

Research in Emerging Markets Finance: Looking to the Future

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

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

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

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

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.

JEL classification:

Keywords: Emerging equity markets, market integration, market segmentation, diversification, market liberalization, portfolio flows, market reforms, economic growth, contagion, capital flows, market microstructure, cost of capital.

This paper is based on a presentation made to the conference on Valuation in Emerging Markets at University of Virginia, May 28-30, 2002. We have benefited from discussions with and the comments of Chris Lundblad and Bob Brunner. *Corresponding author. E-mail address: cam.harvey@duke.edu

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.

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.¹ Indeed, in the 1920s Argentina had a greater market capitalization than the United Kingdom.

More fundamentally, even the United States 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 1825.² 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 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 as a comprehensive review article. [A more comprehensive review can be found in Bekaert and Harvey (2003)]. 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.

¹ See Goetzmann and Jorion (1999)

² See Chernow (1990).

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 around 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.

I. How much have we learned about emerging markets?

While much has been learned, our knowledge is incomplete on a number of major issues. Below we characterize the progress that has been made in understanding these markets.

THE THEORY OF MARKET SEGMENTATION AND MARKET INTEGRATION

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

Some of the early work in international finance tries to model the impact of market integration on security prices.³ A simple intuition can be gained from looking at asset prices in the context of the Sharpe (1964) and Lintner's (1965) capital asset pricing model (CAPM). In a completely segmented market, assets will be priced off the local market return. The local expected return is a product of the local beta times the local market risk premium. Given the high volatility of local returns, it is likely that the local expected return is high. In the integrated capital market, the expected return is determined by the beta with respect to the world market portfolio multiplied by the world risk premium. It is likely that this expected return is much lower. Hence, in the transition from a segmented to an integrated market, prices should rise and expected returns should decrease.

DATING MARKET INTEGRATION IS COMPLICATED

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

³ Stulz (1981a,b), Errunza and Losq (1985), Eun and Janakiramanan (1986), Alexander, Eun and Jankiramanan (1987), Errunza, Hogan and Senbet (1998), Bekaert and Harvey (1995).

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

Hence, a number of different strategies have been pursued in an attempt to “date” the integration of world capital markets. There are four main approaches to this dating exercise: event association, inference from the behavior of financial assets and inference from the behavior of key economic aggregates and market infrastructure. The event association strategies include: (1) the regulatory reform date, (2) the date (preferably announcement) of the first country fund, (3) the date (announcement) of the first local equity listing or American Depositary Receipt on a foreign exchange.⁴ The finance strategies involve looking for changes in the behavior of asset returns and linking the change date to market integration. For example, if dividend yields are associated with expected returns, a sharp drop in dividend yields could be associated with an effective market liberalization reflecting the permanent price increase associated with the liberalization.⁵ The economic strategies involve the analysis of key economic aggregates that might be impacted by liberalization.⁶ For example, a sharp increase in equity capital flows by foreigners would seem to be evidence of an effective liberalization.⁷ Finally, market infrastructure refers to the degree of investor protection and the quality of the accounting standards. For example, some have looked at the date of the enforcement of capital market regulations, such as insider trading prosecutions as market integration.⁸

MARKET INTEGRATION IS OFTEN A GRADUAL PROCESS

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

⁴ See Miller (1999). Other literature relevant for ADRs includes Karolyi (1998), Karolyi and Foerster (1999) and Urias (1994).

⁵ See Bekaert, Harvey and Lumsdaine (2002a) and Basu, Morey and Kawakatsu (1999).

⁶ See Kim and Singal (2000), Bekaert, Harvey and Lumsdaine (2002a) and Basu, Morey and Kawakatsu (1999).

⁷ See Bekaert and Harvey (2000b), Bekaert, Harvey and Lumsdaine (2002b) and Stulz (1999).

⁸ See Bekaert and Harvey (2000a), Henry (2000a) and Bhattacharya and Daouk (2002).

Empirical models have been developed that allow the degree of market integration to change through time. This moves us away from the static segment/integrated paradigm to dynamic partial segmentation/partial integration paradigm.⁹ Whereas these models are indirect, relying on a model and econometric estimation to infer changes in the degree of integration, there are more direct measures available. For example, sometimes the ratio of “investable” market capitalization to “global” market capitalization, as defined by the International Finance Corporation, is used as a proxy for the degree of integration.¹⁰ This realization is particularly useful because many countries are in the process of liberalizing their capital markets. Often the relevant question is how fast should this occur.

