

NBIM DISCUSSION NOTE

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Risks and Rewards in Emerging Equity Markets

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We survey the literature on the risks and rewards in emerging equity markets. Drawing on theoretical and empirical arguments, we assess whether a long-term investor should have a strategic allocation to these markets that deviates substantially from the market capitalisation weights.

Main findings

- In a perfect global capital market with identical consumption opportunity sets across countries, all stocks and national equity markets should be priced according to their covariance (beta) with the world market portfolio. In this frictionless model, it is optimal for investors to hold stocks in proportion to their market capitalisation weights, including emerging market equities.
- The model described above, which is sometimes called the international capital asset pricing model (international CAPM), fails to explain the cross-section of international equity market returns and is also inconsistent with the empirical tendency of investors to prefer their home equity market (or countries close and similar to the home market). This could be due to departures from perfect market integration, also called market segmentation.
- The market segmentation literature initially focussed on explicit barriers to investing internationally and the diversification benefits from the removal of those restrictions. The early literature also highlighted that emerging equity market return distributions often exhibit fatter left-hand tails and greater negative skewness relative to developed markets. The differences in these statistical patterns were attributed to currency risks, liquidity, contagion, tail risks and structural breaks.
- Theoretically, these risks should be compensated with higher long-term returns, but data on the realised excess return of emerging versus developed markets is inconclusive and sample-dependent. Over the longest available history, the realised risk premium is not statistically different from zero.
- As explicit international investment restrictions eased over recent decades, implicit impediments to international diversification have received greater attention. In emerging equity markets, investors should pay particular attention to two types of such implicit barriers: the risk of expropriation by the sovereign and corporate insiders. Conventional wisdom may suggest that these risks should be compensated with higher returns. However, there is mixed empirical evidence on whether investors are compensated for taking sovereign risk. Moreover, there are theoretical and empirical reasons to believe that weak investor protection and corporate governance are not rewarded with higher returns for minority investors. Overweighting such risks may also be at odds with an asset owner's preferences for promoting good governance and social and environmental development.
- The theoretical and empirical arguments in favour of a substantive strategic departure from the investable capitalisation-weighted allocation to emerging markets are not strong.

Introduction

According to various survey measures, institutional investors in developed countries have allocations to emerging market assets that are well below the market weights. For example, the 2010 Asset Allocation Survey of the Council of Institutional Investors reports that US institutional portfolios have an average allocation of 3.6% to emerging market equity. This contrasts with the (free-float adjusted) market capitalisation weight in the FTSE Global All-Cap of around 13.2% as of December 2011. Relative to the increasing economic importance, the underweight is even more pronounced as emerging markets and other developing nations contributed nearly 50% to global GDP in 2011 based on purchasing power parity exchange rates. The gap between institutional investors' allocations and market capitalisation weights contradicts an international version of the capital asset pricing model (CAPM) without market frictions where investors hold the world market portfolio (Karolyi and Stulz 2003).

While the international CAPM provides a case for moving a long-term investor's exposure to emerging market equities to market weights, arguments for going beyond that are more difficult to make.

In a separate note, we argue that GDP growth should not be the main driver of regional and country allocations because (1) GDP growth does not necessarily translate into earnings growth and (2) stock prices often reflect growth differentials.

Another rationale for increasing the weight of emerging economies beyond the market capitalisation weight may arise from their imperfect integration into the world capital markets, also called market segmentation. If segmentation is caused by regulations and frictions that affect some investors but not others, there may be scope for the unrestricted investors to capture higher returns. Moreover, emerging markets may offer higher expected returns than developed markets due to higher risks unrelated to the covariance with the world portfolio (Harvey 2011) such as volatility, illiquidity, negative skew, structural breaks, contagion, currency risk, but also political or corporate governance risks.

Again, some investors may have higher capacity to bear those risks and thus have a motivation for taking on more than the market weight exposure. The question we address is whether a foreign minority shareholder, and especially a large one like the Government Pension Fund Global, is in a better position than the average investor to overcome the frictions and bear the risks that cause the market segmentation empirically observed in emerging markets.

The remainder of this note is structured as follows. We start by reporting the historical returns of emerging market equities as an asset class for the longest period for which data are available. Contrary to conventional wisdom, we find that the realised excess return is no higher for emerging markets than for developed markets, which is consistent with the results obtained by Dimson, Marsh and Staunton (2010, henceforth DMS). This is not to say that there are no theoretical reasons to presume that emerging markets should have or require a higher rate of return in the future. A review of the theoretical arguments follow. We take the international CAPM (ICAPM) as the starting point for the pricing of global equity markets. Then, we discuss how market segmentation is invoked to explain empirical deviations from the ICAPM. Segmentation may give rise to risk premia over and above beta risk, and these additional risks are theoretically compensated for with higher returns in the long run. We review various approaches to accounting for the observed segmentation, including expropriation risk emanating from poor sovereign and corporate governance. In that context, we study whether measures of political risk and corporate governance risk can explain the international cross-section of expected and realised equity returns. Lastly, we draw conclusions for the regional equity allocations of the Fund.

Realised returns

The early academic literature pointed to high average returns and volatilities in emerging equity markets. While many emerging countries recorded high arithmetic mean returns, emerging markets as an asset class did not perform significantly better than developed markets over the longest history for which we have data (or even slightly worse depending on how the index is constructed). This finding, which is reported by DMS (2010), and which we reproduce below, is contrary to conventional wisdom. Higher arithmetic mean returns do not translate into buy-and-hold outperformance of emerging over

developed markets due to the higher volatility of emerging equity. In Table 1, this point is illustrated by comparing the annualised arithmetic and the buy-and-hold (geometric) mean return of developed market equities (represented by the MSCI World) with emerging markets (proxied in two different ways).

Table 1: Equity market performance - Developed vs. emerging markets (1976 – Jan 2012)

Markets	Proxy	Mean Return (Arithmetic Average)	Mean Return (Buy and Hold)	Volatility of Mean Return	Two Sample t-test			Wilcoxon signed-rank test		
					EM - DM	t-stat	p-value	W-stat	W-stat Std Dev	p-value
Panel A: 1976 - 2012										
Developed	MSCI World	10.95%	10.27%	14.98%						
Emerging	S&P IFCG + MSCI EM (post 1988)	12.71%	10.53%	22.83%	1.76%	0.31	0.76	3,447	5,211	0.51
Emerging	S&P IFCG + MSCI EM (post 9/2008)	11.14%	9.03%	21.98%	0.19%	0.03	0.97	545	5,211	0.92
Panel B: 1988 - 2012										
Developed	MSCI World	8.04%	7.05%	15.47%						
Emerging	MSCI EM	15.25%	12.95%	24.26%	7.21%	2.12	0.04	6,549	2,844	0.02
Emerging	S&P IFCG + MSCI EM (post 9/2008)	12.89%	10.67%	23.07%	4.85%	1.40	0.16	4,593	2,844	0.11
Panel C: 1999 - 2012										
Developed	MSCI World	4.18%	2.81%	16.64%						
Emerging	MSCI EM	15.03%	12.62%	24.66%	10.85%	2.97	0.00	3,251	1,141	0.00
Emerging	S&P IFCG + MSCI EM (post 9/2008)	15.11%	13.03%	23.45%	10.93%	3.15	0.00	3,517	1,141	0.00

Source: Standard and Poor's, Factset, NBIM calculations

All returns are total returns in USD. The S&P IFCG Composite index was constructed from individual country histories and market weights. All countries in the S&P IFCG universe were included in the composite.

