0.5%	0.4%	0.5%	0.3%	1.0%
Venezuela	–	0.2%	0.1%	0.5%	1.0%
Total Americas	**19.8%**	**19.3%**	**17.6%**	**25.8%**	**35.1%**
ASIA/PACIFIC BASIN					
China	11.8%	7.7%	6.6%	6.5%	0.7%
India	6.5%	5.7%	5.0%	7.5%	7.9%
Indonesia	1.6%	1.9%	1.1%	0.8%	1.8%
Korea, South	15.5%	17.7%	21.7%	9.3%	10.7%
Malaysia	2.6%	3.9%	5.6%	6.4%	--
Pakistan	0.2%	0.2%	0.3%	0.3%	0.4%
Philippines	0.5%	0.5%	0.5%	0.9%	2.1%
Sri Lanka	–	–	–	0.0%	0.1%
Taiwan	12.5%	14.0%	12.8%	11.8%	9.9%
Thailand	1.4%	2.5%	1.7%	1.4%	2.8%
Total Asia / Pacific Basin	**52.8%**	**54.0%**	**55.4%**	**45.0%**	**36.4%**
EUROPE					
Czech Republic	0.8%	0.8%	0.5%	0.7%	1.1%
Greece	–	–	–	5.5%	7.3%
Hungary	1.1%	1.6%	1.3%	1.0%	1.6%
Poland	1.7%	2.0%	1.3%	1.5%	1.4%
Russia	10.6%	3.6%	4.7%	2.0%	1.2%
Turkey	1.4%	1.8%	1.2%	2.8%	2.0%
Total Europe	**15.6%**	**9.8%**	**8.9%**	**13.5%**	**14.7%**
TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

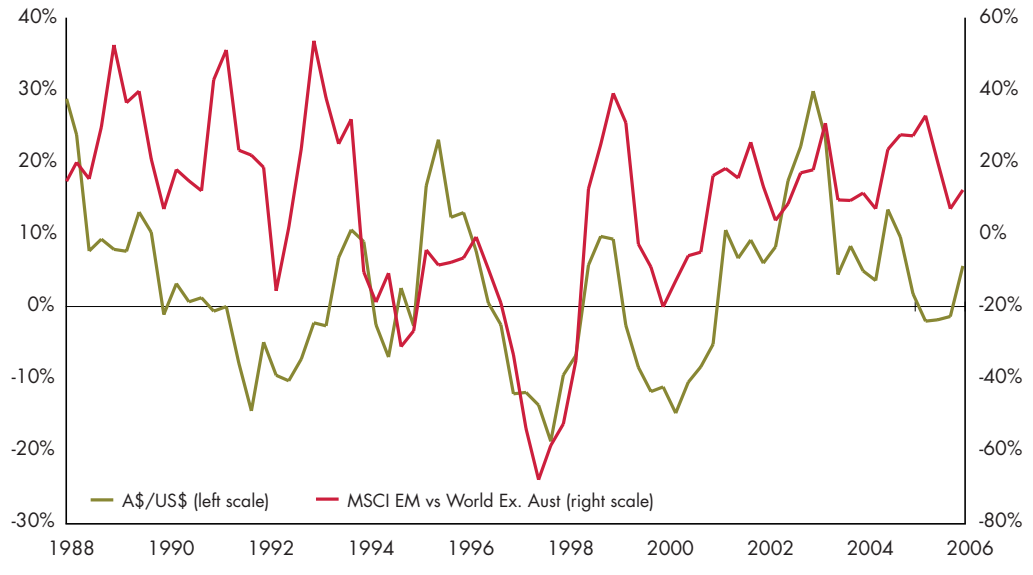
Source: MSCI

Emerging Markets and the A$ as 'Risk' Assets

There is a general perception that emerging markets sit within a certain class of 'risk' assets that are sensitive to the global economy, investor risk appetite and (more arguably) global liquidity conditions. Other asset classes that are sometimes lumped in this class include low quality debt, small companies, commodities and the Australian and New Zealand dollars. It is beyond the scope of this report to investigate these concepts in any depth. However, it is worth making the point that emerging markets and the A$ may have some common drivers, as this has potential implications for the role of emerging markets within Australian portfolios. Specifically, if emerging markets and the A$ are positively correlated, then currency fluctuations may tend to dampen the volatility of emerging markets for an A$-based investor.

The analysis that follows compares the relative performance of emerging markets versus world equities with movements in the A$/US$. Examining relative performance for emerging markets versus world equities helps control for any common factors influencing equity markets in general.[5] It provides a perspective that is relevant for an Australian investor considering substituting emerging markets for part of their world equity weighting. The A$ and the excess returns to emerging markets are indeed positively correlated, with coefficients based on monthly returns of 0.26 over the period 1988 to 2006, and 0.37 over the period 1997 to 2006.[6] Figure 3 depicts the relation using rolling 1-year returns.

FIGURE 3 **1-Year Rolling Returns on Emerging Markets vs World Equities and A$**



Source: MSCI, Datastream, Russell

[5] The series might be viewed as representing performance relative to the relevant world benchmark, being world equities for emerging markets and the US$ for the A$.

[6] These coefficients are significant at the 1% level.

To illustrate the common drivers of relative returns to emerging markets and the A$, the following pages relate movements to commodity prices and expected volatility on the US equity market. The latter is imputed from options over the US equity market index, as represented by the VXO series (the old version of the better known VIX series[7]). As both the commodity and VXO series are drawn from market-determined prices, they might be expected to capture changes in expectations by market participants.

Commodity prices may be viewed as sensitive to world economic trends. They are measured here using the Moodys index. The correlation is 0.18 with excess returns to emerging markets, and 0.28 with the A$/US$. As the VXO provides a measure of expected stock market volatility, it might be considered to reflect a combination of investor uncertainty and risk aversion. The VXO has a correlation of -0.19 with excess emerging market returns, and -0.28 with the A$/US$. These correlations and the accompanying charts lend informal support to the concept that both emerging markets and the A$ are relatively sensitive to the global economy and market risk, and accordingly might be considered as 'risk' assets.

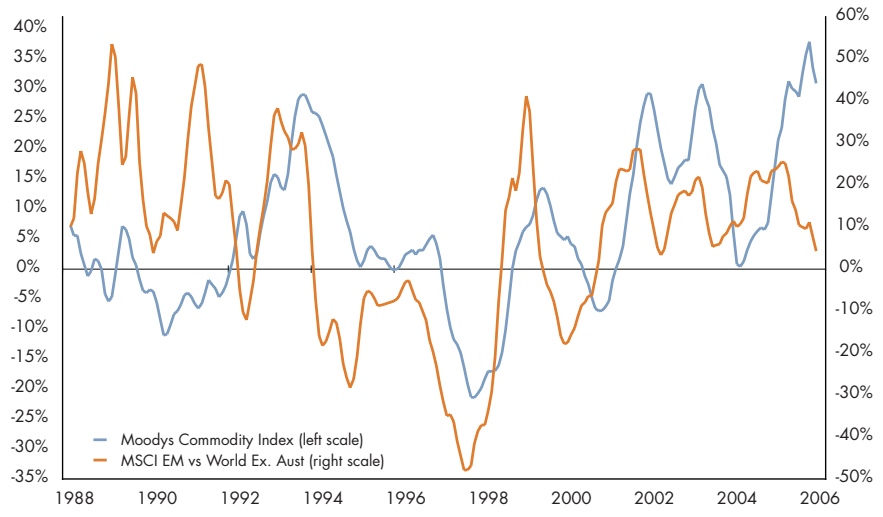
Part A in Summary

Emerging markets are a risky equity sub-class that has historically compensated long term investors with higher returns. Its risky nature manifests in a variety of aspects, including high beta, sovereign risk, sensitivity to the global economy and risk appetite, and the cyclically-orientated make-up of the investment universe. An intriguing relation with the A$ also exists, which will feature within the discussions to follow in Parts B and C.

[7] The VXO and VIX are estimated by the Chicago Board Option Exchange. The VXO is calculated by solving the Black and Scholes option pricing model for implied volatility using options over the S&P100. The VXO was chosen over the VIX (based on S&P500) due to its longer history. Correlation between the VIX and VXO is 0.985. For details refer www.investopedia.com/articles/optioninvestor/05/VIXindex.asp

Commodity Prices *versus* Relative Emerging Market Returns and the A$

FIGURE 4 **Commodity Prices and Emerging Markets vs World Equities**
Rolling changes on year ago, based on 3-month moving averages

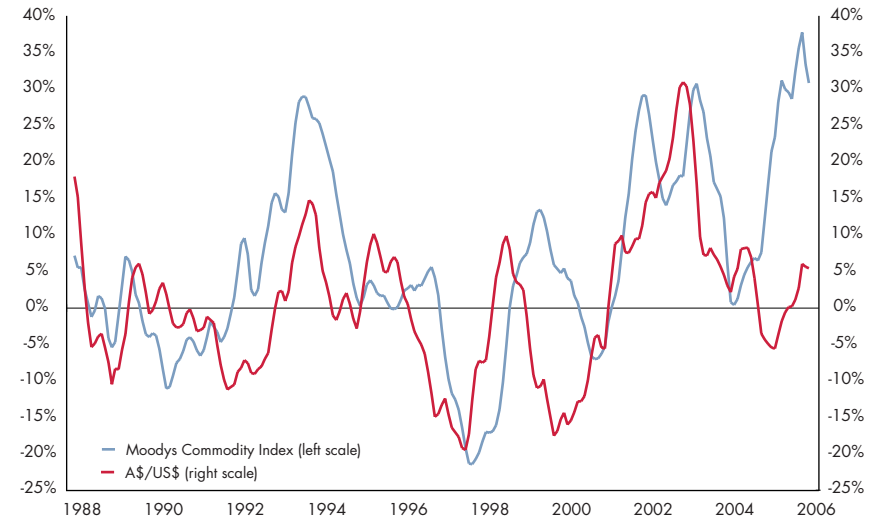


Source: MSCI, Datastream, Russell

Correlation = 0.18
– Based on monthly data
– Significant at 1% level

Momentum swings in the relative performance of emerging markets versus world equities have tended to occur in conjunction with swings in commodity prices. However, both series are capable of moving independently at times, as seen in the occasional gap between the two lines.