MARKET INTEGRATION IMPACTS EXPECTED RETURNS

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 twenty emerging markets, the IFC composite portfolio and the MSCI world market portfolio, pre-1990 and post-1990. We choose this cutoff because 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 factors that might simultaneously affect the cost of capital 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.¹¹

MARKET INTEGRATION HAS AN AMBIGUOUS IMPACT ON MARKET VOLATILITY

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 shows the annualized standard deviation 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

⁹ See Bekaert and Harvey (1995, 1997), Adler and Qi (2002).

¹⁰ See Bekaert (1995) and Edison and Warnock (2003).

¹¹ See Bekaert and Harvey (2000a), Henry (2000a) and Kim and Singal (2000).

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.¹²

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.

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.

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.¹³

CAPITAL FLOWS INCREASE AFTER LIBERALIZATION

¹² See Bekaert and Harvey (1997, 2000a), Richards (1996), Kim and Singal (2000), De Santis and Imrohoroglu (1997) and Aggarwal, Inclan and Leal (1999).

¹³ DeSantis (1993) and Harvey (1995) detail the initial portfolio diversification benefits, Bailey and Lim (1992), Bekaert and Urias (1996, 1999) and Errunza, Hogan and Hung (1999) evaluate the diversification benefits of country funds and ADRs. De Roon, Nijman and Werker (2001) and Li, Sarker and Wang (2003) reexamine the diversification benefits in the presence of transactions costs and short-sale constraints.

As barriers to entry decrease in emerging equity markets, foreign capital flows in. We have learned that the initial foreign capital flows bid up prices and help create a “return to integration”. While there is an initial increase in flows, in general, these flows level out in the three years post-liberalization.¹⁴ While most countries welcome foreign equity investment, many are concerned about the potentially disruptive impact of capital flight during a crisis. Indeed, during the recent Asian crisis, Malaysia imposed capital controls aimed at eliminating the possibility of foreign capital flight. However, the evidence with respect to the Mexican crisis suggests that foreign investors reduced their holdings in Mexico – but they were preceded by local investors that had advance information. While most of the research on capital flows has relied on the U.S. Department of Treasury data, some of the most exciting research follows from tracking either individual or institutional investors.¹⁵

CONTAGION HAPPENS

Contagion refers to the abnormally high correlation between markets during a crisis period. For emerging markets, there have been many crises in the last 10 years: Mexico in 1994-1995, East Asia 1997-1998, Russia 1998, Brazil 2000 and Argentina in 2002. We have learned that some part of the increased correlation is expected. One naturally expects higher correlation when volatility increases.¹⁶

However, one must be careful about defining “abnormal” correlation. In other words, we need a model to define what is expected in terms of correlation. Suppose that a world factor model governs returns. If the volatility of a particular world factor increases, then the returns with the highest exposures to this factor will be more correlated. Furthermore, it is possible that the exposures themselves are dynamic. As exposure increases, so will correlation. Hence, it makes sense to define contagion in terms of correlation over and above what one would expect from the factor model. In defining contagion this way, there is substantial evidence of contagion during the Asian crisis but no evidence of contagion during the Mexican crisis.¹⁷

EMERGING MARKET RETURNS ARE NOT NORMALLY DISTRIBUTED

In many applications in finance, we simplify the world by imposing the assumption of normality for log returns distributions. We have learned that emerging market returns are not normally distributed.¹⁸ Furthermore, both post and pre-liberalization returns are not normally distributed. That is, while the liberalization event impacts expected returns and

¹⁴ See Bekaert, Harvey and Lumsdaine (2002b), Stulz (1999) and Griffin, Nardari and Stulz (2002).

¹⁵ The country level data is studied in Tesar and Werner (1995). Research on flows includes Warther (1995) and Edelen and Warner (2001). Research that examines high frequency data, particular investors or particular securities is Choe, Kho and Stulz (1999), Froot, O’Connell and Seasholes (2001), and Clark and Berko (1997), Griffin, Nardari and Stulz (2002), and Kim and Wei (2002).

¹⁶ See Forbes and Rigobon (2002) and Bae, Karolyi and Stulz (2002).