Over the full sample between 1976 and January 2012, the two emerging market indices had higher arithmetic mean returns, but lower buy-and-hold performance than the developed market index. However, both a standard t-test (which needs to be interpreted with caution due to the non-normality of return series) and a non-parametric Wilcoxon test indicate that the differences in mean returns are not statistically significant. In other words, the realised emerging equity market premium over the developed country index is not different from zero, using the longest available data history.

Over more recent shorter periods, for example from the inception of the current MSCI EM indices in 1988, the ex-post return of the two emerging markets proxies exceeds that of the MSCI World by around 7% and 5% respectively. Since 1999, the outperformance is in the region of 11%. Some may argue that the more recent history is more relevant for the future due to the structural improvements that have taken place in emerging markets, but we are very cautious on such conclusions.

The realised risk premium does not only depend on the sample period considered, but also on the way the emerging market index is constructed. For example, Salomons and Grootveld (2003) report that the ex-post equity risk premium (measured in USD) of an equally-weighted sample of emerging markets over the 1-month USD rate was higher than that of developed markets over the period between 1976 and 2001. However, this result is driven by the equal-weighting of countries, which

requires regular rebalancing. To assess the risk premium of an asset class, the capitalisation-weighted indices computed by DMS (2010) and in our own analysis are more appropriate.

Although ex-post returns do not support the notion of an emerging market risk premium over developed markets over the longest available history, it does not necessarily follow that we should not expect it ex-ante. Since historical data is at best ambiguous about the sign and the magnitude of the risk premium, we turn to theory and forward-looking indicators as potential guides.

Theory and empirics of market segmentation

In this section, we briefly outline the international Capital Asset Pricing Model and discuss the concept of market segmentation as a way to rationalise the empirical failure of the ICAPM to fully describe international asset prices.

International CAPM

A natural starting point for determining the expected return in different markets, including emerging markets, is an international version of the Capital Asset Pricing Model. Karolyi and Stulz (2003) show that, in a world with perfect capital markets, international asset prices crucially depend on whether investors in all countries have the same consumption opportunity set. The latter is the case if all consumption goods are available in all countries at the same price when converted to a common currency. In other words, international purchasing power parity has to hold. If consumption opportunities are indeed the same across countries, mean-variance-optimising investors globally will all invest in the same portfolio and assets will be priced according to an international version of the CAPM with the global index instead of the domestic index as the market portfolio.

In analogy to the traditional CAPM, the expected excess return of an asset is proportional to the asset's covariance (beta) with the market index, a result first obtained by Grauer, Litzenberger and Stehle (1976). With regard to emerging markets, one might expect these to have higher expected excess returns due to their higher risk, as measured by the volatility of returns. However, the international CAPM predicts that it is the covariance, or more precisely the beta of the market relative to the world portfolio, and not the variance that determines a national market's risk and consequently its excess return. Somewhat counterintuitively, the beta of emerging market indices was below 1 until the mid-1990s (Harvey 1995). However, it has risen since and averaged around 1.3 based on monthly returns data during the last decade. DMS (2010) argue that a beta of 1.3 to the global market could justify an expected excess return over developed markets of 1.5% per annum but that this should be considered an upper bound as emerging markets betas could be expected to decline towards 1 over time. In the international CAPM, there is no explicit role for economic growth in determining asset returns unless macroeconomic variables have a bearing on a market's beta to the world index.

When consumption opportunity sets are not equal across countries and investors are not perfectly mobile, which are much more realistic assumptions, residents of different countries are likely to hold different portfolios. In particular, when purchasing power parity does not hold, an investment in a foreign asset exposes the investor to exchange rate risk. The seminal work by Solnik (1974), Sercu (1980), Stulz (1981) and Adler and Dumas (1983) demonstrates that exchange rate risk becomes a priced factor. In this setting, the asset-pricing model contains risk premia that are based on the covariances of assets with exchange rates, in addition to the traditional premium based on the covariance with the market portfolio. In an empirical test of this class of models, Dumas and Solnik (1995) use a conditional approach that allows for time variation in the rewards for exchange rate risk. Their results for equities and currencies of the world's four largest equity markets are supportive of the existence of foreign exchange risk premia.

Deviations from the international CAPM and market segmentation

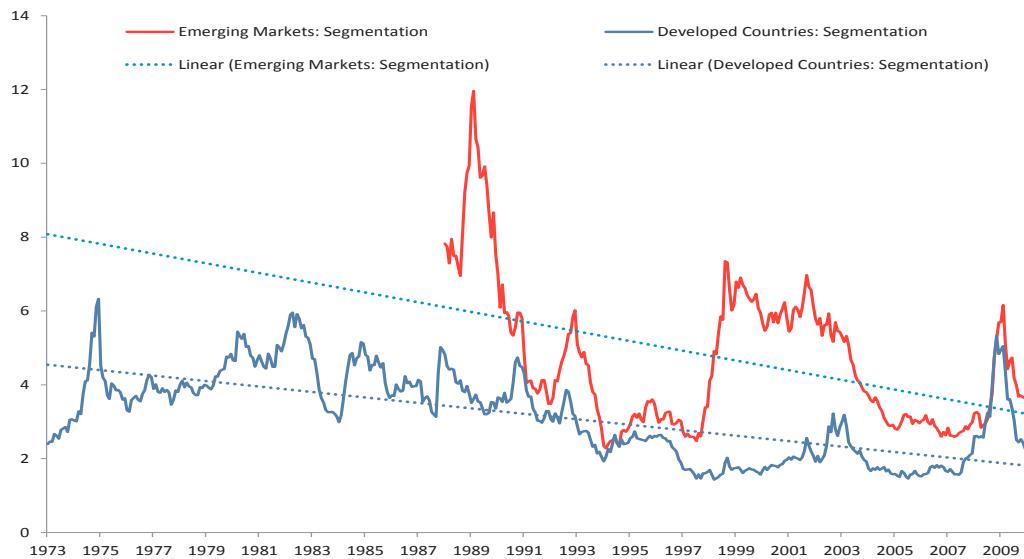
However, models with perfect international capital markets have had limited success in explaining portfolio holdings across countries and how portfolio holdings change over time. An example of this is the home bias puzzle, which refers to the observation that investors overweight the securities of their own country in their portfolio. The home bias is inconsistent with the international CAPM, especially for countries that have a small weight in the world market portfolio. Imperfections in capital mobility, or segmentation of markets, have been examined as potential explanations for the home bias and other deviations from the international CAPM. Segmentation occurs when international investment flows are limited because of explicit constraints or implicit barriers to international investment.

