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Research in emerging markets finance: looking to the future[☆]

Geert Bekaert^{a,b}, Campbell R. Harvey^{c,b,*}

^a*Columbia University, New York, NY 10027, USA*

^b*National Bureau of Economic Research, Cambridge, MA 02138, USA*

^c*Duke University, Durham, NC 27708, USA*

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Abstract

Much has been learned about emerging markets finance over the past 20 years. These markets have attracted a unique interdisciplinary interest that bridges both investment and corporate finance with international economics, development economics, law, demographics and political science. Our paper focuses on the research areas that are ripe for exploration.

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1. Introduction

The designation ‘emerging market’ is associated with the World Bank. A country is deemed ‘emerging’ if its per capita GDP falls below a certain hurdle that changes through time. Of course, the basic idea behind the term is that these countries ‘emerge’ from less-developed status and join the group of developed countries. In development economics, this is known as convergence.

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*Corresponding author. Tel.: +1-919-660-7768; fax: +1-919-660-8030.

E-mail address: cam.harvey@duke.edu (C.R. Harvey).

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History is important in studying these markets. Paradoxically, many complain about the lack of data on emerging markets. This is probably due to the fairly short histories available in standard databases. The International Finance Corporation's Emerging Market Database provides data from only 1976. Morgan Stanley Capital International data begins ten years later. However, many of these markets have long histories (Goetzmann and Jorion, 1999). Indeed, in the 1920s Argentina had a greater market capitalization than the UK.

More fundamentally, even the US was, for much of its history, an emerging market. For example, in the recession of the 1840s, Pennsylvania, Mississippi, Indiana, Arkansas and Michigan defaulted on their debt. Even before this time, most Latin American countries had defaulted on their debt in 1825 (Chernow, 1990). So, many of the important topics of today, are issues that we have been dealing with for hundreds of years.

Our paper provides a high level review of some important research advances over the past 20 years in emerging markets finance. While some country level historical data reach back to the 19th century, the work of the International Finance Corporation in the made firm-level data widely available for researchers. In addition, care was taken in data collection so that the data were deemed to be more reliable than what had been available in the past.

We then explore some of the most interesting challenges for the future. While most of our analysis focuses on 20 countries with the longest history in the EMDB (countries with data from at least 1990), many more countries have been added—and many more countries will be added in the future. Indeed, part of what makes emerging markets research so interesting is that there is an immediate 'out of sample' test of new theories as new markets migrate to the status of 'emerging.'

In addition, one cannot do emerging markets finance research in a vacuum. Emerging markets finance research is touched by many different disciplines. That is, it is very difficult to conduct meaningful research in emerging markets finance without having some knowledge of development economics, political science and demographics—to name a few.

Finally, this article is not meant has a comprehensive review article. (A more comprehensive review can be found in Bekaert and Harvey (in press).) Indeed, we purposely relegate most of the citations to footnotes. While we do not intend to minimize the importance of the hundreds of research papers that have studied emerging markets over the past 20 years, we have decided to emphasize the 'big picture'. We apologize in advance to the researchers not cited.

The paper is organized as follows. The first section presents a number of statements that reflect research advances that have been made in recent years. We supplement this with data analysis that contrasts the behavior of emerging market returns pre-1990 and post-1990. This analysis focuses on those countries that have the longest samples of emerging market returns. We break our analysis in 1990 because many of the capital market liberalizations are clustered approximately 1990. The study of the impact of these liberalizations is one of the important research advances in recent years. The second section details a research plan for the future. Some concluding remarks are offered in the final section.

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2. How much have we learned about emerging markets?

90 While much has been learned, our knowledge is incomplete on a number of
91 major issues. Below we characterize the progress that has been made in understand-
92 ing these markets.

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2.1. *The theory of market segmentation and market integration*

94 Considerable research has focused on the evolution of a country from segmented
95 to integrated with world markets. There are at least two levels to this evolution.
96 Economic integration refers to decreased barriers to trading in goods and services.
97 Financial integration refers to free access of foreigners to local capital markets (and
98 local investors to foreign capital markets).

99 Some of the early work in international finance tries to model the impact of
100 market integration on security prices (Stulz, 1981a,b; Errunza and Losq, 1985; Eun
101 and Janakiramanan, 1986; Alexander et al., 1988; Errunza et al., 1998; Bekaert and
102 Harvey, 1995). A simple intuition can be gained from looking at asset prices in the
103 context of the Sharpe (1964) and Lintner's (1965) capital asset pricing model
104 (CAPM). In a completely segmented market, assets will be priced off the local
105 market return. The local expected return is a product of the local beta times the
106 local market risk premium. Given the high volatility of local returns, it is likely that
107 the local expected return is high. In the integrated capital market, the expected
108 return is determined by the beta with respect to the world market portfolio multiplied
109 by the world risk premium. It is likely that this expected return is much lower.
110 Hence, in the transition from a segmented to an integrated market, prices should
111 rise and expected returns should decrease.