¹⁷ See Bekaert, Harvey and Ng (2003) and Tang (2002).

¹⁸ See Harvey (1995).

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

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 zero indicating fatter tails than the normal distribution.

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.¹⁹ Second, the existence of higher moments means that we need to consider alternative models for risk.²⁰ Third, portfolio decisions need to incorporate information about these higher moments.²¹

EMERGING MARKETS ARE RELATIVELY INEFFICIENT

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.

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.²² Emerging market returns are less likely to be impacted by company-specific news announcements than developed market returns. The evidence suggests that insider trading occurs well before the release of information to the public.²³ 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.²⁴ 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.

THERE ARE IMPORTANT LINKS BETWEEN THE REAL ECONOMY AND FINANCE

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

¹⁹ See Bekaert and Harvey (1997).

²⁰ See Harvey and Siddique (2000), Harvey (2000) and Estrada (2000).

²¹ See Bekaert, Erb, Harvey and Viskanta (1998).

²² See Harvey (1995), Morey and Kawakatsu (1999).

²³ See Bhattacharya, Daouk, Jorgenson and Kehr (2000). There is also work that examines the informativeness of domestic versus foreign investors, see Choe, Kho and Stulz (2002).

²⁴ See Achour et al. (1999), Fama and French (1998), Rouwenhorst (1999) and Van der Hart, Slagter and Van Dijk (2003).

positive net present value. We have learned that this is indeed the case.²⁵ 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 enters the market. Finally, real GDP growth increases. The evidence suggests that real economic growth increases, on average, by 1% per year over the five years following the opening of equity markets.

Indeed, there is a considerable literature on the linkage between finance and growth. Much research has focused on banking liberalization and capital account liberalization²⁶ or on how better developed markets help relax financing constraints and improve the allocation of capital.²⁷ Only recently have we learned about the relative importance of equity market liberalization.

Of course, the impact on the real economy is an average effect – some countries grow faster than others. Research has suggested some ingredients for faster growth. If the economy has a good infrastructure, for example a high level of secondary school enrollment, it is more likely to benefit from an equity market liberalization.²⁸ It is also the case that possible GDP growth gains are negatively influenced by the state of development of the country’s financial markets. For example, if the bank loan market is active and robust, this will mute the impact of opening an equity market on GDP prospects.²⁹

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

FOREIGN PORTFOLIO INVESTORS DO NOT CAUSE HAVOC IN EMERGING MARKETS

While there is no robust evidence that the volatility of equity returns increases on average after liberalizations – the volatility of the real economy may ultimately be more important. Recent economic sharp economic declines during the Asian crisis, for example, have led some to argue that liberalization may lead to increased volatility of a country’s economic growth.³⁰ We have learned that this is not the case. In tests that exclude the Asian crisis, there is evidence of a significant decline in economic growth volatility. When the

²⁵ See Bekaert and Harvey (2000a) and Henry (2000b).

²⁶ See Demirgüç-Kunt and Levine (1996b), Levine and Zervos (1996, 1998a,b), Levine, Loayza and Beck (2000) and Laeven (2001).

²⁷ See Love (2002), Rajan and Zingales (1998), Wurgler (2000), Galindo, Schiantarelli, and Weiss (2001) and Lins, Strickland and Zenner (2001).

²⁸ See Bekaert, Harvey and Lundblad (2001).

²⁹ See Bekaert, Harvey and Lundblad (2002a).

³⁰ For example, see Stiglitz (2000).

Asian crisis is included, this evidence is weakened. However, there is no evidence of significantly increased volatility.³¹

The volatility of economic growth is related to the concept of globalization leading to improved risk sharing. When the predictable components of consumption growth are stripped out, the evidence weighs in favor of risk sharing (decreased idiosyncratic consumption growth volatility after liberalizations).³²

II. Future research directions

THEORETICAL MODELS OF THE INTEGRATION PROCESS

Our theoretical models are best characterized as static models of integrated/segmented economies. The true process is dynamic and much more complicated than 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.³³ While some empirical models have tried to characterize the degree of openness of capital markets, they are lacking a theoretical framework.

WHAT IS THE COST OF CAPITAL IN EMERGING MARKETS?