As an example of this line of research, Bekaert and Harvey (1995) estimate an asset pricing model where the degree of integration of an emerging market is inferred from its pricing behaviour. They hypothesise that the risk premium on a market depends on its volatility if the market is completely segmented and depends on its covariance with the world market index if it is completely integrated. Empirically, the degree of segmentation is a function of the relative importance of a market's variance versus its covariance with the world portfolio in the asset pricing equation. For example, a market becomes more integrated (less segmented) when the market's world beta becomes a more important factor for the market's expected return. Bekaert and Harvey find that the degree of market segmentation varies over time, and hence it is plausible that a market's expected return becomes a time-varying function of the degree of segmentation. In extensions of this approach, Bekaert and Harvey (2000) and Henry (2000) provide evidence on the impact of removing barriers to international investment for emerging markets. As in Bekaert and Harvey (1995), segmented markets are priced locally, i.e. according to their variance, while integrated markets are priced globally, in line with their beta to the world portfolio. When emerging markets had high volatility but low betas in the 1980's and early 1990's, their equity markets were projected to appreciate substantially when moving from local to global pricing. This prediction was consistent with the notion that stock market liberalisation reduces the liberalising country's cost of equity capital by allowing for risk sharing between domestic and foreign agents.

Bekaert et al. (2011) propose a new measure of market segmentation, the cap-weighted absolute differential between local and global valuation ratios, calculated from industry-level earnings yields. The intuition of this gauge of segmentation is as follows. When an equity market is completely integrated, the discount rate and the growth opportunity of that country's listed companies converge towards the global level when adjusted for industry composition. Any differences between local and global earnings yields in the same industry are therefore indicative of segmentation. Bekaert et al. (2011) also show that segmentation is primarily driven by three factors: openness to foreign investors (through accessibility of equity markets and FDI-friendly regulation), local financial market development (as measured by equity market capitalisation to GDP in particular), and measures of global risk premia (the corporate bond spread and the VIX).

In Chart 1, the segmentation measure constructed by Bekaert et al. (2011) is shown for developed and emerging markets from 1973 to 2009. While there is a trend decline in the degree of segmentation in both groups of countries, arguably driven by financial globalisation, there are also surges in segmentation during crisis periods. For example, measured segmentation in emerging markets had fallen to the vicinity of developed market levels in the early 1990's, but spiked in the aftermath of economic turbulence in East Asia and Russia in 1997/1998 and remained elevated until the world economy emerged from the recession caused by the technology bubble in the early 2000's.

Chart 1: Market segmentation in developed and emerging markets in Bekaert et al. (2011)

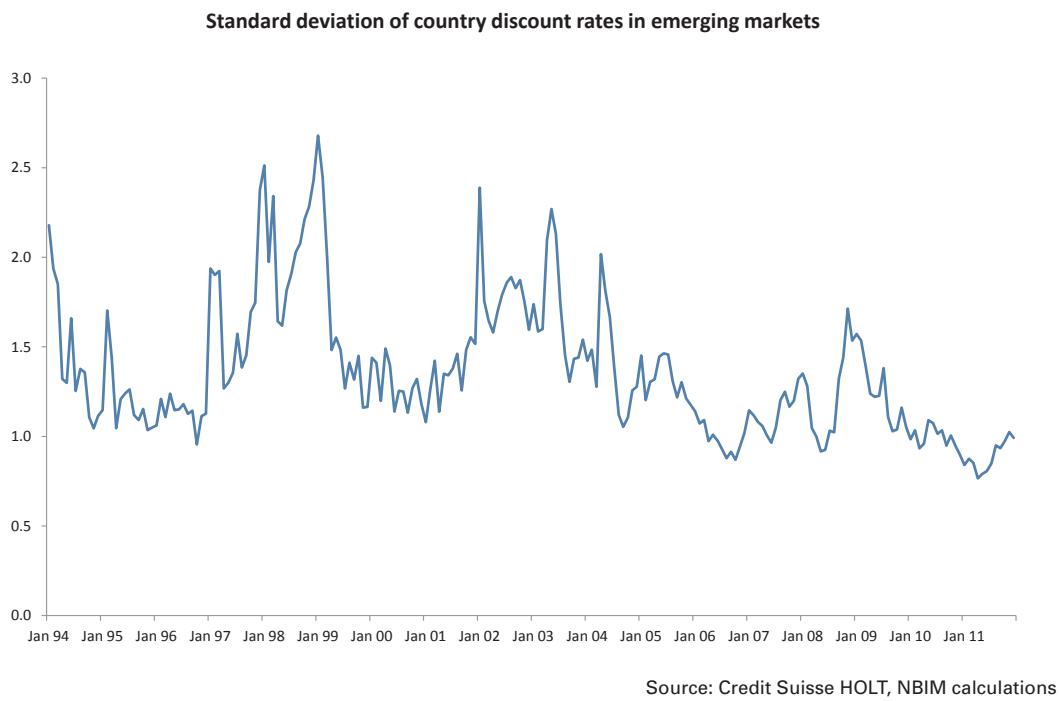


Source: Bekaert et al. (2011)

We construct an alternative measure of segmentation that is in the spirit of the Bekaert et al. paper, but extends the sample to 2011. In Chart 2, we show the cross-sectional standard deviation of market-implied real local-currency country discount rates as calculated by the Credit Suisse HOLT methodology within a sample of 15 developing markets. These discount rates are inferred from cash flow models of a large universe of global stocks. As in Bekaert et al. (2011), we interpret a completely integrated world capital market as being characterised by convergence of local discount rates. On the other hand, a high standard deviation of discount rates indicates market segmentation. Some of the patterns observed in Chart 1 can be seen using our own segmentation measure, which surges during the 1997/98 period and again in 2001/02. Segmentation also rises during the most recent financial crisis, albeit not to peaks seen during previous episodes of emerging market turbulence. From 2009, segmentation then declines and actually reaches a historical low in the beginning of 2011.