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2.2. *Dating market integration is complicated*

113 Market integration induces a structural change in the capital markets of an
114 emerging country. Hence, for any empirical analysis, it is important to know the
115 date of these structural changes.

116 We have learned that regulatory liberalizations are not necessarily defining events
117 for market integration. Indeed, we should be careful to distinguish between the
118 concepts of liberalization and integration. For example, a country might pass a law
119 that seemingly drops all barriers to foreign participation in local capital markets.
120 This is a liberalization—but it might not be an *effective* liberalization that results in
121 market integration. Indeed, there are two possibilities in this example. First, the
122 market might have been integrated before the regulatory liberalization. That is,
123 foreigners might have had the ability to access the market through other means,
124 such as country funds and depository receipts. Second, the liberalization might have
125 little or no effect because either foreign investors do not believe the regulatory
126 reforms will be long lasting or other market imperfections exist.

127 Hence, a number of different strategies have been pursued in an attempt to 'date'
128 the integration of world capital markets. There are four main approaches to this

129 dating exercise: event association, inference from the behavior of financial assets
130 and inference from the behavior of key economic aggregates and market infrastruc-
131 ture. The event association strategies include: (1) the regulatory reform date, (2)
132 the date (preferably announcement) of the first country fund,¹ (3) date (announce-
133 ment) of the first local equity listing or American Depositary Receipt on a foreign
134 exchange. The finance strategies involve looking for changes in the behavior of
135 asset returns and linking the change date to market integration. For example, if
136 dividend yields are associated with expected returns, a sharp drop in dividend yields
137 could be associated with an effective market liberalization reflecting the permanent
138 price increase associated with the liberalization (Bekaert et al., in press a, Basu et
139 al., 1999). The economic strategies involve the analysis of key economic aggregates
140 that might be impacted by liberalization (Kim and Singal, 2000; Bekaert et al., in
141 press a; Basu et al., 1999). For example, a sharp increase in equity capital flows by
142 foreigners would seem to be evidence of an effective liberalization (Bekaert and
143 Harvey, 2000b; Bekaert et al., 2002a; Stulz, 1999). Finally, market infrastructure
144 refers to the degree of investor protection and the quality of the accounting
145 standards. For example, some have looked at the date of the enforcement of capital
146 market regulations, such as insider trading prosecutions as market integration
147 (Bekaert and Harvey, 2000a; Henry, 2000a; Bhattacharya and Daouk, 2002).

148 *2.3. Market integration is often a gradual process*

149 We have learned that market integration is surely a gradual process and the speed
150 of the process is determined by the particular situation in each individual country.
151 When one starts from the segmented state, the barriers to investment are often
152 numerous. Bekaert (1995) details three different categories of barriers to emerging
153 market investment: legal barriers, indirect barriers that arise because of information
154 asymmetry, accounting standards and investor protection and risks that are especially
155 important in emerging markets such as liquidity risk, political risk, economic policy
156 risk and currency risk. These barriers discourage foreign investment. It is unlikely
157 that all of these barriers disappear in a single point in time.

158 Empirical models have been developed that allow the degree of market integration
159 to change through time. This moves us away from the static segment/integrated
160 paradigm to dynamic partial segmentation/partial integration paradigm (Bekaert and
161 Harvey, 1995, 1997; Adler and Qi, 2002). Whereas these models are indirect,
162 relying on a model and econometric estimation to infer changes in the degree of
163 integration, there are more direct measures available. For example, sometimes the
164 ratio of ‘investable’ market capitalization to ‘global’ market capitalization, as
165 defined by the International Finance Corporation, is used as a proxy for the degree
166 of integration (Bekaert, 1995; Edison and Warnock, 2002). This realization is
167 particularly useful because many countries are in the process of liberalizing their
168 capital markets. Often the relevant question is how fast should this occur.

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682 ¹ See Miller (1999). Other literature relevant for ADRs includes Karolyi (1998), Foerster and Karolyi
683 (1999), Urias (1994).

Average Annual Geometric Returns

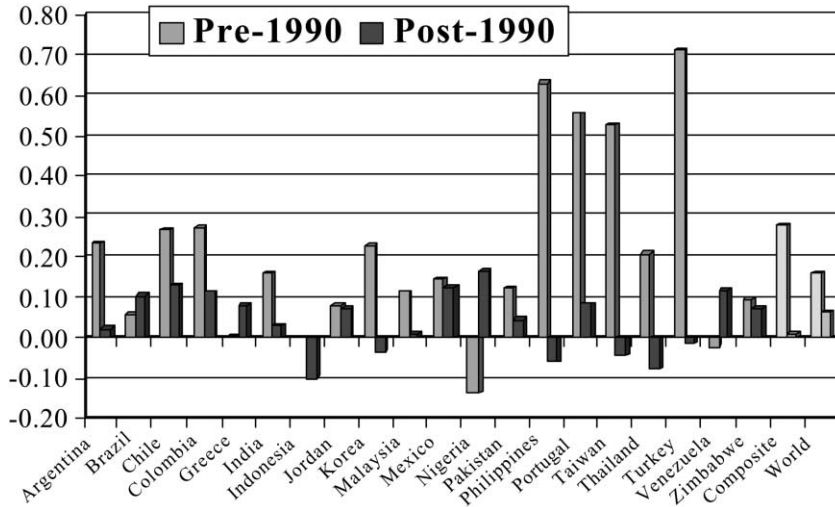


Fig. 1. Average annual geometric returns.