FIGURE 5 **Commodity Prices and Australian Dollar**
Rolling changes on year ago, based on 3-month moving averages



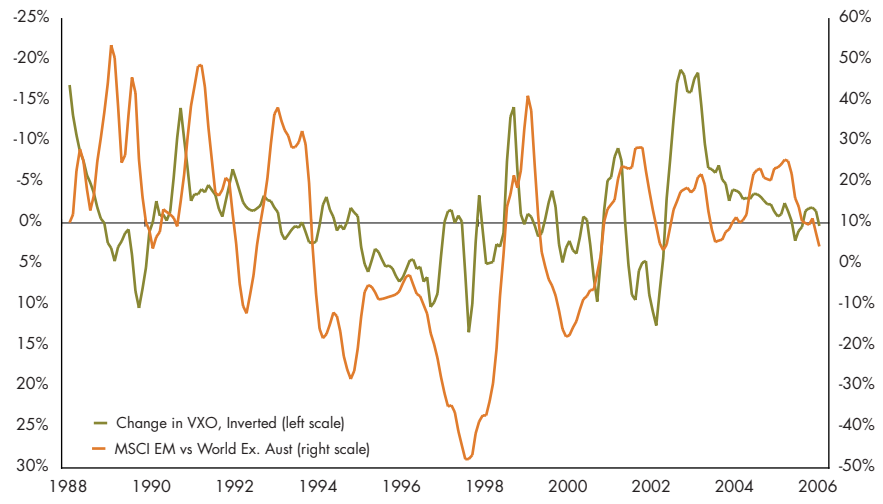
Source: Datastream, Russell

Correlation = 0.28
– Based on monthly data
– Significant at 1% level

The familiar relation between commodity prices and the A$ becomes visible in this chart. Again, the occasional gap appears between the two lines, suggesting that the link between the A$ and commodities can be broken from time to time.

Implied US Equity Volatility *versus* Relative Emerging Market Returns and the A$

FIGURE 6 **Changes in VXO Index and Emerging Markets vs World Equities**
Rolling changes on year ago, based on 3-month moving averages

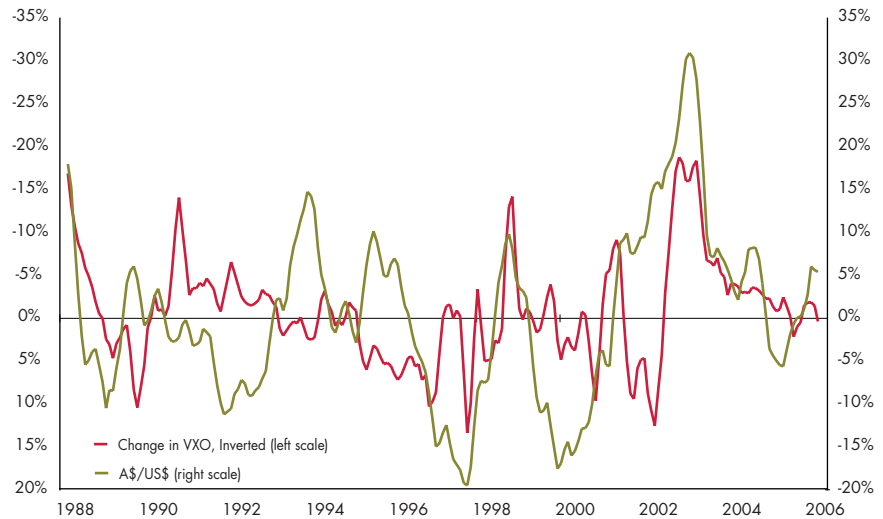


Source: MSCI, CBOE, Russell

Correlation = -0.19
– Based on monthly data
– Significant at 1% level

A rising VXO is quite often associated with a weakening of emerging markets versus world equities, and vice versa. In addition, examining the relative performance index for emerging markets (i.e. in level terms) reveals that the 3 broad phases of good-bad-good performance over the last 19 years roughly line up with phases of low-high-low VXO readings.

FIGURE 7 **Changes in VXO Index and Australian Dollar**
Rolling changes on year ago, based on 3-month moving averages



Source: CBOE, Russell

Correlation = -0.28
– Based on monthly data
– Significant at 1% level

Movements in the VXO also tend to have a negative correlation with the A$. In addition, a level-based chart of the A$ versus the VXO reveal a pattern of high-low-high readings for both series over the last 19 years. The A$/US$ has mostly traded above 70 cents when the VXO was low (below ~20%); and below 65 cents when the VXO was high (above ~20%).

PART B: Reviewing the Arguments for Investing in Emerging Markets

This section examines the case for a portfolio allocation to emerging markets by reviewing six arguments for investment:

1) Capturing an expected return premium
2) Implications of correlation with the A$
3) Diversification benefits
4) Broadening of the investment opportunity set
5) Alpha opportunities
6) Current outlook

The first five of these arguments are 'structural' in nature, in the sense that they draw on notions of portfolio construction that should persist through time. The sixth argument involves putting on an investment strategist's hat to examine the case for investing at the present time. Here we emphasise the supportive effects of structural reforms.

Overall, we consider three of these arguments to be strong (1, 2 and 5); two to play a supportive role (4 and 6); and one to be weak (3). The case for allocating a portion of the equity portfolio towards emerging markets largely rests on accessing higher returns stemming from both risk compensation for higher beta and illiquidity, plus alpha contributions. This case is strengthened by the correlation between relative returns on emerging markets and the A$, which reduces the marginal risk from the perspective of an Australian investor. Broadening the opportunity set and the current outlook provide additional encouragement, but are not reasons to invest in their own right. However, the case for an allocation based on diversification potential is relatively weak – unless an investor is more concerned about competitive comparisons or possible regret than portfolio variance. If anything, a one-for-one substitution of emerging for developed equity market exposure is more likely to increase rather than lower the risk of the overall portfolio.

Argument 1: Capturing an Expected Return Premium

The first argument usually offered for investment in emerging markets is that they generate high returns. While we agree, it is important to identify the reasons to expect higher returns going forward, rather than merely extrapolating from past performance.

The primary reason to expect higher returns is as compensation for higher risk. Emerging markets might be considered high risk for two reasons. First, as discussed in Part A, emerging markets are a volatile asset class that is exposed to common, undiversifiable risks that can impact on all asset markets. In other words, they are a 'high beta' asset class.

A second risk aspect relates to illiquidity. Emerging markets are typically smaller and thinner than the major developed equity markets. Transaction costs are generally higher in terms of market impact as well as brokerage and other fees. Furthermore, the fact that illiquidity tends to be greatest in bad times contributes to the riskiness of the asset class. For instance, Masters (2002) estimates that the Alliance Bernstein emerging market funds incurred transaction costs of 3.6% to buy and sell the average emerging market stock over the period 1996-2000. Masters also provides evidence that spreads are correlated with market volatility, expanding during the Asian crisis. The combination of beta and illiquidity risks suggests that a higher return might not only be expected from emerging markets, but is also required. We provide a keener focus on the trade-off between risk and return in Part C.