Both measures, by Bekaert et al (2011) and our own, suggest that the degree of market segmentation within emerging markets and that of emerging markets relative to developed markets is currently not high compared to history, i.e. the scope for benefitting from a further decline in segmentation appears to be limited.

Chart 2: Segmentation within emerging markets measured by Credit Suisse HOLT discount rates



Additional priced risks: liquidity, downside and tail risks, contagion and structural breaks

Despite our finding that the realised compound return of emerging equity markets is essentially indistinguishable from that of developed markets (and slightly worse according to a similar study by Dimson, Marsh and Staunton), asset pricing theory suggests that greater risks should be reflected in higher expected returns. One strand of the literature emphasises that such higher expected returns in segmented markets, and in particular emerging markets, could be compensation for additional risks that are not captured by the classic mean-variance framework.

Bekaert, Harvey and Lundblad (2007) find that a measure of liquidity derived from stock-level data predicts future returns, consistent with liquidity being a priced factor. They also find that local liquidity is a significant determinant of returns in emerging markets, which points to segmentation of markets. This line of research indicates that long-term investors who are less sensitive to illiquidity episodes may be able to harvest the risk premium associated with liquidity risk embedded in emerging equity markets.

The expected excess return of emerging markets may be related to their greater downside risk relative to developed markets, as measured by semi-deviation and the Sortino ratio, a view also put forward by Estrada (2002). In a similar vein, LeBaron and Samanta (2005) find strong evidence of regional differences in the tail behaviour between different markets where emerging markets returns are characterised by systematically fatter tails than developed markets. When emerging market returns deviate more from the normality assumption than developed market returns, i.e. by having greater negative skew or excess kurtosis, Bekaert et al. (1998) argue that conventional mean-variance optimisation may be misleading.

Another feature that could be deemed undesirable from a risk-averse investor's point of view and therefore attract a risk premium is the tendency of emerging equity markets to experience shifts in volatility regime and co-dependence of volatility across countries (contagion). Aggarwal, Inclan and Leal (1999) find that volatility of emerging market equities is marked by frequent, sudden changes. The periods with high volatility are often associated with local crisis events. Edwards and Susmel (2001) also report strong evidence of volatility co-movements across countries in Latin America, which may dampen the diversification role of emerging market equity.

Finally, emerging market returns have been found to be subject to structural breaks, which could be the result of favourable developments such as financial liberalisations or adverse events and crises. Chaudhari and Wu (2003) show that structural breaks are prevalent in a sample of emerging equity markets, whether they are measured in US dollar terms, in local currencies or in real terms. Their results suggest that ignoring structural breaks in asset allocation exercises may lead to wrong inferences about the optimal weight of the asset class.

These contributions to the literature suggest that emerging markets may require an additional ex-ante risk premium relative to developed markets although this is not reflected in realised excess returns over the last 3 ½ decades. With the exception of liquidity risk, it is not immediately obvious whether the Fund has a comparative advantage in bearing and capturing these risk premia or whether emerging market equities are the best vehicle by which to capture them.

In summary, the international asset pricing literature with perfect capital markets emphasises a market's covariance with the world index as the main determinant of expected returns. When PPP does not hold, exchange rate risk is added to the priced factors. The existing empirical evidence for developed countries is somewhat supportive of this international version of the CAPM, but less successful for emerging markets (Harvey 1995). Moreover, the literature based on mean-variance optimising investors fails to explain other stylised facts in finance, especially the home bias and international flows in equity investments.

Market segmentation, caused by explicit barriers and other frictions in international capital markets, has been invoked to explain deviations from the international CAPM. In this paradigm, changes in the degree of segmentation over time can impact the pricing of markets, and possibly explain why emerging markets may be re-rated when their capital markets become more integrated. While academic research shows that there has been a trend decline in segmentation of emerging markets in the last four decades, segmentation can rise sharply during emerging market crises and episodes of global risk aversion. The measures constructed by Bekaert et al. (2011) and our own metric suggest that segmentation in developed and emerging markets rose during the 2007-2009 financial crisis, but subsequently declined and is currently not high compared to the historical average.

Sovereign risk and corporate governance

While the focus of the early market segmentation literature was on explicit barriers to international investments, such as capital controls, taxes etc., attention has recently shifted to implicit impediments to international diversification (Stulz 2005). In this section, we discuss sovereign and corporate governance risk as the most important of such frictions.

Sovereign risk

Traditionally, the rationale for classifying equity markets into "developed" vs. "emerging" markets has more often been related to the development and accessibility of capital markets than growth potential. More recently, country groups such as the BRICs (an acronym for Brazil, Russia, India and China) or the N-11 (the Next 11 – Bangladesh, Egypt, Indonesia, Iran, Mexico, Nigeria, Pakistan, Philippines, Turkey, South Korea, and Vietnam) have been popularised by the investment community based mainly on population size, combined with a low level of per-capita GDP and potential for economic convergence. In a research note that is critical of this trend, Smith and Beceren (2011) contend that the main distinguishing feature between "developed" and "emerging" capital markets should not be the differential in income levels and potential income growth, but the strength of state influence and its potentially detrimental impact on the returns for minority investors. They argue that most emerging markets are still characterised by a high degree of state influence on capital markets and greater political risks which should be reflected in a higher ex-ante risk premium for the asset class.

Smith and Beceren also argue that focussing solely on economic, fundamental and valuation analyses is insufficient for a comparison between developed and emerging markets. State influence is stronger in emerging markets than in developed markets for historical reasons, e.g. the prevalence of state planning, ownership and control of companies in prominent emerging market economies such as

China, Russia and India. State influence may also be exerted to pursue political economy interests. For example, corporate investment may be directed by the state to maintain and increase employment, garner electoral support and maintain political stability.

Table 2: World Bank governance indicators

Global Percentile Rankings*	Brazil	Chile	China	India	Indonesia	South Korea	Malaysia	Mexico	Poland	Russia	South Africa	Thailand	Turkey	Taiwan
Voice and Accountability	64	82	5	59	48	69	31	52	81	21	65	30	43	74
Political Stability	48	67	24	11	19	50	52	23	83	18	44	13	16	73
Government Effectiveness	57	84	60	55	48	84	82	62	73	42	65	58	66	85
Regulatory Quality	56	91	45	39	40	79	71	59	79	38	63	56	61	84
Rule of Law	55	88	45	55	31	81	65	34	69	26	58	50	58	82
Control of Corruption	60	91	33	36	27	69	61	44	70	13	61	47	58	74

Source: World Bank. Higher rank indicates better governance and lower political risk.