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2.4. Market integration impacts expected returns

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The theory suggests that expected returns should decrease. We have learned that this is, indeed, the case. Fig. 1 contrasts average annual average geometric returns for 20 emerging markets, the IFC composite portfolio and the MSCI world market portfolio, pre-1990 and post-1990. We choose this cutoff because of a number of liberalizations are clustered around this point. The graph shows a sharp drop in average returns which is consistent with the theory. However, this type of summary analysis ignores other things that might be going on in both individual emerging markets and in global capital markets.

Recent research attempts to control for other confounding economic and financial events, allows for some disagreement over the date of the capital market liberalization, introduces different proxies for expected returns, and allows for the gradual nature of the liberalization process. The bottom line is that expected returns still decrease (Bekaert and Harvey, 2000a; Henry, 2000a; Kim and Singal, 2000).

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2.5. Market integration has an ambiguous impact on market volatility

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We have learned that there is no obvious association between market integration and volatility. While some have tried to argue that foreigners tend to abandon markets when risk increases, leading to higher volatility, the empirical evidence shows no significant changes in volatility going from a segmented to an integrated capital market.

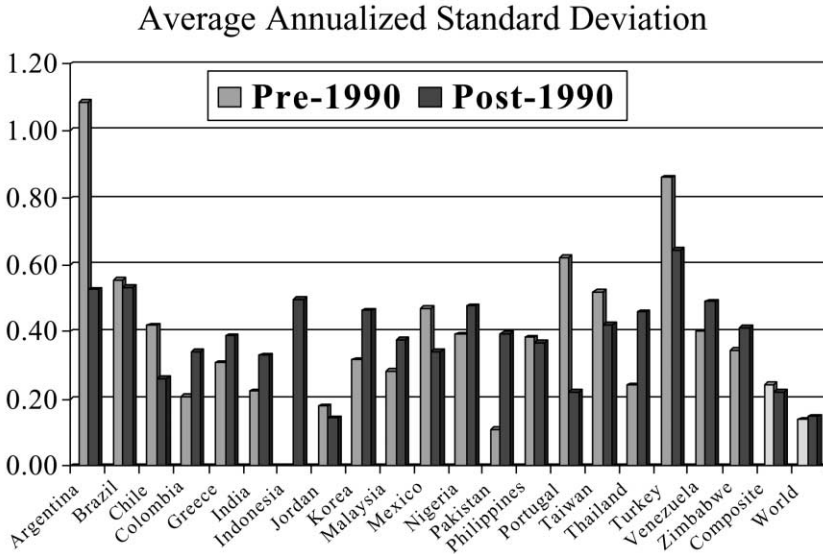


Fig. 2. Average annualized S.D.

Fig. 2 shows the annualized S.D. of 20 emerging market monthly returns with the split point of 1990. While it is true that some countries have seen a dramatic decrease in volatility (Argentina), there is no obvious pattern. In the 19 countries, 9 experience decreased volatility and 10 have increased volatility.

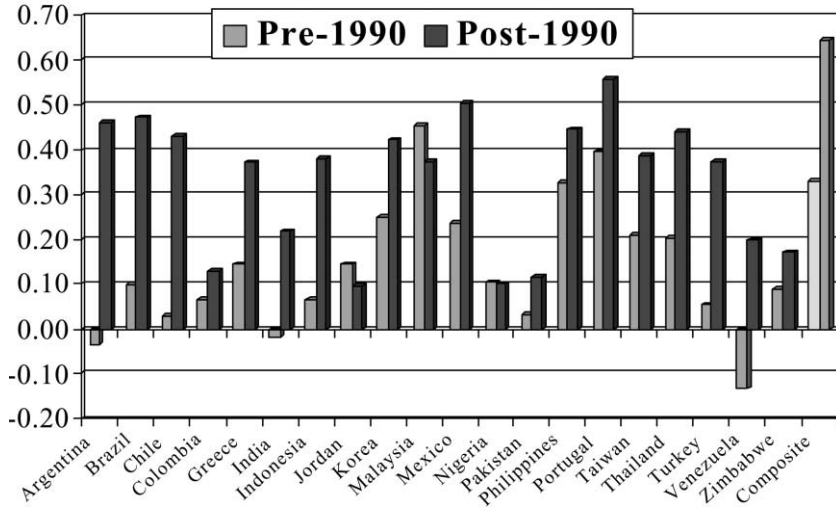
Again, the summary analysis in Fig. 2 makes no attempt to control for other factors that might change volatility. For example, the decreased volatility in Argentina was partially due to the economic policies that eliminated hyperinflation. Recent research attempts to model the volatility process carefully. For example, it makes sense to allow for time-varying expected returns and to allow for the volatility process to change as the country becomes more integrated into world capital markets. For example, as a country becomes more integrated into world capital markets, more of its variance might be explained by changes in common world factors (and less by local factors). When models are estimated that incorporate these complexities and that try to control for the state of the local economy, equity market liberalizations do not significantly impact volatility (Bekaert and Harvey, 1997, 2000a; Richards, 1996; Kim and Singal, 2000; De Santis and Imrohorglu, 1997; Aggarwal et al., 1999).