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 U.S. dollar denominated government bond yields and the U.S. Treasury yield of the same maturity. Another method redefines the “beta” as the ratio of local to world standard deviations (rather than the usual definition of covariance divided by world variance). Both of these attempts are without theoretical foundation.

WHAT IS THE RELATION BETWEEN DIFFERENT TYPES OF REFORMS?

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

³¹ See Bekaert, Harvey and Lundblad (2002b).

³² See Lewis (1996, 1999, 2000) and Athanasoulis and van Wincoop (2000, 2001) for tests of international risk sharing. Bekaert, Harvey and Lundblad (2002b) link international risk sharing directly to equity market liberalizations.

³³ Megginson and Netter (2001) provide a survey of the privatization literature.

underlying the capital account openness measures used frequently.³⁴ There are legal reforms regarding the domestic financial system 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.

THE SEQUENCING OF REFORMS

The plethora of reforms begs an important policy question: What is the optimal sequencing of reforms?³⁵ 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.

MICROSTRUCTURE IN LESS THAN IDEAL CONDITIONS

Much of the important work on market microstructure has focused on U.S. equity markets. Emerging equity markets provide special challenges and a diverse range of opportunities.³⁶ Many countries are setting up exchanges and struggling to decide the best structure. Indeed, the type of exchange may be dependent on the characteristics of the particular emerging market. While the goal is to maximize the chance of fair prices, microstructure alone cannot provide these answers. The institutional structure, legal and regulatory environment (e.g. accounting disclosure rules) all impact the outcomes.

On the boundaries of market microstructure and asset pricing there is much interest in the effects of (time-variation in) liquidity on expected returns and asset prices.³⁷ Emerging markets constitute ideal laboratories to test predictions regarding liquidity and asset prices.³⁸

FIRM LEVEL ANALYSIS

Most of the work on emerging markets has focused on country level aggregate indices. Relatively little work has focused on the behavior of individual companies.³⁹ For example, it would be interesting to examine the reaction of a particular company to liberalization measures. Is it the case that local firms become more specialized? In the

³⁴ 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.

³⁵ Edwards (1987) examines the sequencing of economic reforms.

³⁶ See Domowitz, Glen and Madhavan (1998), Cherkaoui and Ghysels (2003) and Lesmond (2002).

³⁷ See Jones (2000) for example.

³⁸ See Bekaert, Harvey and Lundblad (2002c).

³⁹ Chari and Henry (2002) examine the change in risk of individual firms after liberalizations. The ADR literature also examines the behavior of individual firms, see, for example, Foerster and Karolyi (1999).

segmented state, firms have the incentive to inefficiently diversify in order to reduce their volatility to attract local equity investment.⁴⁰ This could be tested. In addition, it would be interesting to follow firms' investment policies after market integration decreases the cost of equity capital. Finally, it would be interesting to examine the impact, at the firm level, of different types of liberalizations, e.g. banking versus equity market.

AGENCY AND MANAGEMENT ISSUES

In some respects, corporations in emerging markets provide an ideal testing ground for some important theories in corporate finance. For example, it is often argued that the existence of a sufficient amount of debt helps mitigate the agency problems that arise as a result of the separation of ownership and control. In a number of emerging markets, the existence of cross-ownership provides an environment where there is an acute separation of cash flow and voting rights. Given the possibility of severe agency problems, emerging markets provide an ideal venue to test these theories. That is, powerful tests of these theories can be conducted in samples that have large variation in agency problems.⁴¹

CORPORATE GOVERNANCE AND THE LEGAL ENVIRONMENT

In order to compete in world capital markets, a number of countries are grappling with setting rules or formal laws with respect to corporate governance. There is a growing realization that inadequate corporate governance mechanisms will increase the cost of equity capital for emerging market corporations as they find it more difficult to obtain equity investors.⁴² Research needs to adapt our current knowledge of best practice in corporate governance to the unique characteristics of individual emerging markets.

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

INFRASTRUCTURE AND GROWTH OPPORTUNITIES

Many emerging countries have extremely modest infrastructures. In addition to important questions such as the legal, regulatory and microstructure of the equity market, important choices need to be made on basic infrastructure needs of a country. It is not clear what the best choices are and there is very little research on this topic. For example, how

⁴⁰ See Obstfeld (1994).

⁴¹ See Harvey, Roper and Lins (2002).