Sovereign and political risks are measured using a variety of methodologies and publicised by multilateral organisations and private sector research providers. A common way of gauging political risk is based on expert surveys, which also underlie the indicators collated and aggregated by the World Bank governance project (Kaufmann, Kraay and Mastruzzi 2010). In Table 2, we show the 2010 World Bank governance indicators across six dimensions for a sample of emerging markets. The higher the score, the better the quality of governance is judged to be. According to World Bank indicators, the BRIC countries are characterised by relatively low governance quality, with the exception of Brazil. This makes them potentially riskier for foreign minority shareholders in terms of sovereign expropriation in all its forms. The smaller, more established emerging markets such as Chile, South Korea, South Africa, and Taiwan score more highly on most dimensions of governance.

Additional risks which are unique to sovereign nations, such as the imposition of capital controls and the expropriation of foreign investors, may be the missing element to understanding the risk-return relation in international equity markets. Bansal and Dahlquist (2002) apply the notion of sovereign expropriation risk to asset pricing, and in particular explaining the expected returns of emerging market stocks. They start with the observation that standard asset pricing models fail to explain cross-sectional differences in observed equity risk premia of developed versus emerging markets. Earlier work had documented the lack of explanatory power of the static CAPM (Harvey 1995). Bansal and Dahlquist attribute this failure to a sample selectivity bias afflicting emerging countries' returns. This bias, which was also discussed by Brown, Goetzmann and Ross (1995) and Goetzmann and Jorion (1999), arises from the fact that an emerging market's equity returns usually are recorded in indices after a country has successfully emerged. Record-keeping is often discontinued when the country submerges, often due to sovereign expropriation. The measured country equity returns could therefore be upwardly biased.

Using a sample of developed and emerging equity markets between 1984 and 2000, Bansal and Dahlquist compare a standard world CAPM with and without the effect of sample selectivity. They approximate the ex-ante risk of expropriation by combining various publicly available measures of financial and economic risk provided by the International Country Risk Guide (ICRG). Official country ratings and the spreads on dollar-denominated sovereign bonds are used as alternative proxies for expropriation risk. After taking account of sample selectivity bias, Bansal and Dahlquist find that systematic risk could account for the differences in risk premia quite well. In other words, after controlling for risk of expropriation, the observed variation in realised returns could largely be attributed to divergences in the betas of the respective national market to the world index.

The view that political institutions and sovereign governance matter is supported by recent academic research on the so-called "Lucas paradox", the failure of capital to flow from rich to poor economies. Schularick and Steger (2008) show empirically that the quality of political institutions explains why capital flowed to higher-return destinations during the first wave of globalisation from 1870 to 1914 while it failed to do so in the second globalisation after World War II. In other words, political risk explains the Lucas paradox in the post-war period, a result that is obtained independently by Alfaro, Kalemli-Ozcan and Volosovych (2008) for the period 1970-2000.

Another strand of the literature studies whether political and sovereign risk as a factor has been rewarded with higher *ex-post* returns in portfolio backtests. Erb, Harvey and Viskanta (1995) show that country risks, as measured by Institutional Investor's ratings, correlate positively with equity returns in the period between 1980 and 1993. In a sample of emerging markets, the quarter of the riskiest countries outperforms the safest quarter by more than 25 percentage points annually. This suggests that the political, economic and financial risks that are embedded in a country rating are also discounted in stock prices, allowing investors to earn a risk premium in the "least desirable" markets. In related research, Erb, Harvey and Viskanta (1996) study the predictive power of the underlying components of country risk in greater detail, using the indices published by the ICRG. They find that portfolios formed on the basis of *changes* (i.e. upgrades and downgrades) in the ICRG's economic, financial and composite risk¹ indices produce very large excess returns, while no such profits can be found for political risk.

Harvey (2004) revisits the analysis of Erb, Harvey and Viskanta (1996) and reports the performance of portfolios formed on the basis of *levels* in ICRG indices rather than changes. He finds that country risk is not priced in developed countries. In emerging markets, however, the financial, economic and composite indices provide valuable information on returns, as reported in Table 3. Going long the riskiest third of countries and short the least risky third would have yielded monthly returns of 0.8% to 1.8% (10% to 24% annually), while these long/short portfolios had a negative beta to the world market portfolio. The same is not true for portfolios formed on the political risk index component. Buying the politically riskiest and selling the politically safest countries generated negative returns, indicating that political risk is either not priced in the same way as economic and financial risk.

Table 3: Long/short portfolios formed on ICRG risk indices (1980-2003)

Long high risk/ short low risk	Geometric monthly return %	Volatility %	Beta to MSCI World
ICRG Composite	0.77	0.95	-0.16
ICRG Political	-0.74	2.11	-0.15
ICRG Financial	1.81	0.41	-0.21
ICRG Economic	1.14	1.46	-0.10

Source: Harvey (2004)

1 Economic risk is measured by macroeconomic indicators including GDP per capita, real GDP growth, inflation, government budget balance etc. Financial risk is proxied using credit indicators at country level such as foreign debt/GDP, foreign debt service/exports, current account balance/exports and so on. Political risks are measured by surveys of government stability, corruption, socioeconomic conditions etc.

Similarly to Harvey, we compare the performance of equity markets in countries with relatively high and low political risk, but consider an alternative set of political risk indicators and an alternative timeframe. Specifically, we use the World Bank's World Governance Indicators (WGI) to assess a country's level of political risk.²

In our analysis, we include 41 countries for which sufficient equity return data over the period 1996-2010 are available and segment the countries into three groups: developed, emerging market, and all countries.³ For each of these groups and for each of the six WGI, we calculate the performance of a portfolio that is long the riskiest third of countries as measured by a given WGI (e.g. Voice and Accountability) and short the least risky third, assigning equal weights to the countries in the long and short positions. The results are reported in Table 4.