2.6. Market integration leads to higher correlations with the world

Theoretically, it is not necessarily the case that market integration leads to higher correlations with the world. A country with an industrial structure much different than the world's average structure might have little or no correlation with world equity returns after liberalization.

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Correlation with the MSCI World Market Return



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Fig. 3. Correlation with the MSCI world market return.

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However, we have learned that correlations do, on average, increase. Fig. 3 shows that 17 of 20 markets experience increased correlation with the world. The correlation of the IFC composite with the world return has doubled over the past 12 years. The evidence also suggests that the correlation among emerging markets has increased. Fig. 4 shows that the average correlation has nearly doubled over the past 12 years.

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Association can also be measured by the beta with respect to the world market return. In Fig. 5, the picture is very similar to the correlation analysis. In the overwhelming majority of countries, the beta increases. The beta of the IFC composite with the MSCI world increases from 0.36 in the pre-1990 period to 0.90 in the post-1990 period.

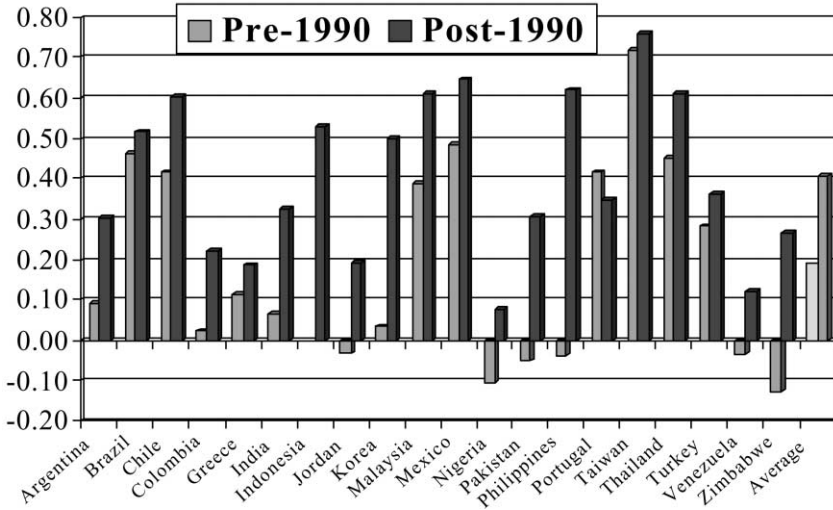
Again, it is important to control for other events. As with the analysis of expected returns and volatility, both correlations and betas increase after liberalizations even after introducing control variables.

When correlations increase, the benefits of diversification decrease. However, we have learned that the correlation of emerging market returns are still sufficiently low to provide important portfolio diversification.²

² De Santis (1993), Harvey (1995) detail the initial portfolio diversification benefits, Bailey and Lim (1992), Bekaert and Urias (1996, 1999), Errunza et al. (1999) evaluate the diversification benefits of country funds and ADRs. De Roon et al. (2001), Li et al. (in press) reexamine the diversification benefits in the presence of transactions costs and short-sale constraints.

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Correlation with the IFC Composite Return

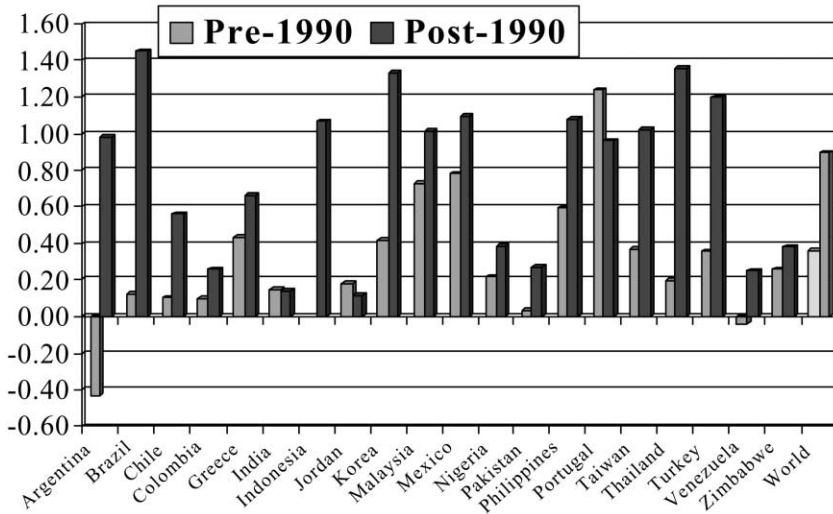


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Fig. 4. Correlation with the IFC composite return.