⁴² See Klapper and Love (2002), Dyck and Zingales (2002), Denis and McConnell (2002) and Pinkowitz, Stulz and Williamson (2002).

much capital should be allocated to education versus transportation infrastructure? These are important policy choices.

POLITICAL SCIENCE AND FINANCE

We have learned that political risk is priced in many emerging markets.⁴³ One difference between emerging and developed markets is the much more prominent role of politics in emerging markets. These markets tend to have larger public sector. An interesting course for future research is to examine the relationship between politics (e.g. the degree of democratization), financial reforms and future economic growth.⁴⁴

CONVERGENCE AND DEMOGRAPHICS

Are there social costs, in terms of greater income inequality, that follow financial liberalization?⁴⁵ What is the relation between demographics and the probability of success (measured in terms of economic growth) of capital market reforms? The field of demographics is virtually untrodden with respect to finance.⁴⁶

III. Conclusions

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

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

Nevertheless, the stakes are high. Given the relation between finance and the real economy, the research we do in emerging markets has a chance to make an impact beyond the particular equity markets that we examine. For example, in many of the emerging markets, the impact of a lower cost of capital (and its subsequent impact on economic

⁴³ See Bekaert, Erb, Harvey and Viskanta (1997) and Perotti and van Oijen (2001).

⁴⁴ See Quinn (1997, 2001) and Quinn, Inclan and Toyoda (2001).

⁴⁵ See Das and Mohapatra (2003).

⁴⁶ Erb, Harvey and Viskanta (1997) relate demographic characteristics to expected returns. Stulz and Williamson (2002) examine the role of culture.

growth) can be measured not just in dollars -- but in the number of people that are elevated from a desperate subsistence level to a more adequate standard of living.

References

- Achour, D., C. R. Harvey, G. Hopkins and C. Lang, Stock Selection in Emerging Markets: Portfolio Strategies for Malaysia, Mexico and South Africa, *Emerging Markets Quarterly* 1999, Winter, 38-91.
- Adler, M. and R. Qi, 2002, Working paper, Columbia University.
- Aggarwal, R., Inclan, C., Leal R., 1999. Volatility in emerging stock markets. *Journal of Financial and Quantitative Analysis* 34, 33-55.
- Alexander, G., Eun, C.S., and Janakiramanan, S., "International Listing and Stock Returns : Some Empirical Evidence", *Journal of Financial and Quantitative Analysis*, 23, June 1988, 135-152
- Arteta, C., B. Eichengreen and C. Wyplosz, 2001, When Does Capital Account Liberalization Help More than it Hurts? Unpublished working paper, Graduate Institute of International Studies, Geneva.
- Athanasoulis, S. G., and E. van Wincoop, 2000, Growth uncertainty and risk sharing, *Journal of Monetary Economics* 45, 477--505.
- Athanasoulis, S. G., and E. van Wincoop, 2001, Risk sharing within the United States: What do financial markets and fiscal federalism accomplish, *Review of Economics and Statistics* 83, 688--698.
- Bae, Kee-Hong, G. Andrew Karolyi, and Rene M. Stulz, 2002, A New Approach to Measuring Financial Contagion, *Review of Financial Studies*, forthcoming.
- Bailey, W. and Lim, J., 1992, Evaluating the diversification benefits of the new country funds, *Journal of Portfolio Management*, 74-80.
- Basu, P., H. Kawakatsu and M. Morey, 1999, Liberalization and stock prices in emerging markets, *Emerging Markets Quarterly*, 1-17.
- Beim, D. O. and Charles W. Calomiris, 2001, *Emerging Financial Markets*.
- Bekaert, Geert, 1995, Market integration and investment barriers in emerging equity markets, *World Bank Economic Review* 9, 75--107.
- Bekaert, Geert, Claude B. Erb, Campbell R. Harvey and Tadas E. Viskanta, 1997, "What Matters for Emerging Market Investment," *Emerging Markets Quarterly* 1:2, 17-46.
- Bekaert, Geert, Claude B. Erb, Campbell R. Harvey and Tadas E. Viskanta, 1998, Distributional Characteristics of Emerging Market Returns and Asset Allocation *Journal of Portfolio Management* Winter, 102-116.
- Bekaert, Geert, and Campbell R. Harvey, 1995, Time-varying world market integration, *Journal of Finance* 50, 403--444.
- Bekaert, Geert, and Campbell R. Harvey, 1997, Emerging equity market volatility, *Journal of Financial Economics* 43, 29-78.
- Bekaert, Geert and Campbell R. Harvey, 2000a, Foreign speculators and emerging equity markets, *Journal of Finance* 55, 565-614.