Sometimes, the belief is expressed that high expected earnings and economic growth rates will generate higher returns. While strong growth may be positive in its own right, it does not guarantee high returns to shareholders. Growth rates are part of a complex investment equation. Equity returns are also heavily influenced by aspects such as changes in discount rates; whether earnings exceed what is already discounted in the market; and whether growth occurs in conjunction with attractive returns on investment. Furthermore, history contains many cautionary

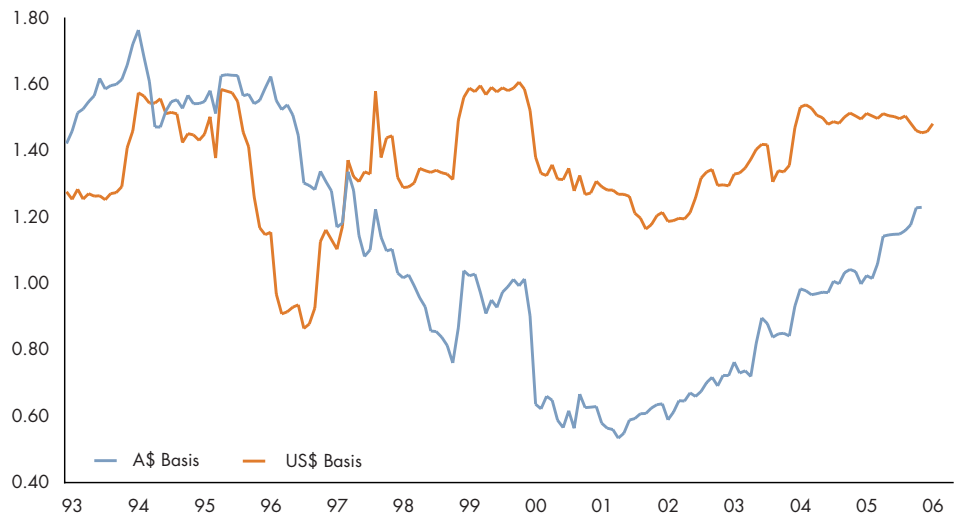
signs for investing purely in pursuit of raw growth. The well-known historic underperformance of growth versus value stocks is a case in point. The Asian boom of the mid-1990s and the TMT bubble of the late-1990s arose from a singular focus on headline growth rates, while inadequate returns were being achieved on invested funds. Both ended in tears. Finally, there is no clear evidence that high economic growth rates are necessarily associated with high equity returns over time.[8]

Argument 2: Implications of Correlation with the A$

Part A raised the possibility that a positive correlation between relative returns on emerging market and the A$ might reduce the risk in substituting emerging markets for world equities from the perspective of an Australian investor. Figure 8 illustrates this concept by comparing 5-year rolling beta estimates for emerging markets versus world equities ex Australia in US$ terms and in A$ terms. The beta on world equities has been considerably lower in A$ terms than US$ terms, averaging 1.08 versus 1.36 over the entire period. This result derives from the differential correlations with the A$ for world equities and emerging markets. The difference in alternative beta estimates emerges from 1997, after which the beta averages 0.88 in A$ terms versus 1.38 in US$ terms.

The implication is that substituting a portion of a world equity weighting with emerging markets can have much less of an impact on equity beta exposure for an A$-based investor than a US$-based investor. Furthermore, if emerging markets are priced by global investors to generate high returns in accordance with their high US$ beta, then A$-based investors might expect to receive a reduction in risk without a commensurate reduction in expected returns. In other words, A$-based investors may be uniquely positioned to achieve returns in excess of that required to compensate them for risk from their perspective. This possibility strengthens the case for emerging markets exposure from an Australian perspective.

FIGURE 8 **Beta of Emerging Markets on World Equities in A$ versus US$**
Rolling 60-month betas, based on summing coincident and 2 lagged coefficients



Source: Russell

[8] See Ritter (2005).

Argument 3: Diversification Benefits

Another common argument is that adding asset classes brings diversification benefits by improving the risk/return trade-off of the portfolio. Whereas this argument is generally true, it is in fact weak with respect to emerging markets. The basic principle is that adding any asset that is less than perfectly correlated with other assets will usually reduce portfolio variance for a given expected return. However, the degree of improvement depends on correlation. The problem is that emerging markets as a group[9] are highly correlated with other equities. Historically, emerging markets appeared to be moderately correlated with developed market equities.[10] However, more recent evidence points to high and increasing correlations.

Figure 9 plots the 5-year rolling return correlation of MSCI Emerging Markets with MSCI World ex Australia, and an indicative balanced A$-based portfolio (comprising 70% equities, 30% fixed income). Correlations with both world equities and the indicative portfolio have moved up from approximately 0.50-0.60 in the 1990s to 0.75-0.85 over the past 5 years. Furthermore, if the beta of emerging markets is sufficiently high, one-for-one substitution for world equities might actually boost overall portfolio variance.[11] This is confirmed by analysis appearing in Part C.

FIGURE 9 **Correlation of Emerging Markets with Other Assets**
Based on rolling 60-month windows of A$ returns

* Portfolio comprises:
35% Australian equities 35% World equities (50% hedged)
13% Australian bonds 10% World bonds (100% hedged) 7% Australian cash

Source: Russell

[9] Treatment of emerging markets as a group is justified in the context of asset allocation, where the investor might be concerned with the attributes of the broad asset class within a portfolio. Greater diversification benefits may appear if the underlying countries/securities were considered separately.

[10] Correlation was probably understated earlier in the sample period, reflecting impact of serial correlation that differs between the series.

[11] The ultimate impact on portfolio variance depends on the structure of the total portfolio.

An investor, however, may be influenced by other considerations in practice. The volatility of emerging markets implies scope for large return differentials versus other equities. For instance, return differences of over 15% p.a. over 3-year rolling periods have been relatively common. In deciding their exposure, investors may want to take into account competitor risk or possible regret from having either minimal or relatively high weightings in times of extreme performance. How an investor responds to these issues ultimately depends on their objectives and particular definition of 'risk'.

Argument 4: Broadening the Investment Opportunity Set

Emerging market equities are commonly thought to broaden the investment opportunity set, thereby increasing the potential for return enhancement through access to new investments. Specifically, participating in emerging markets widens the range of opportunities for both stock and country selection. We consider this argument as playing a supporting role, but not as a major driver.

At the stock level, emerging markets provide access to new companies, leaders in dynamic industries, and companies with high profitability and earnings growth. For example, Samsung in Korea is a leader in consumer electronics; Infosys in India is the leading and most profitable IT outsourcing company; and Teva Pharmaceutical in Israel is the world's leading generic drug manufacturer. These types of companies can offer growth potential through increased global demand for their goods and services and expanding operations. In addition, there are many less well-known locally-oriented companies that may benefit from rapid earnings or economic growth in their home countries and deliver higher returns to equity.

At the country level, emerging markets can be distinguished from developed markets by the dominance of country over sector effects in determining returns.[12] This suggests significant opportunities to add value by country selection.

Nevertheless, we are reluctant to assume that a broader opportunity set brings automatic benefits. More choice is only of real value if opportunities can be effectively exploited. Fortunately, the discussion that follows provides reasons to believe that active managers can generate meaningful alpha from the emerging market universe.

Argument 5: Alpha Opportunities

The argument that emerging markets provide an attractive source of potential alpha is one we endorse for two reasons. First, evidence exists that active managers have been able to exploit the relative inefficiency and broad opportunity set offered by emerging markets to generate solid risk-adjusted excess returns. Second, this alpha has a low correlation with other equity-based alpha sources.

The notion that emerging markets are relatively inefficient depends on several features, including less sell-side analyst coverage, more insiders, markets that are often private-client driven, short-selling constraints, lower standards of regulation, and differences in currency and sovereign risk across emerging markets. On the other hand, it is possible that the 'outsider' status of global fund managers and higher costs of trading and research may hamper the ability to capture opportunities.

On the basis that the proof of the pudding is in the eating, we now examine historical manager performance.[13] Alpha generating capacity can indeed be detected in the data, but the story has a few wrinkles.

[12] See Chen et al (2006).

[13] In considering the evidence presented, bear in mind that manager universes are not investable and can be distorted by data issues such as survivorship and back-filling biases.

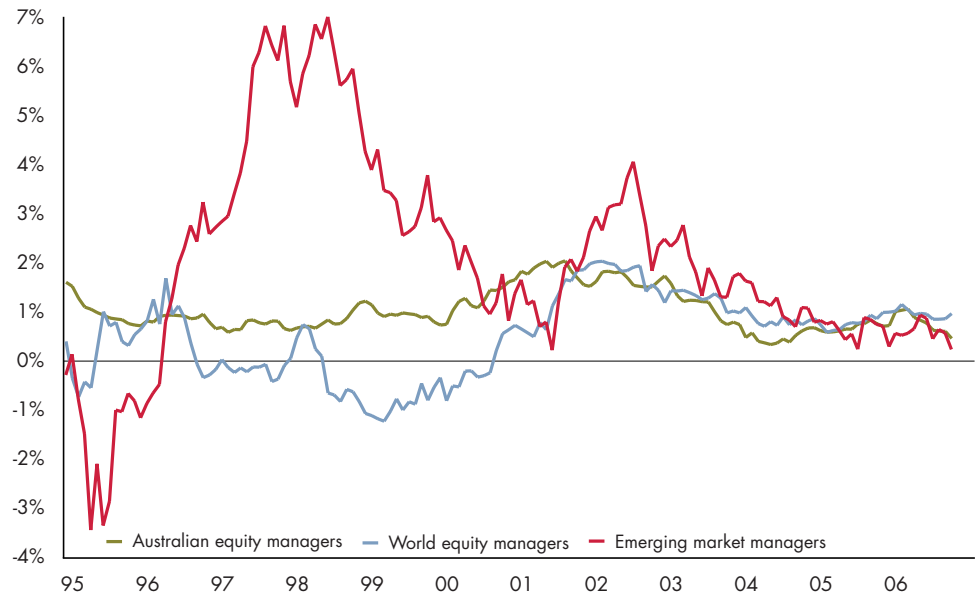
Excess returns using representative manager universes appear at first glance to be supportive for emerging market managers. Our analysis commences from March 1992, when returns become available for 10 emerging market managers in the database.[14] Average compound excess returns for the median manager over the period from March 1992 to December 2006 appear below. As these figures report gross returns, some account should be made for the fact that management fees are typically higher in emerging markets (by around 50bps-60bps[15]).