Table 4: Performance of long/short portfolios formed on WGI (1996-2010)

	Total Equity Returns (Real USD)											Average Return
	'97-'98	'99-'00	'01-'02	'03	'04	'05	'06	'07	'08	'09	'10	
DEVELOPED MARKETS												
Voice and Accountability	-3.5%	-19.4%	-5.7%	-6.4%	-5.4%	-5.9%	-2.7%	-4.1%	6.8%	-7.4%	-10.6%	-4.8%
Political Stability	-18.2%	-12.1%	7.7%	-0.7%	-5.9%	-8.6%	0.7%	-7.1%	4.8%	-17.6%	-18.9%	-5.8%
Government Effectiveness	0.9%	-28.6%	9.9%	-0.9%	-13.6%	-6.4%	-8.1%	-11.3%	4.6%	-20.1%	-19.9%	-7.3%
Regulatory Quality	28.9%	-20.0%	3.2%	9.8%	9.5%	-0.1%	4.7%	-9.3%	4.9%	-14.3%	-15.4%	-0.6%
Rule of Law	0.3%	-11.4%	-12.0%	-6.8%	-10.7%	-7.9%	-4.8%	-5.8%	7.0%	-7.5%	-14.9%	-5.5%
Control of Corruption	18.9%	-19.5%	-4.9%	-1.3%	-6.2%	-6.4%	-6.2%	-10.1%	2.7%	-9.9%	-18.4%	-4.8%
EMERGING MARKETS												
Voice and Accountability	-10.9%	12.4%	-3.0%	18.6%	1.2%	26.2%	21.8%	16.9%	4.2%	-4.1%	7.7%	6.0%
Political Stability	-9.0%	37.6%	20.5%	20.7%	6.7%	38.2%	17.4%	24.0%	-2.1%	27.5%	20.2%	13.5%
Government Effectiveness	-8.4%	-3.4%	0.3%	27.4%	6.6%	35.3%	25.8%	27.8%	0.7%	16.7%	7.8%	9.0%
Regulatory Quality	-14.7%	-2.4%	-0.8%	22.5%	5.9%	19.6%	30.1%	25.5%	-3.3%	8.0%	1.3%	5.8%
Rule of Law	-20.8%	20.5%	11.3%	33.4%	-8.2%	21.3%	23.3%	18.9%	-0.6%	29.1%	11.6%	8.9%
Control of Corruption	-18.6%	17.5%	5.0%	35.9%	6.5%	25.6%	29.7%	25.9%	-9.6%	19.8%	6.7%	9.2%
ALL COUNTRIES												
Voice and Accountability	-71.0%	12.3%	18.9%	23.0%	7.5%	28.6%	10.2%	29.1%	3.1%	25.0%	16.1%	2.4%
Political Stability	-58.9%	8.5%	30.7%	28.4%	4.3%	30.1%	9.9%	26.6%	0.2%	26.5%	9.6%	4.9%
Government Effectiveness	-64.5%	-7.7%	29.9%	32.7%	9.6%	31.6%	9.7%	28.6%	1.2%	23.7%	11.4%	3.4%
Regulatory Quality	-55.1%	-6.8%	24.6%	31.7%	13.3%	31.5%	12.5%	29.0%	0.0%	26.0%	9.3%	5.2%
Rule of Law	-57.9%	3.0%	24.0%	34.5%	11.7%	31.9%	8.7%	26.7%	1.0%	28.7%	11.9%	5.6%
Control of Corruption	-54.2%	-8.9%	29.4%	34.5%	11.7%	31.9%	9.7%	27.4%	1.2%	25.9%	9.1%	5.4%

Source: Kaufmann, Kraay and Mastruzzi (2010); FactSet; IMF

- 2 The WGI cover more than 200 countries starting in 1996 and consist of six composite indicators of governance including (1) Voice and Accountability; (2) Political Stability and Absence of Violence/Terrorism; (3) Government Effectiveness; (4) Regulatory Quality; (5) Rule of Law; and (6) Control of Corruption. Each of these indicators reflects the perceptions of governance as reported by various public, private and NGO experts worldwide. The WGI data are available on a bi-annual basis between 1996 and 2002 and annually since 2003. For a detailed description of the methodology behind the WGI, see Kaufmann, Kraay and Mastruzzi (2010): "The Worldwide Governance Indicators: A Summary of Methodology, Data and Analytical Issues", World Bank Policy Research.
- 3 Equity returns in each country are proxied by the returns of the country-specific MSCI index (in USD) and are adjusted for inflation.

We find no evidence for the existence of a political risk premium in the equity prices of developed countries. As reported in the top panel of Table 4, going long the politically riskiest third of developed countries and short the least risky third generated negative returns on average over the period 1996-2010.

For emerging markets, however, we find the opposite result: long/short portfolios formed on all six different WGIIs have yielded large positive returns on average, ranging from 6.0% to 13.5% per annum.

Differences between our and Harvey's results for emerging and all-country portfolios may be due to several reasons. First, we use different indicators of political risk. Second, our data sample is shorter than Harvey's 23-year sample and, more importantly, coincides with a period of strong outperformance for emerging market equities. Our all-country long/short portfolios, which are generally long emerging markets and short developed markets irrespective of the political indicator considered, generated positive returns in every year between 2001 and 2010, a result likely driven by the favourable backdrop for emerging equity markets in recent years rather than any priced political risk premia. Emerging markets performed worse than developed markets during the 1990's. For example, in 1997-1998, when the emerging Asian markets collapsed and Russia defaulted on its debt, emerging markets underperformed developed markets by 50% to 70%. Again, this fact points toward the sensitivity of the results to the period of analysis considered.

The contradictory evidence obtained by Harvey (2004) and our own analysis based on a shorter sample make it difficult to draw definitive conclusions regarding the relationship between political risk and ex-post returns and about the usefulness of political risk as a predictor of future returns.

In addition, overweighting investments in the politically riskiest countries may often contradict the goals of the asset owners in promoting good governance as well social and environmental standards.

Corporate governance and expropriation by insiders

Expropriation risk may not only originate from the sovereign, but also from those who control corporations ("insiders"), i.e. majority shareholders and management.

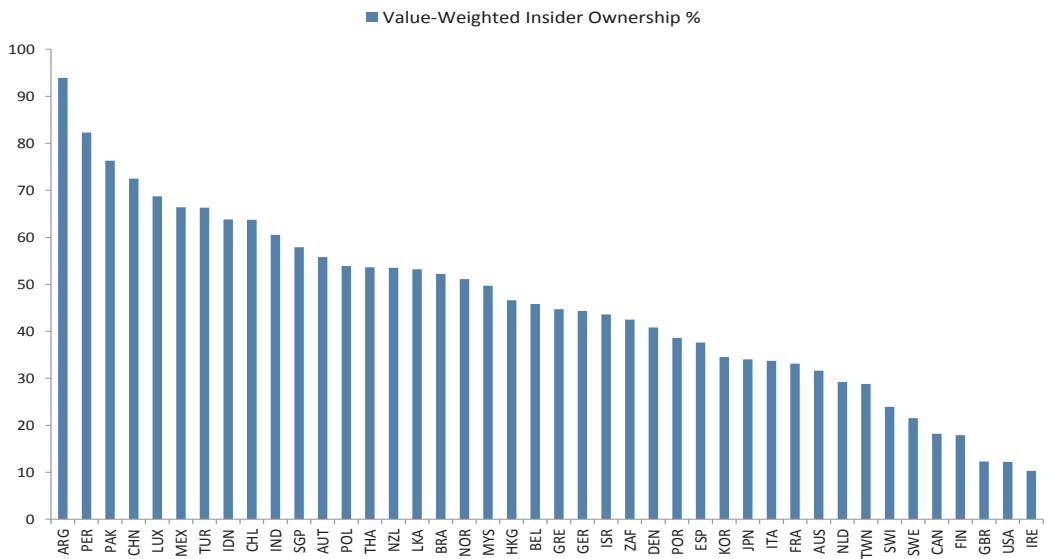
A large theoretical and empirical literature has studied the implications of insider expropriation risk. Kho, Stulz and Warnock (2009) present a theory of the home bias that is based on the agency theory of corporate ownership. When investor protection is poor, agency problems between insiders and minority investors can be particularly severe. In that case, the corporate finance literature starting with Jensen and Meckling (1976) and Demsetz and Lehn (1985) argues that insider ownership needs to be high to offset the incentive of insiders to consume private benefits.