- Bekaert, Geert and Campbell R. Harvey, 2000b, Capital Flows and the Behavior of Emerging Market Equity Returns, in Sebastian Edwards, ed., *Capital Inflows to Emerging Markets*, NBER and University of Chicago Press, 159-194.
- Bekaert, Geert and Campbell R. Harvey, 2003, Emerging Markets Finance, *Journal of Empirical Finance*, forthcoming.
- Bekaert, Geert, Campbell R. Harvey, and Robin Lumsdaine, 2002a, The dynamics of emerging market equity flows, *Journal of International Money and Finance* 2002, forthcoming.
- Bekaert, Geert, Campbell R. Harvey, and Robin Lumsdaine, 2002b, Dating the integration of world capital markets, *Journal of Financial Economics* 65,2 203-248.
- Bekaert, Geert, Campbell R. Harvey, and Christian Lundblad, 2001, Emerging equity markets and economic growth, *Journal of Development Economics*, 66, 465-504
- Bekaert, Geert, Campbell R. Harvey, and Christian Lundblad, 2002a, Does financial market liberalization spur growth? Unpublished working paper, Columbia, Duke and Indiana Universities.
- Bekaert, Geert, Campbell R. Harvey, and Christian Lundblad, 2002b, Growth Volatility and Equity Market Liberalization? Unpublished working paper, Columbia, Duke and Indiana Universities.
- Bekaert, Geert, Campbell R. Harvey, and Christian Lundblad, 2002c, Liquidity and expected returns: Lessons from emerging markets, Unpublished working paper, Columbia, Duke and Indiana Universities.
- Bekaert, Geert, Campbell R. Harvey and Angela Ng, 2003, Market Integration and Contagion, *Journal of Business*, forthcoming.
- Bekaert, Geert, Campbell R. Harvey, and Andrew Roper, 2002, Large scale privatization and the dynamics of emerging market equity returns, Working paper, Columbia, Duke and Wisconsin.
- Bekaert, Geert and Michael Urias, 1996, Diversification, Integration and Emerging Market Closed-end Funds, *Journal of Finance* 51, 835-869.
- Bekaert, Geert and Michael Urias, 1999, "Is There a Free Lunch in Emerging Market Equities?" *Journal of Portfolio Management* 25, Spring 1999, 83-95.
- Bhattacharya, U. and H. Daouk, 2002, The World Price of Insider Trading, *Journal of Finance* 57, 75-108
- Bhattacharya, U., H. Daouk, B. Jorgenson and C.-H. Kehr, 2000, When an Event is Not an Event: The Curious Case of an Emerging Market, *Journal of Financial Economics* 55, 69-101
- Cherkaoui, M. and E. Ghysels, 2003, Emerging markets and trading costs: Lessons from Cassablanca, *Journal of Empirical Finance*, forthcoming.
- Chernow, Ron, *The House of Morgan*, 1990, Simon & Schuster: New York.
- Chari, A. and P. B. Henry, 2001, Stock market liberalizations and the repricing of systematic risk, Working paper, Stanford University.
- Choe, H., Kho, B.-C., Stulz, R. M., 1999. Do foreign investors destabilize stock markets? The Korean experience in 1997. *Journal of Financial Economics* 54, 227-264.
- Choe, H., Kho, B.-C., Stulz, R. M., 2002, Do domestic investors have more valuable information about individual stocks than foreign investors? Working paper, The Ohio State University.