Median manager excess returns over benchmark (before fees and taxes; Source – Mercer):

- Emerging market managers 1.74% p.a.
- World ex. Australia managers 0.56% p.a.
- Australian equity managers 1.01% p.a.

The question arises as to how manager returns have evolved, particularly given that emerging markets might have become more efficient through time. Figure 10 plots 3-year rolling annualised excess (i.e. active) returns for the three manager universes. The chart reveals that excess returns from emerging market managers are the most volatile, and appear to have faded over time. Raw excess returns do not account for risk. We show next that allowing for risk makes a difference.

FIGURE 10 **Time Series of Median Manager Excess Returns**
Based on rolling 36-month windows of annualised returns versus benchmark



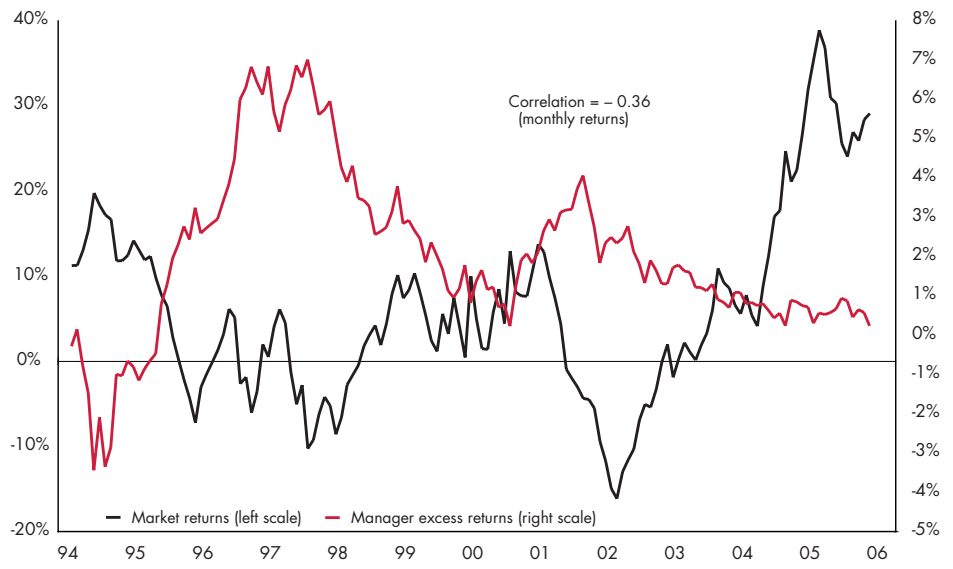
Source: Mercer

[14] The database contains 3 managers prior October 1991, building to 27 managers by December 2006.

[15] Currently an indicative management fee on emerging market funds is around 120bps, versus 60bps-70bps for world equity funds.

Figure 11 plots the median excess returns for emerging market managers against returns on the MSCI emerging market index. A negative correlation is clearly evident, with an estimated coefficient of -0.36. Such a negative correlation could arise for two reasons. First, emerging market managers may be running lower beta portfolios, either due to inclusion of cash or the type of stocks favoured. Second, emerging market managers may be better at stock picking in bear markets than bull markets. Either way, use of active managers has reduced the risk associated with investment in emerging markets.

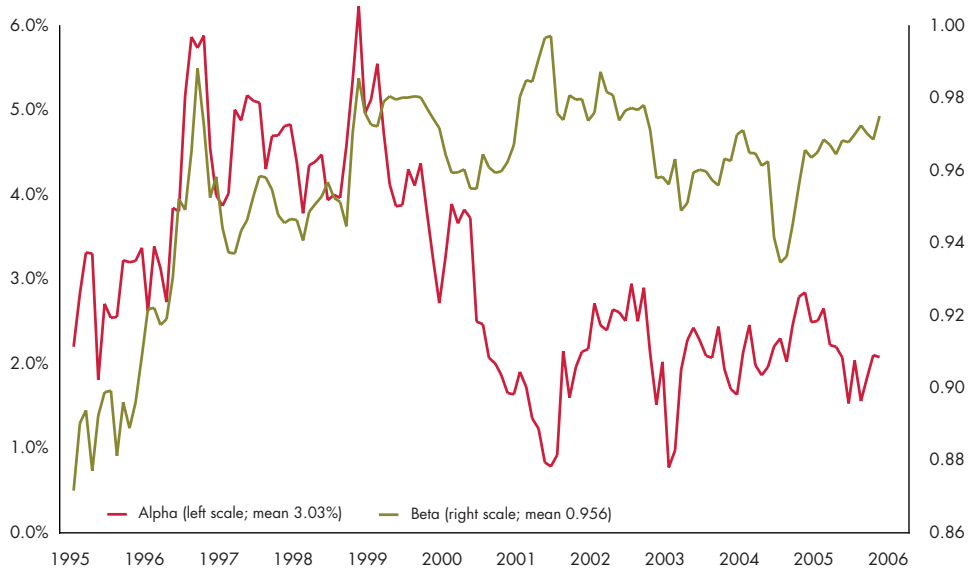
FIGURE 11 **Emerging Markets: Manager Excess Returns vs MSCI Index**
Based on rolling 36-month windows of A$ annualised returns



Source: MSCI, Mercer, Russell

Figure 12 provides further insight on the role of risk. Plotted are time series of median beta and risk-adjusted alpha estimates for the emerging market manager universe, as viewed from an Australian perspective. Estimates are calculated by regressing manager returns versus emerging market returns in A$ terms over 48-month rolling windows (36 months minimum data required).[16] Beta estimates confirm that emerging market managers do indeed have a low beta relative to their benchmark, with an average of 0.956 over the entire period. More importantly, estimated risk-adjusted alpha averages 3.03% p.a. over the period and remains positive over all 3-year rolling periods. While there is some evidence of reduced alpha through time, since 2001 the estimates averaged 2.2% p.a. and are mostly contained within the 1% – 3% p.a. range. This amounts to a meaningful contribution of around 1% p.a. after management fees. Allowing for the fact that each estimate in the time series is based on 4-years of historical data, these results suggest that active emerging market managers have been able to consistently generate attractive returns after adjusting for both risk and fees over the last 15 years.

FIGURE 12 **Emerging Markets: Median Manager Alpha and Beta Estimates**
Based on regressions using 48-month rolling windows of returns

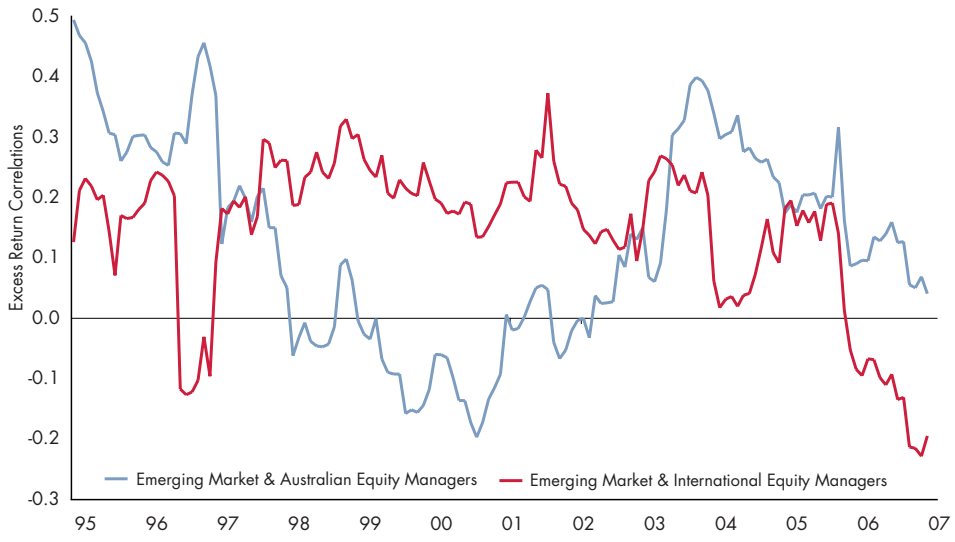


Source: Mercer, Russell

[16] Estimation over 48 months was used, as this is considered a reasonable period for regression-based analysis.

As well as the magnitude of alpha, investors should also consider the correlation with other alpha sources. Figure 13 indicates that simple excess returns for emerging market managers have had fluctuating but generally low correlations with excess returns from both world and Australian equity managers. Thus, the alpha arising from emerging market managers has not only been positive, but also provides a means of diversifying of equity-based alpha sources.

FIGURE 13 **Correlation of Manager Excess Returns**
Rolling 36-month windows of median manager returns less benchmark



Source: Mercer, Russell

Argument 6: Current Prospects

A final argument for (or against) exposure to emerging markets relates to the issue of whether the immediate outlook is positive (or negative). While Russell has misgivings over the wisdom of tactical asset allocation, a few observations may nevertheless be of interest to some readers. From an implementation perspective, none of the points raised below should distract from moving immediately towards any target allocation to emerging markets.