Shleifer and Vishny (1986) reason that agency problems of controlling shareholders can be mitigated by having large investors who actively monitor and limit the extraction of private benefits by insiders. Antras, Desai and Foley (2009) suggest that multinational companies that engage in foreign direct investment could fulfil such a monitoring role. Foreign direct investors may have a comparative advantage over portfolio investors in monitoring controlling shareholders and strong incentives to use their superior information to limit the consumption of private benefits by other insiders.

In addition, Giannetti and Simonov (2006) suggest that the same role could be played by domestic investors who take a large share because they are connected to the insiders and use their proximity, social networks and ensuing information advantage to monitor.

The prevalence of insider ownership and the engagement of domestic and foreign monitoring investors limits the shares available to foreign portfolio investors (the "free float"), aggravating the measured home bias in the average investor's portfolio. In Chart 3, we report a measure of insider ownership in 2004 for a large sample of countries as calculated by Kho, Stulz and Warnock (2009). Given the magnitude of insider holdings, foreign portfolio investors cannot hold the world market portfolio, but only the world market portfolio of shares not held by insiders (the float-adjusted world market portfolio).

Chart 3: Insider ownership in a cross-section of countries in 2004



Source: Kho, Stulz and Warnock (2009)

According to Kho, Stulz and Warnock (2009), this theory has some testable predictions and implications for exposure to countries with higher corporate governance risk.

Insider ownership is predicted to fall as investor protection improves. This is because the gains from insider ownership (the opportunities to extract private benefits) decline while the cost (having undiversified equity exposure) remains constant.

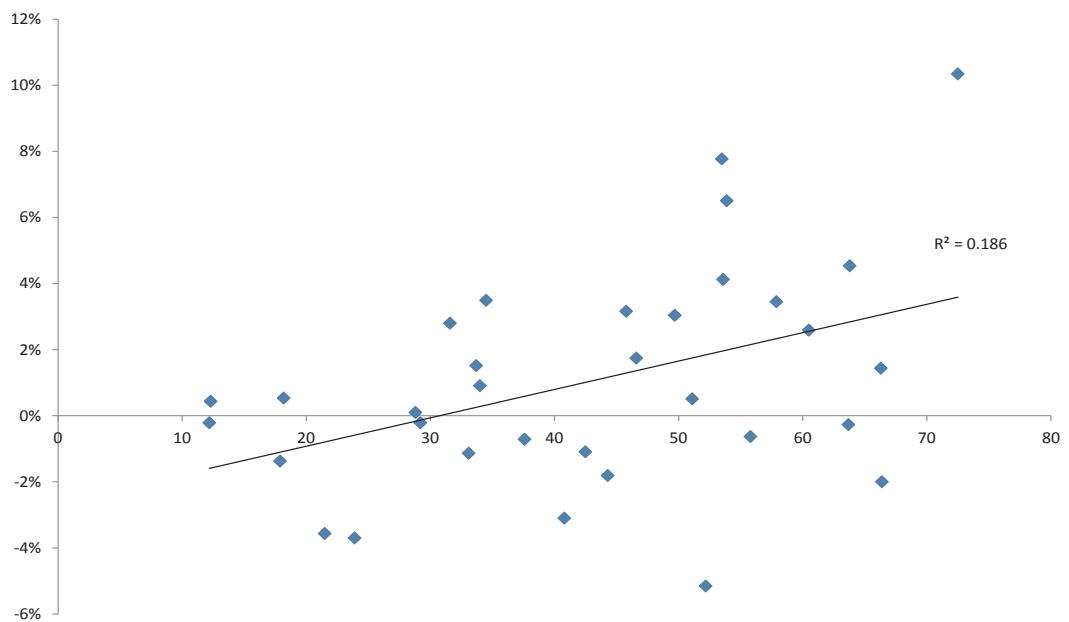
Foreign direct investment is expected to be relatively more important than portfolio investment for countries with poor governance. Also, large domestic investors are predicted to be more prevalent than atomistic portfolio investors. This arises from the comparative advantage of large investors in monitoring insiders. As governance improves, the importance of FDI and local monitoring investors declines and ownership becomes less concentrated.

Using the governance indicators from the World Bank, Kho, Stulz and Warnock (2009) find strong evidence of a negative relationship between governance and the level of insider ownership in a cross-section of developed and emerging economies. They also construct a measure of the relative importance of foreign portfolio investment to total foreign investment (including FDI) for the same sample of countries.

As predicted by the corporate finance theory, there is a strong negative relationship between the change in insider ownership and the change in foreign portfolio investment, both of which are believed to be driven by improvements in governance and investor protection.

We cross-check the conclusions of their paper by conducting a simple correlation study of the insider ownership variable reported by Kho et al. and a measure of corporate earnings "dilution", the difference between GDP growth and EPS growth. As we argue in a separate note, corporate earnings often do not grow at the same rate as the broader economy partly because majority owners and management may be able to divert corporate resources for private benefit before they reach earnings distributable to minority shareholders. The gap between GDP and EPS growth is a measure of that "dilution" and is plotted against insider ownership in Chart 4 for a cross-section of 31 countries where we have removed Peru as a significant outlier.

Chart 4: Insider ownership and earnings dilution (1988-2010)



Source: Kho, Stulz and Warnock (2009), Factset, IMF, NBIM calculations

The chart depicts a positive relationship between insider ownership and earnings dilution that is consistent with the theory. The higher the shareholding of insiders, the greater is the gap between GDP growth and EPS growth. While insider shareholders have just as strong an interest for a company to be well-run, their ability to extract private benefits arguably prevents the value creation from trickling down to EPS from which minority shareholders would also benefit.