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Beta with the MSCI World Market Return



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Fig. 5. Beta with the MSCI world market return.

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2.7. *Capital flows increase after liberalization*

228 As barriers to entry decrease in emerging equity markets, foreign capital flows
229 in. We have learned that the initial foreign capital flows bid up prices and help
230 create a ‘return to integration’. While there is an initial increase in flows, in general,
231 these flows level out in the three years post-liberalization (Bekaert et al., 2002a;
232 Stulz, 1999; Griffin et al., 2002). While most countries welcome foreign equity
233 investment, many are concerned about the potentially disruptive impact of capital
234 flight during a crisis. Indeed, during the recent Asian crisis, Malaysia imposed
235 capital controls aimed at eliminating the possibility of foreign capital flight. However,
236 the evidence with respect to the Mexican crisis suggests that foreign investors
237 reduced their holdings in Mexico—but they were preceded by local investors that
238 had advance information. While most of the research on capital flows has relied on
239 the US Department of Treasury data, some of the most exciting research follows
240 from tracking either individual or institutional investors.³

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2.8. *Contagion happens*

242 Contagion refers to the abnormally high correlation between markets during a
243 crisis period. For emerging markets, there have been many crises in the last 10
244 years: Mexico in 1994–1995, East Asia 1997–1998, Russia 1998, Brazil 2000 and
245 Argentina in 2002. We have learned that some part of the increased correlation is
246 expected. One naturally expects higher correlation when volatility increases (Forbes
247 and Rigobon, in press; Bae et al., in press).

248 However, one must be careful about defining ‘abnormal’ correlation. In other
249 words, we need a model to define what is expected in terms of correlation. Suppose
250 that a world factor model governs returns. If the volatility of a particular world
251 factor increases, then the returns with the highest exposures to this factor will be
252 more correlated. Furthermore, it is possible that the exposures themselves are
253 dynamic. As exposure increases, so will correlation. Hence, it makes sense to define
254 contagion in terms of correlation over and above what one would expect from the
255 factor model. In defining contagion this way, there is substantial evidence of
256 contagion during the Asian crisis but no evidence of contagion during the Mexican
257 crisis (Bekaert et al., in press b; Tang, 2002).

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2.9. *Emerging market returns are not normally distributed*

259 In many applications in finance, we simplify the world by imposing the
260 assumption of normality for log returns distributions. We have learned that emerging
261 market returns are not normally distributed (Harvey, 1995). Furthermore, both post
262 and pre-liberalization returns are not normally distributed. That is, while the
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690 ³ The country level data is studied in Tesar and Werner (1995). Research on flows includes Warther
691 (1995), Edelen and Warner (2001). Research that examines high frequency data, particular investors or
692 particular securities is Choe et al. (1999), Froot et al. (2001), Clark and Berko (1997), Griffin et al.
693 (2002), Kim and Wei (2002).

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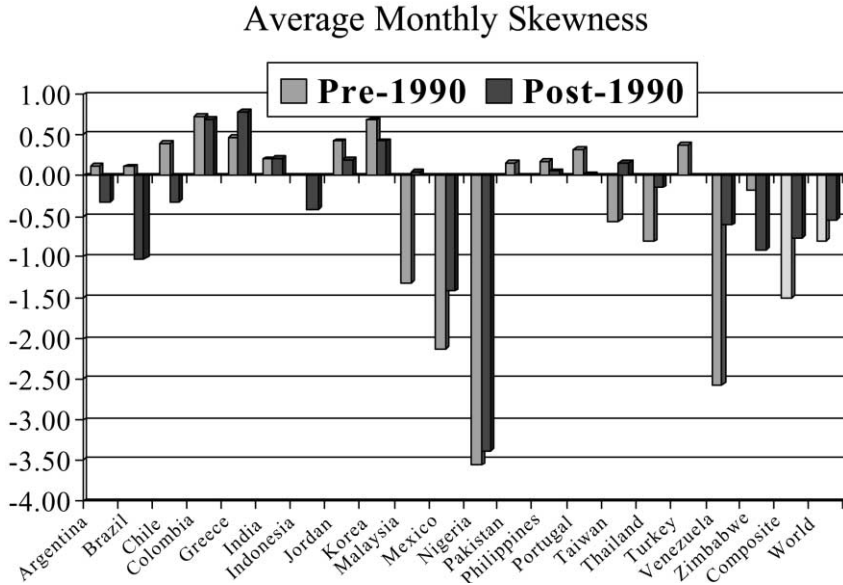


Fig. 6. Average monthly skewness.

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liberalization event impacts expected returns and correlations, it does not change the fact that emerging market returns are skewed and have fat tails.