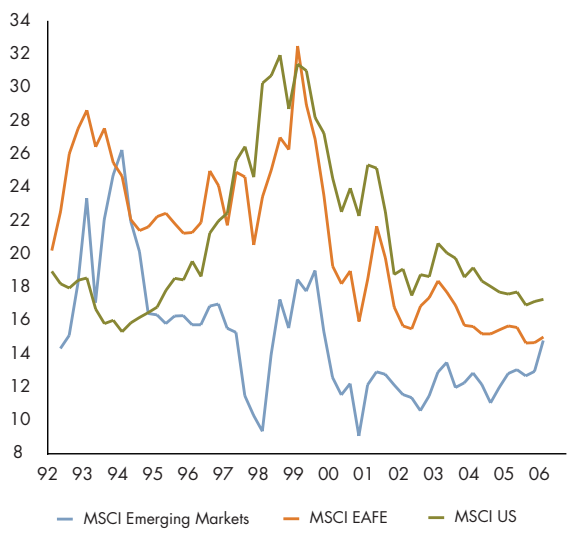
Three broad considerations might be taken into account in evaluating current prospects for emerging markets:

1. Potential for shifts in the investment environment, particularly the global economy, world markets, and investor risk appetite;
2. Relative valuation;
3. Impact of structural reforms in emerging market economies.

Our focus will be placed on the role of structural reform, as it borders on a strategic rather than tactical issue. With respect to the overall investment environment, many readers will have their own views. However, Russell currently has a positive outlook for equity markets.[17] With respect to valuations, no clear signal arises in our view. As shown in Figures 14 and 15, emerging market equities have appeared relatively cheap over most of the last 10 years based on simple aggregate valuation measures such as P/E ratios and Price/Book Value. While this is no longer the case, neither do emerging markets appear obviously expensive.

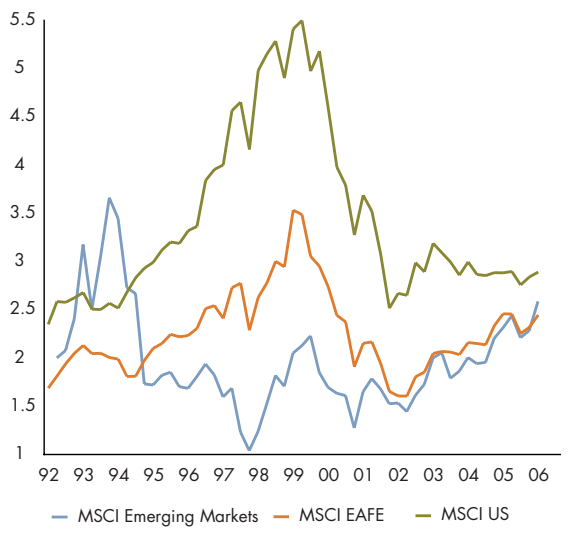
There is a solid case to expect the ongoing benefits from structural reform to underpin emerging market equities. The pace of structural reforms increased tremendously following the crises of the mid-1990s. Reforms have included financial liberalisation, inflation stabilisation, privatisation, and improved capital allocation and corporate management.

FIGURE 14 **P/E Ratios (excluding negative earnings)**



Source: MSCI

FIGURE 15 **Price/Book Value**



Source: MSCI

[17] See "Russell Market Barometer", April 2007.

Several academic studies have shown that these reforms have led to higher returns without increasing market volatility. Reforms and their effects are briefly discussed below.

- **Financial liberalisation** – This is evidenced by the opening up of equity markets and relaxed restrictions on foreign investment and ownership. Such changes bring benefits from international sharing of risk and lower cost of capital, which can help stimulate domestic investment and push equity prices higher.[18]

- **Privatisation** – Increasing privatisation in developing countries over the last few decades has injected more competitive forces into the system; helped to increase operational efficiency and profitability; and stimulated capital investment, output and employment.[19]

- **Inflation stabilisation** – Programs to control inflation may reduce output and growth in the short term, but provide macro stability and improve economic growth in the long run. Henry (2002) shows that for countries with inflation rates greater than 40% p.a., successful implementation of an inflation-stabilisation plan increased stock market returns.

- **Improved capital allocation and corporate management** – Previous crisis episodes were rooted in mis-allocation of capital, either associated with twin deficits (e.g. Mexican crisis), or large capital inflows and buoyant financial markets that accommodated unsound investments (e.g. Asian crisis). The ultimate consequences were debt-related problems, capital outflows, market corrections, and currency and balance of payments crises exacerbated by inflexible exchange rate systems. In recent years, emerging economies have been more disciplined in allocating capital. Their corporations have been progressively shifting attention from expansion toward profitability when making capital investment decisions. There has been a gradual spread of improved corporate governance, accounting disclosure, and legal structures.

According to the International Monetary Fund, global capital flows can increase economic growth and reduce economic volatility if countries have good quality institutions and governance, maintain fiscal discipline and macro stability, and adopt a relatively flexible exchange rate regime.[20] Further, for countries that have a lower proportion of state owned firms, better informational efficiency in stock markets, and stronger protection of minority shareholder rights, financial markets can increase the efficiency of capital markets and improve growth and stability of the real economy.[21]

Structural reforms have a number of implications for investors. Most importantly, they reduce risk by limiting the probability of crisis. They can also improve prospects for attractive returns during the transition period, as the beneficial effects are gradually felt in areas like improved profitability and lower cost of capital. After the transition is complete, markets may attain a state of lower risk and lower expected returns. On the basis that emerging markets still appear in transition with respect to structural reforms, investors may look forward to dual benefits from both lower risk and potentially improved returns.

Part B in Summary

Six arguments for investing in emerging markets have been considered from an Australian perspective. Three were deemed strong, including: (a) capturing a return premium related to beta and illiquidity risk; (b) the enhancement of the risk/return profile that arises from the relation between emerging markets and the A$; and, (c) access to attractive alpha opportunities. Two arguments were judged as playing a supportive role; including broadening of the opportunity set and the current outlook. The benefits of structural reform were highlighted in the latter case. On the other hand, diversification arguments were considered to have limited relevance, given the high correlation between emerging markets and world equities. Indeed, a straight switch of emerging for developed world equities is more likely to increase than reduce overall portfolio risk.

[18] Bekaert and Harvey (2000) and Henry (2000a and b) and Kim and Singal (2000) provide a comprehensive study across the global emerging markets that have experienced financial liberalisation.

[19] Boubakri and Cosset (1998) use 79 companies in 21 countries from 1980 to 1992 to show all these benefits.

[20] Prasad, Rogoff, Wei, and Kose (2004) provide detailed explanations and empirical support. Also see Johnson et al (2000).

[21] See Wurgler (2000) for the evidence.

PART C:
Investment Considerations

Finally, we consider the issue of allocating a portion of the portfolio to emerging markets. The discussion and supporting analysis occurs from the perspective of an Australian investor with a representative balanced portfolio comprising 70% equities and 30% fixed income. Our recommendation is that above benchmark allocations to emerging markets be contemplated, providing that the investor believes emerging markets can generate returns of at least 1% – 2.5% p.a. above developed market equities. In our view, excess returns greater than 2% p.a. are achievable over the longer run in light of evidence presented in Part B. In particular, additional returns might be expected in the longer run of well over 1% p.a. in compensation for additional equity beta and illiquidity risk. Further contribution of 1% p.a. can also be expected from alpha. We propose that emerging markets should be addressed within the overall allocation to world equities, and accessed via a portfolio of specialist active managers. Exposure might be left unhedged to benefit from the correlation with the A$; although how this issue is approached will depend on the hedging policy within the context of the existing portfolio.

Key Considerations for the Portfolio Decision

Russell has long recommended incorporating judgment and experience in deciding asset allocations, given the unreliability of optimisers that are highly sensitive to inputs over which there is much uncertainty. [22] In the case of emerging markets, the following considerations seem most relevant in deciding any allocation:

- Emerging markets clearly act as an equity sub-class. They may be considered as a 'second stage' allocation within the context of the overall weighting to world equities, under Russell's 'two-stage' portfolio formation process. [23]
- Emerging markets should be approached as a high beta equity sub-class that offers little in the way of risk reduction. The allocation decision should focus on the question of whether expected returns are sufficient to justify the additional risk.
- The positive correlation between relative returns to emerging markets and the A$ provides Australian investors with prospects for enhanced risk-adjusted returns. This aspect should induce a bias towards holding generous weightings. Implications for hedging depend on the approach to hedging, and will be discussed further below.
- Prospects for positive alpha contributions that are lowly correlated with other sources of alpha argue for the use of specialist active managers. Alpha can be viewed as an additional source of return that provides part of the justification for adopting additional risk.

Some exposure is justified by the above points and the discussion and analysis appearing in Part B. The key issues are the magnitude and structure of any exposure. These will be addressed after an examination of emerging markets within a broader portfolio context.