One might be tempted to conjecture that the risk of expropriation by insiders pushes equilibrium stock prices lower so that the expected return from owning such risky stocks is rewarded by higher expected returns. However, empirical evidence by Gompers, Ishii and Metrick (2003), Cremers and Nair (2005) and Yermack (2006) cast some doubt on this and even suggest that weak investor protection is associated with poor returns. Giannetti and Koskinen (2010) show with a theoretical model why this could be the case. In their model, wealthy investors have an incentive to become controlling shareholders when investor protection is weak. Stock prices incorporate both the demand from controlling shareholders and portfolio investors. They suggest that the price of weak corporate governance stocks is not low enough in equilibrium to fully offset the extraction of private benefits. As a consequence, expected returns are predicted to be lower when investor protection is weak. Giannetti and Koskinen argue that empirical evidence substantiates other implications of their theory, namely that countries with poor investor protection should see their residents have less involvement in the domestic equity market and hold more foreign equity, and their companies attract greater foreign direct investment.

In summary, the corporate finance and governance literature could provide an explanation for the puzzling home bias that is observed in many countries. Insider ownership of equities that is motivated by agency problems and poor investor protection is at the core of this explanation. If such an explanation is accurate, it is not clear that a risk premium view of markets with poor governance is applicable. Since insiders can extract private benefits, their demand for stocks arguably keeps prices above levels at which minority shareholders would be fully compensated for the governance risk.

The corporate finance literature suggests that most investors in developed markets are deterred from fully diversifying internationally by corporate governance concerns. A long-term investor whose strategic allocation to emerging markets equals the investable market capitalisation weight in pursuit of diversification therefore already behaves differently from most institutional investors in the advanced countries. Since emerging markets are still characterised by weaker investor protection and corporate governance, a comparative advantage in overcoming the agency conflicts between corporate insiders and minority investors is required to justify a strategic overweight to these markets.

Conclusion

In this note, we review the theoretical and empirical literature on emerging equity market investments and assess whether there are arguments for substantially deviating from a capitalisation-weighted strategic allocation to the asset class.

We start by documenting the realised returns of emerging equity markets compared to their developed country counterparts. Contrary to widely-held beliefs, the ex-post return of emerging equity markets is no different from that of developed markets for the longest available history. Emerging markets, however, have outperformed developed markets since the inception of the MSCI Emerging Markets index in 1988.

While data on the realised emerging market premium is inconclusive, theoretical and forward-looking arguments need to be examined. We observe that most institutional investors in developed countries have allocations to emerging markets that are below the capitalisation weights. This contradicts an international version of the frictionless CAPM, in which the optimal portfolio weights of assets are proportional to their market capitalisation and the expected returns are a rising function of their beta.

We then discuss departures from the international CAPM. Motivated by the failure of the open-economy neoclassical growth model to explain international capital flows and the failure of the global CAPM to describe the cross-section of international asset returns, the concept of market segmentation has been put forward as a description for the observed paradoxes. In the early literature, market segmentation was mainly observed empirically as the coincidence of high expected returns and low covariance with the world portfolio, especially in emerging equity markets.

The early segmentation literature suggested that investing early during or soon after a country's emergence increases the likelihood of earning a risk premium when a market transitions from "local" to "global" pricing, but recognising such emerging markets ex-ante is likely to be very difficult.

One of the conclusions to emerge from the literature and our own analysis is that segmentation itself is time-varying. While the trend over the last few decades has been towards lower segmentation, there are prolonged episodes when measured segmentation moves against this underlying tendency, driven by emerging market crises but also by spikes in global risk aversion. We argue that a structural overweight in emerging markets would implicitly attempt to benefit from a continued secular decline in market segmentation and convergence of global expected returns. Based on implied country discount rates and more conventional valuation ratios, we believe that the current degree of segmentation is not high relative to history and the scope for a further decline may be more limited.

Segmentation may be caused by explicit barriers to international investing, but as these barriers fell, this explanation lost appeal. Over time, risk-based explanations were put forward to explain the persistence of measured segmentation. These include foreign exchange risks, liquidity, fat tails and contagion in emerging market returns and volatility, and higher risk of structural breaks.

Another strand of the literature emphasises implicit barriers to international diversification. Among these, the role of conflicts of interests between minority shareholders on the one hand and the sovereign and corporate insiders on the other play an important role. The risk of expropriation of foreign minority shareholders by either of these parties is a potentially plausible explanation for the observed market segmentation.

It may be the case that taking on the political and sovereign risk inherent in emerging markets is rewarded in the long run because it is discounted in stock prices. Our own analysis based on a short sample period is somewhat supportive of this notion, while empirical analyses based on other time periods (Harvey 2004) do not reach the same conclusion. Moreover, the literature on political risk suggests that the idiosyncratic risk in new markets is likely to be high.

When investor protection and corporate governance are weak, foreign minority shareholders may additionally be at high risk of being expropriated by corporate insiders. The corporate finance literature in fact finds some theoretical and empirical support for a relationship between poor investor protection and high insider ownership. Expropriation by insiders could also be the cause of long-term discrepancies

that sometimes exist between the rate of economic growth and corporate earnings, in other words the “dilution effect” that we analyse in detail in our note on growth and equity returns. Corporate insiders may be able to appropriate some benefits of economic growth before they reach the earnings that can be distributed to minority shareholders. A theoretical case is made by Giannetti and Koskinen (2010) that the equilibrium price of stocks is too high to fully compensate minority shareholders because insider shareholders are rewarded by the extraction of private benefits. Empirical evidence also indicates that weak investor protection and poor corporate governance are not risks that are rewarded for minority investors.

In terms of the regional equity market allocation of long-term investors, the theoretical and empirical arguments are not sufficiently strong for a substantive strategic departure from the capitalisation-weighted allocation. The literature on sovereign and insider expropriation cautions against expecting the “free lunch” seemingly observed after the emergence of new markets in the 1980’s and 1990’s, the combination of high expected returns and low covariance with the world market portfolio. While economic and financial risks are usually fully priced because they affect insiders and minority shareholders equally, this may not be the case with corporate governance risks, and there is mixed evidence for sovereign risks.

As a large global investor, the Government Pension Fund Global is in a good position to evaluate the economic, financial, political and corporate governance risks related to investing in emerging equity markets. It is not obvious that the Fund has a comparative advantage in *overcoming* some of the obstacles posed by the conflicts of interest between minority shareholders and sovereigns and corporate insiders.

We therefore believe that the strategic allocation to emerging equity markets should not deviate substantially from the investable market capitalisation weights. Lastly, the time-variation in risk premia associated with emerging market investments suggests that dynamic departures from that strategic weight should be allowed within limits and with humility, similar to exposures to other risk factors such as size, value, and credit risk.

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