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Figs. 6 and 7 show the skewness and excess kurtosis of emerging market log returns in the pre and post-1990 period. Notice that the considerable variation in the skewness of the individual country returns. The excess kurtosis is almost always greater than 0 indicating fatter tails than the normal distribution.

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There are a number of implications. First, this impacts the way that we model volatility in emerging markets. The standard distributional models are rejected by the data for many countries (Bekaert and Harvey, 1997). Second, the existence of higher moments means that we need to consider alternative models for risk (Harvey and Siddique, 2000; Harvey, 2000; Estrada, 2000). Third, portfolio decisions need to incorporate information about these higher moments (Bekaert et al., 1998).

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2.10. Emerging markets are relatively inefficient

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While it is common for informational efficiencies to exist in new and smaller equity markets, we have learned that many emerging equity markets do not behave like developed markets.

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Emerging market equity returns have higher serial correlation than developed market returns. This serial correlation is symptomatic of infrequent trading and slow adjustment to current information (Harvey, 1995; Kawakatsu and Morey, 1999). Emerging market returns are less likely to be impacted by company-specific news announcements than developed market returns. The evidence suggests that insider

Average Monthly Excess Kurtosis

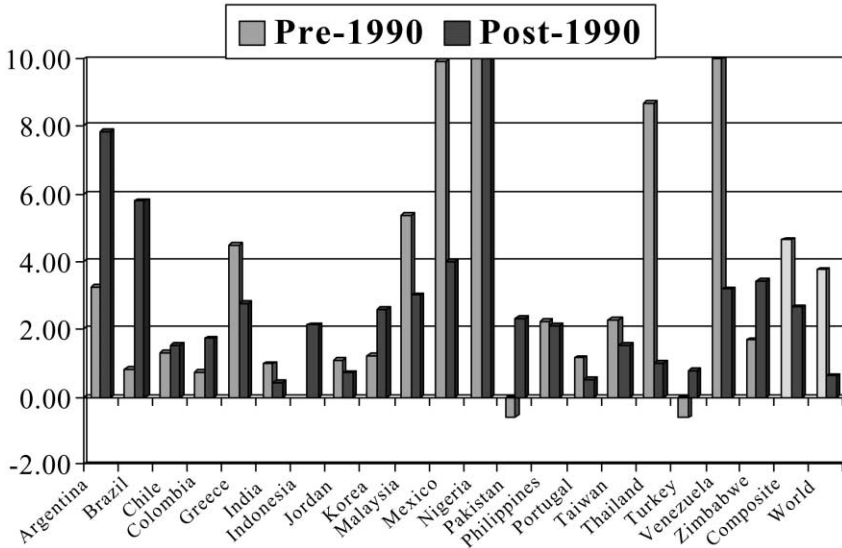


Fig. 7. Average monthly excess kurtosis.

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trading occurs well before the release of information to the public.⁴ Finally, there is a literature on stock selection in emerging markets that suggests that relatively simple combinations of fundamental characteristics can be used to develop portfolios that exhibit considerable excess returns to the benchmark (Achour et al., 1999; Fama and French, 1998; Rouwenhorst, 1999; Van Der Hart et al., in press). While none of these findings ‘prove’ that these markets are inefficient, the preponderance of evidence suggests that these markets are relatively less informationally efficient than developed markets.

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2.11. There are important links between the real economy and finance

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Market integration is associated with lower expected returns. Effectively, the cost of capital decreases. It makes sense that investment should increase as more projects have a positive net present value. We have learned that this is indeed the case (Bekaert and Harvey, 2000a; Henry, 2000b). Finance also impacts other aspects of the real economy.

In addition to investment increasing, evidence shows that the trade balance worsens after equity market liberalizations suggesting that the additional investment is indeed financed by foreign capital. Interestingly, personal consumption does not increase—there is no evidence that a ‘consumption binge’ occurs when new capital

⁴ See Bhattacharya et al. (2000). There is also work that examines the informativeness of domestic versus foreign investors, see Choe et al. (2002).

302 enters the market. Finally, real GDP growth increases. The evidence suggests that
303 real economic growth increases, on average, by 1% per year over the five years
304 following the opening of equity markets.

305 Indeed, there is a considerable literature on the linkage between finance and
306 growth. Much research has focused on banking liberalization and capital account
307 liberalization (Demirgüç-Kunt and Levine, 1996; Levine and Zervos, 1996, 1998a,b;
308 Levine et al., 2000; Laeven, 2001) or on how better developed markets help relax
309 financing constraints and improve the allocation of capital (Love, in press; Rajan
310 and Zingales, 1998; Wurgler, 2000; Galindo et al., 2001; Lins et al., 2001). Only
311 recently have we learned about the relative importance of equity market
312 liberalization.