Emerging Markets in a Portfolio Context

Asset classes should be considered in a broader portfolio context to appreciate their implications for overall investment performance. To set the backdrop, Table 5 reports correlation estimates for selected asset classes. Historical data reveals a high correlation between emerging markets and both world and Australian equities, especially over the last 10 years. This reinforces the argument that emerging markets should be considered as an equity sub-class. A negative correlation with world bonds is also observed, and is particularly marked over the last 10 years.[24]

[22] See Donald (2006) for a summary of Russell's core investment beliefs, in particular "belief #3" for papers on asset allocation under parameter uncertainty.

[23] See Ansley (2004).

[24] Russell correlation assumptions broadly line up with data over the longer 1989-2006 time horizon, except for some differences in assumed correlations between various bond and cash sub-classes.

TABLE 5 | **Asset Return Correlations**
Historical estimates based on monthly A$ returns

Panel A: Historical, 1997-2006	**EM**	**WE (UnH)**	**WE (H)**	**AE**	**WB (H)**	**AB**	**AC**
10 years							
Emerging Markets	1.00						
World Equities - Unhedged	0.65	1.00					
World Equities - Hedged	0.73	0.79	1.00				
Australian Equities	0.69	0.52	0.71	1.00			
World Bonds - Hedged	-0.29	-0.27	-0.27	-0.13	1.00		
Australian Bonds	-0.05	-0.05	-0.09	0.07	0.70	1.00	
Australian Cash	0.02	0.12	-0.02	0.09	0.17	0.32	1.00
Panel B: Historical Data, 1989-2006							
19 years							
Emerging Markets	1.00						
World Equities - Unhedged	0.60	1.00					
World Equities - Hedged	0.64	0.78	1.00				
Australian Equities	0.56	0.48	0.66	1.00			
World Bonds - Hedged	-0.05	0.09	0.04	0.07	1.00		
Australian Bonds	0.04	0.10	0.08	0.25	0.68	1.00	
Australian Cash	0.01	-0.05	-0.05	-0.09	0.22	0.36	1.00

Source: Russell

The implications for an indicative Australian portfolio are now investigated. The analysis focuses on the hypothetical impact on a balanced portfolio that would have arisen historically from substitution of emerging markets exposure for a slice of the world equity weighting.[25] Such an approach is useful to the extent that the historical covariance matrix will remain relevant in future. The baseline portfolio comprises a 70% equity weighting (35% Australia plus 35% world, of which 50% is hedged), and 30% in bonds and cash. The hedge ratio amounts to 61% of overseas assets for this portfolio.

Table 6 reports the impact on portfolio return and standard deviation that would have resulted over the last 5, 10 and 15 years at differing emerging market allocations. Alternative estimates are provided based on substitution of emerging markets for the unhedged (panel A) and hedged (panel B) component of world equities. Figure 16 plots the results. Over all time periods, both the mean and standard deviation of returns increase with the allocation to emerging markets. The increase in standard deviation is smaller when emerging markets are substituted for hedged world equities, as this maximises the risk reduction benefits of the correlation with the A$.[26] This hypothetical exercise reinforces the point that a simple one-for-one substitution of emerging markets for developed world equities moves the total portfolio out along the risk/return spectrum.

[25] The estimates assume end-month rebalancing, and asset returns in line with benchmarks. Any results are hence indicative only, and do not represent an investable strategy.

[26] This issue is discussed under the "hedging implications" section further below.

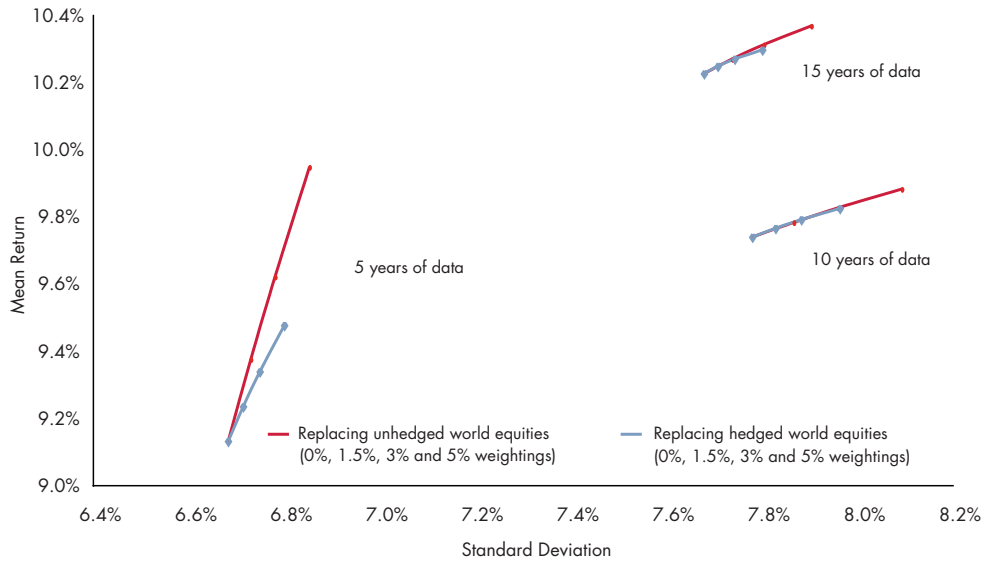
TABLE 6 **Portfolio Returns at Varying Emerging Market Weightings**
Based on substituting emerging markets for world equities

% in Emerging Markets:	0%	1.5%	3%	5%
Panel A: Replace Unhedged World Equities				
5 Years to December 2006				
Return (pa)	9.13%	9.37%	9.62%	9.95%
Standard Deviation (pa)	6.68%	6.73%	6.78%	6.85%
10 Years to December 2006				
Return (pa)	9.74%	9.78%	9.82%	9.88%
Standard Deviation (pa)	7.78%	7.87%	7.96%	8.09%
15 Years to December 2006				
Return (pa)	10.22%	10.27%	10.31%	10.37%
Standard Deviation (pa)	7.68%	7.74%	7.81%	7.90%
Panel B: Replace Hedged World Equities				
5 Years to December 2006				
Return (pa)	9.13%	9.23%	9.34%	9.47%
Standard Deviation (pa)	6.68%	6.72%	6.75%	6.80%
10 Years to December 2006				
Return (pa)	9.74%	9.76%	9.79%	9.82%
Standard Deviation (pa)	7.78%	7.83%	7.88%	7.96%
15 Years to December 2006				
Return (pa)	10.22%	10.25%	10.27%	10.30%
Standard Deviation (pa)	7.68%	7.71%	7.74%	7.80%

Baseline Portfolio: 35% Australian equities; 35% world equities (50% hedged); 13% Australian bonds; 10% world bonds (100% hedged); 7% Australian cash

Source: Russell

FIGURE 16 **Portfolio Return & Risk at Differing Emerging Market Weights**
With emerging markets substituted for world equities

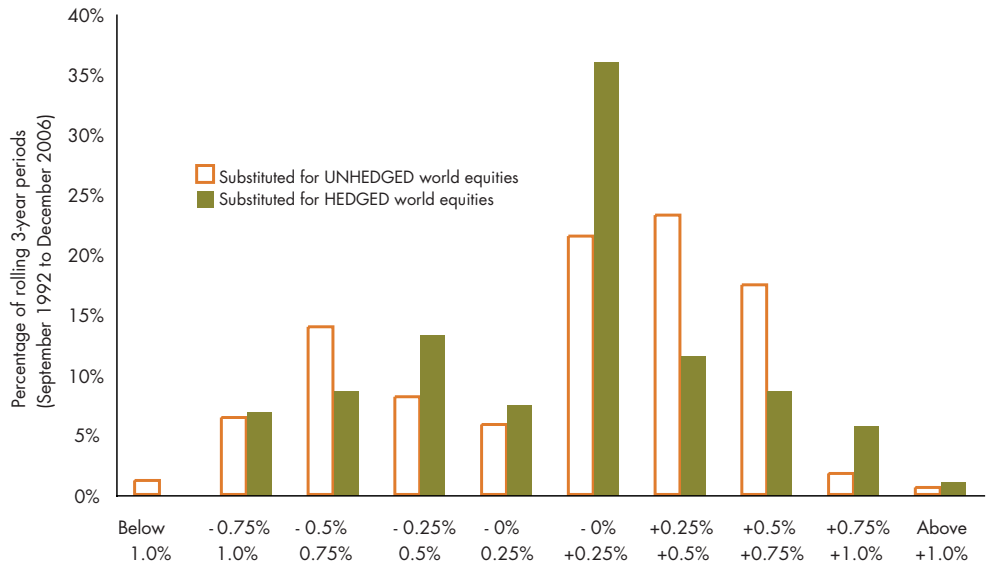


Source: Russell

Figure 17 develops a keener focus on the portfolio implications by plotting a histogram of the *difference* in 3-year rolling returns between portfolios with 3% and 0% emerging markets weighting. Two series are shown, with emerging markets substituted for unhedged and hedged world equities respectively. As the estimates are based on 3-year rolling return series beginning in 1992, they encapsulate the period of poor emerging markets performance from mid-1990s to early-2000s. Examining the entire distribution provides a perspective on marginal risk that looks beyond standard deviation.

The great bulk of the distribution plotted in Figure 17 is contained within the range -1% to +1%. It demonstrates moderate negative skewness, which is more pronounced when emerging markets are substituted for unhedged world equities. This analysis implies that a 3% emerging market weighting might be expected to alter 3-year rolling annualised returns for a total portfolio by up to ±1% on occasion. Whether this is an acceptable deviation from the baseline portfolio depends on the investor.

FIGURE 17 **Impact of Emerging Markets on 3-Year Annualised Portfolio Return**
Based on substituting 3% of portfolio into emerging markets from world equities



Source: Russell

So far the analysis has been based on historical returns without adjustment. We strongly suspect that the 6.0% return differential between emerging markets and world equities will not be sustained in the future. Rather than attempt a direct forecast of expected returns, we turn around the analysis to estimate the return hurdle that emerging markets must exceed to deliver a similar risk/return profile to the baseline portfolio. The specific question we ask is: *"what additional return must emerging markets deliver in excess of world equities to ensure an unchanged Sharpe ratio?"*

Again, our estimates are based on a 3% allocation to emerging markets funded out of world equities, using the same baseline portfolio weights as previous. Monthly return data over both 10 years and the full available series (commencing October 1989) was used to form alternative sets of estimates. Implicitly, the analysis assumes that the historical covariance matrix over these periods is representative. Results are reported in Table 7.

The additional returns that emerging markets would need to generate in excess of world equities ranges from 1.0% to 2.6% pa, depending on the time period and whether substitution is made for unhedged or hedged world equities. The hurdle is lowest when emerging markets are substituted for hedged world equities. In the latter case, additional returns of approximately 1% – 1.5% p.a. are required. In contrast, higher return hurdles in the 1.5% – 2.6% p.a. range emerge where the substitution is made for unhedged world equities.

Reaching the Return Hurdle

Table 7 suggests an allocation to emerging markets is justified provided that returns of 1% – 2.6% p.a. in excess of world equities can be foreseen. Excess returns of this magnitude could be achieved over the longer term as follows:

- **Compensation for risk** – Investor might expect returns in well excess of 1% p.a. versus developed world equities as compensation for risk. A beta of 1.36 versus world equities suggests additional returns of 1.1% p.a. at an equity risk premium of (say) 3.0%. Further compensation might be expected for illiquidity risk, although the exact magnitude is hard to predict with any confidence. Expected excess returns in the order of 1.5% p.a. seems a reasonable estimate.

- **Alpha contribution** – Annualised alpha contribution of (say) 3% gross and 1% relative to world equities net of costs seems attainable. The analysis in Part B focused on median active manager returns. Recall that emerging market managers have sustained alpha of about 2% p.a. over recent years (adjusted for beta risk).[27] Furthermore, they historically outperformed world equity managers by around 1.2% p.a. in gross

TABLE 7 **Required Excess Returns on Emerging Markets for Unchanged Sharpe Ratio**
Based on hypothetical substitution for world equities using historical data

Assumed Portfolio Re-Allocation			Required Excess Return: Emerging Markets – World Equities	
Emerging Markets Unhedged	World Equities		10 Years Data (Jan '97 – Dec '06)	Full Sample (Oct '89 – Dec '06)
	Unhedged	Hedged		
+3.0%	-3.0%		2.6%	1.5%
+3.0%	-1.5%	-1.5%	2.0%	1.3%
+3.0%		-3.0%	1.4%	1.0%

Baseline Portfolio: 35% Australian equities; 35% world equities (50% hedged); 13% Australian bonds; 10% world bonds (100% hedged); 7% Australian cash

Source: Russell

[27] Based on this approach (i.e. adjusting for beta risk, using rolling 48 month regressions), median alpha for emerging market managers exceeded that for world equity managers by an average of 1.85% p.a. since 1996. While the alpha differential fluctuates through time, it has been relatively stable around 1% p.a. since 2004.

terms, although the management fee differential is 0.5% – 0.6% p.a. Manager selection might further augment returns. The fact that emerging market managers have relatively high tracking error and operate in comparatively inefficient markets enhances the scope for value-add from good manager selection.

In sum, additional returns of well above 2% p.a. from emerging markets seem acheivable from a combination of risk compensation and alpha contributions. Such returns should more than account for the additional risk, especially if allowance is made for risk reduction benefits arising from correlation with the A$.

Deciding the Allocation to Emerging Markets

We propose that investors address the allocation to emerging market equities within the context of the overall weighting towards world equities, in accordance with the Russell 'two-stage' approach to asset allocation. In the first stage, the optimiser or other techniques are used to model the investor's objectives, liabilities, and cash flow constraints to decide the weights for traditional asset classes such as Australian equities, world equities and fixed income. A portion of world equity weighting is then allocated towards emerging markets as part of the second stage. The benchmark weighting of emerging markets in the total world equities universe might be used as a guideline. This is currently about 8.5% (ex Australia).[28] The exact percentage allocated to emerging markets will depend on aspects specific to the investor, such as risk aversion, competitive considerations, and any particular view of the investment outlook.

We believe our analysis justifies some allocation to emerging markets by almost all investors. Aggressive investors with either longer time horizons or a positive view of return prospects might consider weightings in excess of the benchmark. More conservative investors may be concerned about the increase in overall portfolio risk that comes with emerging market exposure. For such investors, we offer an alternative suggestion that deviates from the strict demarcation along world equity lines. The impact on overall portfolio risk could be neutralised by balancing the allocation to emerging markets with a more than proportionate reduction in world equities, applying the difference to world bonds. The latter exploits the negative correlation with world fixed income to control overall portfolio risk. Calculations based on historical data suggest that funding an allocation of +x to emerging markets with a reduction of –1.2x to –1.4x in world equities plus a +0.2x to +0.4x addition to world bonds[29] should result in an approximately unchanged portfolio standard deviation. It also leaves a small increment of 5-10bps to portfolio returns.[30]

Another issue is whether to adopt a fixed allocation, as opposed to an allocation tied to benchmark weightings of emerging markets in the world equity universe. We offer no strong recommendation, leaving it to investor preference. This issue is complicated by the possibility that benchmark weightings can fluctuate significantly, and that these fluctuations can occur for both 'good' and 'bad' reasons. The current weighting of about 8.5% compares with a 7-year average of 5.5%. Looking forward, this weighting might receive a boost from continued privatisation, relaxation of foreign investment restrictions, and general expansion in emerging economies and financial markets – especially from places like China and perhaps India. This suggests a case for tracking benchmark weightings to maintain proportional exposure to a growing part of the investment universe. On the other hand, benchmark allocations can inadvertently lead to return chasing – investing too much when returns are high and too little when returns are low. A fixed allocation can help protect against this risk. While we offer no strong recommendation, either way the weighting scheme should be regularly reviewed.

[28] To place the previous analysis in context, note that 8.5% of a 35% allocation to world equities is about 3% of the total portfolio.

[29] As an example, a +3% allocation to emerging markets leads to an approximately neutral impact on portfolio standard deviation if associated with decrease in developed world equities by –3.6% to –4.2%, and addition to world bonds of +0.6% to +1.2%.

[30] The exact results depend on the magnitude of weightings involved, whether emerging markets are substituted for hedged or unhedged world equities, and the period on which the analysis is based.

Hedging Implications

The interplay between hedging policy and emerging market exposure gives rise to complex issues. Some background may be helpful. Ideally hedging policy should be decided in a total portfolio context. The theoretical position under mean-variance portfolio theory is that currency can be effectively treated as an additional asset class, with the optimal hedge ratio arising as a function of expected returns from hedging and the covariance of currency with respect to the zero exposure (i.e. fully hedged) portfolio.[31] From this theoretical perspective, the addition of emerging markets can impact on the optimal hedge ratio via altering the covariance of the A$ with the overall portfolio. Given the positive correlation between relative returns for emerging markets and the A$, a reduction in the optimal hedge ratio results from substitution of emerging markets for world equities using historical data.[32]

However, this theory is rarely followed in practice. Indeed, Russell has traditionally viewed the theoretical approach as unreliable due to the high sensitivity of hedge ratio calculations to parameters over which there is considerable uncertainty.[33] It is more typical to follow general rules such as full hedging of bonds, and partial hedging of equities. Analysis presented earlier was based on such a portfolio. The analysis generated the result that the risk/return trade-off was most improved if *unhedged* emerging markets were substituted for *hedged* world equities. This result arose because the effective reduction in hedging shifted the assumed portfolio towards a more efficient position.[34]

What does this mean for investors, and how they should respond? Much depends on how hedging policy is currently formulated, and whether the historical covariance matrix is likely to remain relevant looking forward. Investors may consider substituting unhedged emerging markets exposure for hedged world equity exposure if they: (a) have the latitude to so; (b) start with a similar portfolio structure to that in our analysis; and (c), believe that historic correlations will persist. Not everybody will be in this position. Other investors may find it more convenient to maintain current practices, particularly when dealing with changes to only a modest slice of the portfolio like 3% or so. Maintaining current practice may involve proportionately funding any increase in emerging markets exposure from hedged and unhedged world equities; or simply retaining the existing hedge ratio, whether defined with respect to the total equity component or the overall portfolio. In any case, investors who set hedging policy for individual asset classes should leave emerging markets currency exposure unhedged if at all possible (at least on the upside, as occurs under dynamic hedging for instance).