313 Of course, the impact on the real economy is an average effect—some countries
314 grow faster than others. Research has suggested some ingredients for faster growth.
315 If the economy has a good infrastructure, for example a high level of secondary
316 school enrollment, it is more likely to benefit from an equity market liberalization
317 (Bekaert et al., 2001). It is also the case that possible GDP growth gains are
318 negatively influenced by the state of development of the country's financial markets.
319 For example, if the bank loan market is active and robust, this will mute the impact
320 of opening an equity market on GDP prospects (Bekaert et al., 2002b).

321 While it is difficult to attribute causality from the financial sector to the real
322 economy, the evidence points to the important role of equity capital markets in the
323 economic growth prospects of less-developed countries.

324 *2.12. Foreign portfolio investors do not cause havoc in emerging markets*

325 While there is no robust evidence that the volatility of equity returns increases
326 on average after liberalizations – the volatility of the real economy may ultimately
327 be more important. Recent economic sharp economic declines during the Asian
328 crisis, for example, have led some to argue that liberalization may lead to increased
329 volatility of a country's economic growth (for e.g. see Stiglitz, 2000). We have
330 learned that this is not the case. In tests that exclude the Asian crisis, there is
331 evidence of a significant decline in economic growth volatility. When the Asian
332 crisis is included, this evidence is weakened. However, there is no evidence of
333 significantly increased volatility (Bekaert et al., 2002c).

334 The volatility of economic growth is related to the concept of globalization
335 leading to improved risk sharing. When the predictable components of consumption
336 growth are stripped out, the evidence weighs in favor of risk sharing (decreased
337 idiosyncratic consumption growth volatility after liberalizations).⁵

338 **3. Future research directions**

339 *3.1. Theoretical models of the integration process*

340 Our theoretical models are best characterized as static models of integrated/
341 segmented economies. The true process is dynamic and much more complicated

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698 ⁵ See Lewis (1996, 1999, 2000), Athanasoulis and van Wincoop (2000, 2001) for tests of international
699 risk sharing. Bekaert et al. (2002c) link international risk sharing directly to equity market liberalizations.

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that our current models. For example, policy makers in emerging markets may strategically set the opening of their markets to maximize the revenue from privatization programs.⁶ While some empirical models have tried to characterize the degree of openness of capital markets, they are lacking a theoretical framework.

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3.2. What is the cost of capital in emerging markets?

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It is particularly interesting to examine the state of the practice of finance in estimating the cost of equity capital in emerging markets. Most realize that the assumptions of the CAPM are violated. Numerous ad hoc attempts have been made to add something to the CAPM-based cost of capital—because the CAPM yields an expected rate of return that is deemed too low to be reasonable. One of the more popular attempts is to supplement the CAPM required rate of return with the addition of the yield spread between the emerging market's US dollar denominated government bond yields and the US Treasury yield of the same maturity. Another method redefines the 'beta' as the ratio of local to world S.D. (rather than the usual definition of covariance divided by world variance). Both of these attempts are without theoretical foundation.

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3.3. What is the relation between different types of reforms?

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There are many different categories of financial reforms: the banking sector or equity market may be opened up to foreign investment and foreign exchange restrictions may be lifted. Many of these reforms relax 'restrictions on payments for capital account transactions' defined by the International Monetary Fund which is the 0/1 variable underlying the capital account openness measures used frequently.⁷ There are legal reforms as well as macroeconomic reforms. Most studies have focused on one particular type of reform without reference to the others. We need a better understanding of the relation between the different types of reforms.

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3.4. The sequencing of reforms

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The plethora of reforms begs an important policy question: What is the optimal sequencing of reforms?⁸ For example, should banking liberalization precede equity market liberalization? The issue of sequencing is complicated because of the small number of observations from somewhat heterogeneous markets. However, the stakes are high. Given the relation between economic growth and financial liberalization, the correct sequencing of reforms could make a substantial difference for the economic prospects of any particular country.

⁶ Megginson and Netter (2001) provide a survey of the privatization literature.

⁷ Eichengreen (2001) reviews the literature on capital account liberalization; Beim and Calomiris (2001) discuss the domestic financial reforms that are often part of a financial liberalization.

⁸ Edwards (1987) examines the sequencing of economic reforms.

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3.5. *Microstructure in less than ideal conditions*

376 Much of the important work on market microstructure has focused on US equity
377 markets. Emerging equity markets provide special challenges and a diverse range
378 of opportunities (Domowitz et al., 1998; Cherkaoui and Ghysels, in press; Lesmond,
379 2002). Many countries are setting up exchanges and struggling to decide the best
380 structure. Indeed, the type of exchange may be dependent on the characteristics of
381 the particular emerging market. While the goal is to maximize the chance of fair
382 prices, microstructure alone cannot provide these answers. The institutional structure,
383 legal and regulatory environment (e.g. accounting disclosure rules) all impact the
384 outcomes.

385 On the boundaries of market microstructure and asset pricing there is much
386 interest in the effects of (time-variation in) liquidity on expected returns and asset
387 prices (see Jones, 2000 for e.g.). Emerging markets constitute ideal laboratories to
388 test predictions regarding liquidity and asset prices (Bekaert et al., 2002d).