Manager Selection

Part B provided evidence for attractive alpha opportunities in emerging markets, coupled with the notion that active managers might assist in controlling downside risk. Together these features present a solid case for using active managers. One related issue is whether investors should direct their international managers to make an appropriate allocation to emerging markets, versus hiring specialist emerging market managers. At Russell, our previous research suggests that it is preferable to hire specialist managers for the following reasons:[35]

- Specialist managers are more dedicated to emerging market investing, whereas international managers make opportunistic bets toward emerging market stocks.

[31] See Gardner (1994).

[32] Substitution of 3% emerging markets for 3% world equities exposure reduced the optimal hedge ratio by 2.4% using historical data from 1988-2006, and by 3% using data from 1997-2006. Hedge ratios were re-estimated each month using 60-month rolling covariances and the assumption of zero hedging gain.

[33] See Gardner and Stone (1995).

[34] This occurred for two reasons. First, the introduction of emerging markets reduced the optimal hedge ratio, in accordance with footnote 32 above. Second, the baseline portfolio was at a sub-optimal hedge ratio given the realised covariance matrix over the period of analysis. Hence some of the apparent benefit derives from moving towards a hedge ratio that was more optimal ex post.

[35] See Goff (1998).

- Specialist managers tend to research more stocks in the broader universe than international managers; and are less restricted to ADR/GDR[36] or well-known multinational company names. Russell research shows that international generalists tend to invest in large cap and well-known companies, and these companies are fewer within emerging markets and sectors.[37]

- Country risk is still important in emerging markets[38]. This requires managers to assess the country risk deeply, and add value through country allocation as well as security selection. Specialists are well placed to effectively implement country selection.

- Accessing local markets requires legal and registration processes, managing local personnel, and managing back-offices. Specialist managers are more likely to have dedicated resources and experience to deal with these operational complexities.

Hence emerging market specialists are better placed to exploit the investment opportunity set, given their dedicated resources and deeper knowledge. We also recommend building multi-manager portfolios. Managers with similar alpha levels but different investment processes can be combined to reduce the risk relative to the benchmark, allowing the portfolio to beat the benchmark more consistently. Lin and Briand (2006) conducted 1000 portfolio simulations of one, three, and six manager structures by randomly selecting managers from Mellon Analytical Solution's representative emerging market manager universe from September 1988 to June 2005. With one manager, median annualised tracking error amounted to 8.2%. Tracking error declined to 5.9% as the number of managers increased to three, and to 5.1% for six managers.

The size and structure of an investor's portfolio may influence the path taken. Consideration should be given to whether existing world equity managers are already providing some exposure to emerging markets. Larger investors may look at replacing such exposure with specialist emerging market mandates, possibly topping up their investment in the process. The options can be more limited for smaller investors, where the cost of specialist manager mandates might be prohibitive. In this case, one possibility could be to target generalist world equity managers with solid capabilities in emerging markets, or to purchase a multi-manager fund.

Part C in Summary

We have addressed the issue of including emerging markets exposure within an Australian portfolio. Allocations should be considered in the context of the overall world equity weighting. Our analysis indicates that substituting emerging markets for developed world equities does indeed increase portfolio risk. However, the risk/return profile of a typical Australian portfolio should improve providing that emerging markets can generate returns of 1% – 2.5% p.a. in excess of world equities. In our view, this hurdle is achievable from a combination of risk compensation for higher beta and illiquidity, plus alpha contribution. We recommend using specialist active managers to best access alpha opportunities. Providing fund size permits. Hedging implications depend on the approach to hedging; although there is a case for leaving emerging markets unhedged if decisions are made as asset-by-asset basis. A suggestion is made for risk-averse investors wishing to limit risk to consider funding an allocation to emerging markets with a more than proportional reduction in world equities, applying the balance to world bonds.

[36] American Deposit Receipts and Global Deposit Receipts respectively.

[37] See Briand and Lin (2005).

[38] Chen et al, 2006

References

Ansley, Craig. 2004. "How To Make Prudent and Profitable Decisions, " *Russell Research Commentary.*

Barry, Christopher B., John W. Peavy III, and Mauricio Rodriguez. 1998. "Performance Characteristics of Emerging Capital Markets," *Financial Analysts Journal,* Vol. 54, No. 1 (January/February), pp. 72–80.

Bekaert, Geert, Claude B. Erb, Campbell R. Harvey, and Tadas E. Viskanta. 1998. "Distributional Characteristics of Emerging Market Returns and Asset Allocation." *Journal of Portfolio Management,* Vol. 25, No. 2 (Winter), pp. 102–116.

Bekaert, Geert, and Campbell R. Harvey. 2000. "Foreign Speculators and Emerging Equity Markets", *Journal of Finance,* Vol. 55, No. 2 (April), pp. 565–613.

Boubakri, Narjess, and Jean-Claude Cosset. 1998. "The Financial and Operating Performance of Newly Privatised Firms: Evidence from Developing Countries", *Journal of Finance,* Vol. 53, No. 3 (June), pp. 1081–1110.

Briand, Francois, and Wenling Lin. 2005. "Emerging Market Stocks in EAFE Portfolios," *Internal Memo,* Russell Investment Group.

Chen, Jianguo, Andrea Bennett, and Ting Zheng. 2006. "Sector Effects in Developed vs. Emerging Markets", *Financial Analysts Journal,* Vol. 62, No. 6 (November/December), pp. 40-51.

Dimson, Elroy. 1979. "Risk Measurement When Shares are Subject to Infrequent Trading", *Journal of Financial Economics,* Vol.7, No. 2, pp. 197-226.

Donald, Scott. 2006. "Russell's Core Investment Beliefs", *Russell Research Commentary.*

Gardner, Grant. 1994. "Managing Currency Risk in US Pension Plans", *Russell Research Commentary.*

Gardner, Grant, and Douglas Stone. 1995. "Statistical Estimates of the Normal Currency Hedge Ratio: Best Practice or Best Guess?", *Russell Research Commentary.*

Goff, Adam. 1998. "Emerging Market Equity Investing—Two Key Decisions." *Russell Research Commentary.*

Henry, Peter Blair. 2000a. "Stock Market Liberalisation, Economic Reform, and Emerging Market Equity Prices", *Journal of Finance,* Vol. 55, No.2 (April), pp. 529–564.

Henry, Peter Blair. 2000b. "Do Stock Market Liberalizations Cause Investment Booms?", *Journal of Financial Economics,* Vol. 58, No.1–2 (October/November), pp. 301–334.

Henry, Peter Blair. 2002. "Is Disinflation Good for the Stock Market?", *Journal of Finance,* Vol. 57, No.4 (August), pp. 1617–1648.

Johnson, Simon, Peter Boone, Alasdair Breach, and Eric Friedman. 2000. "Corporate Governance in the Asian Financial Crisis", *Journal of Financial Economics,* Vol. 58, No. 1–2 (October/November), pp. 141–186.

Kim, E. Han, and Vijay Singal. 2000. "Stock Market Openings: Experience of Emerging Economies", *Journal of Business,* Vol. 73, No.1 (January), pp. 25–66.

Lin, Wenling. 2005. "What Is the Proper Market-Cap Weight for Emerging Market Stocks," *Internal Memo,* Russell Investment Group.

Lin, Wenling and Francois Briand. 2006. "Investing in Emerging Market Equities: Rationale and Strategies," *Russell Research Commentary.*

Martinez, Guillermo Ortiz. 1998. "What Lessons Does the Mexico Crisis Hold for Recovery in Asia?" *Finance & Development,* Vol. 35, No. 2 (June), pp.6–9.

Masters, Seth. 2002. "Emerging Markets: Managing the Impact of High Costs", *Journal of Portfolio Management,* Vol. 28, No. 3 (Spring), pp. 96-101.

Patel, Sandeep A., and Asani Sarkar. 1998. "Crises in Developed and Emerging Stock Markets", *Financial Analysts Journal,* Vol. 54, No. 6 (November/ December), pp. 50–59.

Prasad, Eswar S., Kenneth Rogoff, Shang-Jin Wei, and M. Ayhan Kose. 2004. "Financial Globalization, Growth and Volatility in Developing Countries", *Working Paper,* International Monetary Fund.

Ritter, Jay R. 2005. "Economic Growth and Equity Returns", *Pacific-Basin Finance Journal,* Vol. 13, No. 5 (November), pp. 489–503.

Wurgler, Jeffrey. 2000. "Financial Markets and the Allocation of Capital", *Journal of Financial Economics,* Vol. 58, No. 1–2 (October/November), pp. 187–214.

No.1

Global manager of managers

$252 billion

Russell's strength lies in multi-manager investing, with global assets under management of $252 billion

$2.5 trillion

Russell advises clients on the investment of $2.5 trillion worth of assets worldwide

2800

Russell provides investment solutions for 2800 institutional clients in 44 countries

$590,000,000,000

Russell's transition management business transitioned $590 billion in assets in 2006

44

operating in 44 countries around the globe

20/70

over 20 years in Australia and 70 years in business

RUSSELL INVESTMENT GROUP

SYDNEY
02 9229 5111

MELBOURNE
03 9270 8111

www.russell.com.au