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3.6. *Firm level analysis*

390 Most of the work on emerging markets has focused on country level aggregate
391 indices. Relatively little work has focused on the behavior of individual
392 companies.⁹ For example, it would be interesting to examine the reaction of a
393 particular company to liberalization measures. Is it the case that local firms become
394 more specialized? In the segmented state, firms have the incentive to inefficiently
395 diversify in order to reduce their volatility to attract local equity investment
396 (Obstfeld, 1994). This could be tested. In addition, it would be interesting to follow
397 firms' investment policies after market integration decreases the cost of equity
398 capital. Finally, it would be interesting to examine the impact, at the firm level, of
399 different types of liberalizations, e.g. banking versus equity market.

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3.7. *Agency and management issues*

401 In some respects, corporations in emerging markets provide an ideal testing
402 ground for some important theories in corporate finance. For example, it is often
403 argued that the existence of a sufficient amount of debt helps mitigate the agency
404 problems that arise as a result of the separation of ownership and control. In a
405 number of emerging markets, the existence of cross-ownership provides an environ-
406 ment where there is an acute separation of cash flow and voting rights. Given the
407 possibility of severe agency problems, emerging markets provide an ideal venue to
408 test these theories. That is, powerful tests of these theories can be conducted in
409 samples that have large variation in agency problems (Harvey et al., 2002).

707

708 ⁹Chari and Henry (2001) examine the change in risk of individual firms after liberalizations. The
709 ADR literature also examines the behavior of individual firms, see, for example, Foerster and Karolyi
710 (1999).

410

3.8. *Corporate governance and the legal environment*

411 In order to compete in world capital markets, a number of countries are grappling
412 with setting rules or formal laws with respect to corporate governance. There is a
413 growing realization that inadequate corporate governance mechanisms will increase
414 the cost of equity capital for emerging market corporations as they find it more
415 difficult to obtain equity investors (Klapper and Love, 2002; Dyck and Zingales,
416 2002; Denis and McConnell, in press; Pinkowitz et al., 2002). Research needs to
417 adapt our current knowledge of best practice in corporate governance to the unique
418 characteristics of individual emerging markets.

419 There are also important issues with respect to the legal environment. What is
420 the optimal level of securities regulation in these countries? Trying to replicate the
421 US Securities and Exchange Commission may cause firms to list on other exchanges
422 with less stringent regulations. Of course the existence of regulations or the
423 establishment of a regulatory body does little, unless it is supplemented with credible
424 enforcement.

425 3.9. *Infrastructure and growth opportunities*

426 Many emerging countries have extremely modest infrastructures. In addition to
427 important questions such as the legal, regulatory and microstructure of the equity
428 market, important choices need to be made on basic infrastructure needs of a
429 country. It is not clear what the best choices are and there is very little research on
430 this topic. For example, how much capital should be allocated to education vs.
431 transportation infrastructure? These are important policy choices.

432 3.10. *Political science and finance*

433 We have learned that political risk is priced in many emerging markets (Bekaert
434 et al., 1997; Perotti and van Oijen, 2001). One difference between emerging and
435 developed markets is the much more prominent role of politics in emerging markets.
436 These markets tend to have larger public sector. An interesting course for future
437 research is to examine the relationship between politics (e.g. the degree of
438 democratization), financial reforms and future economic growth (Quinn, 1997, 2001;
439 Quinn et al., 2001).

440 3.11. *Convergence and demographics*

441 Are there social costs, in terms of greater income inequality, that follow financial
442 liberalization? (Das and Mohapatra, in press). What is the relation between
443 demographics and the probability of success (measured in terms of economic
444 growth) of capital market reforms? The field of demographics is virtually untrodden
445 with respect to finance.¹⁰

711

712 ¹⁰ Erb et al. (1997) relate demographic characteristics to expected returns. Stulz and Williamson
713 (2002) examine the role of culture.

446

4. Conclusions

447 Much of the research in finance focuses on the most efficient markets in the
 448 world, in particular, the US and other G-7 markets. The conditions of these markets
 449 are most likely to be consistent with the assumptions of our theoretical models.
 450 Rich empirical tests can be carried out using data as granular as individual
 451 transactions. This luxury does not exist in emerging markets.

452 Emerging equity markets provide a challenge to existing models and beg the
 453 creation of new models. While the data are not nearly as extensive, it is better for
 454 the empiricist to use what is available than to use nothing. Such work demands
 455 extensive robustness tests given the limited nature of the data.

456 Nevertheless, the stakes are high. Given the relation between finance and the real
 457 economy, the research we do in emerging markets has a chance to make an impact
 458 beyond the particular equity markets that we examine. For example, in many of the
 459 emerging markets, the impact of a lower cost of capital (and its subsequent impact
 460 on economic growth) can be measured not just in dollars—but in the number of
 461 people that are elevated from a desperate subsistence level to a more adequate
 462 standard of living.

463

5. Uncited references

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 465 and Larrain (2000).

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