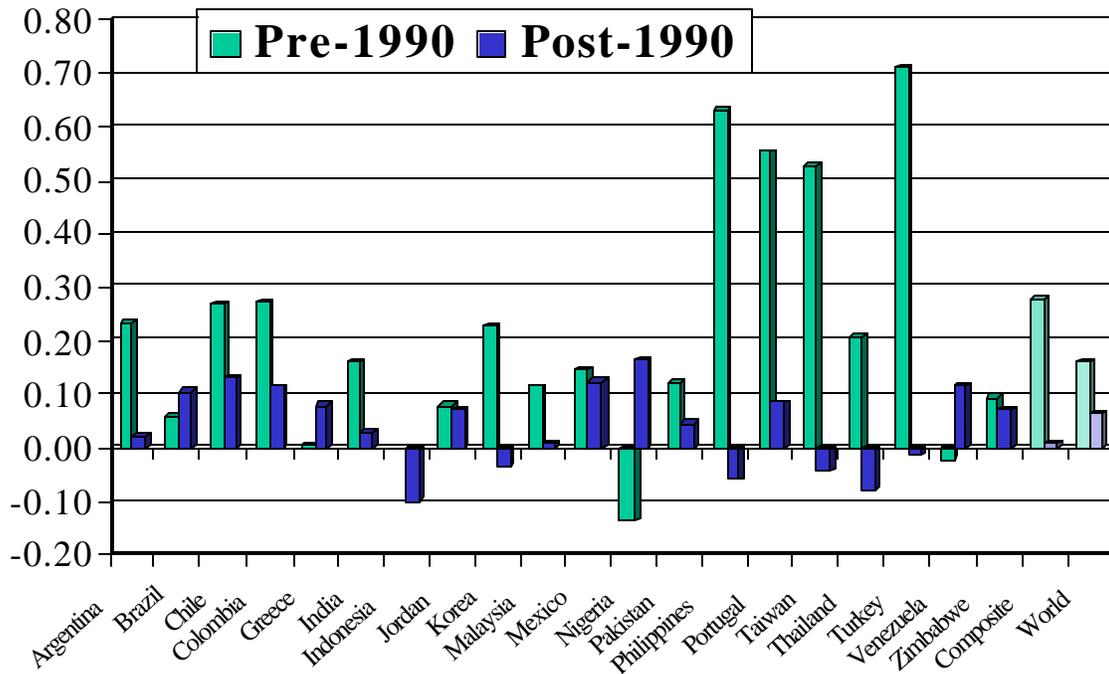
- Claessens, S., S. Djankov and L. Klapper, 2003, Resolution of Corporate Distress in East Asia, *Journal of Empirical Finance* forthcoming.
- Clark, J., Berko, E., 1997. Foreign investment fluctuations and emerging market stock returns: The case of Mexico, Staff report 24, Federal Reserve Bank of New York, New York, NY.
- Das, M., and S. Mohapatra, 2002, Income Inequality: The Aftermath of Stock Market Liberalization in Emerging Markets, *Journal of Empirical Finance*, forthcoming.
- Demirgüç-Kunt, A. and R. Levine, 1996, Stock Market Development and Financial Intermediaries: Stylized Facts, *World Bank Economic Review* 10, 291-322.
- Denis, Diane K. and John J. McConnell, 2002, International Corporate Governance, *Journal of Financial and Quantitative Analysis* forthcoming.
- De Roon, F., Th.E. Nijman and B.J.M. Werker, 2001, Testing for Mean-Variance Spanning with Short Sales Constraints and Transaction Costs: The Case of Emerging Markets, *Journal of Finance* 2001, 56, p. 723-744.
- De Santis, G., 1993, Asset Pricing and Portfolio Diversification: Evidence from Emerging Financial Markets. World Bank Symposium on Portfolio Investment in Developing Countries" Washington, D.C.
- De Santis, G., Imrohorglu, S., 1997. Stock returns and volatility in emerging financial markets. *Journal of International Money and Finance* 16, 561-579.
- Domowitz, I., J. Glen and A. Madhavan, 1998, International cross-listing and order flow migration: Evidence from an emerging market, *Journal of Finance* 53, 2001-2028.
- Dyck, Alexander and Luigi Zingales, 2002, Private benefits of control: An international comparison, National Bureau of Economic Research.
- Edelen, R. M., Warner, J. B., 2001. Aggregate Price Effects of Institutional Trading: A Study of Mutual Fund Flow and Market Returns, *Journal of Financial Economics* 59, 195-220.
- Edison, H. and F. Warnock, 2002, A simple measure of the intensity of capital controls, Working paper, Board of Governors of the Federal Reserve System.
- Edwards, S., 1987, Sequencing of Economic Liberalization in Developing Countries, *Finance and Development* 24, 1, 26-29.
- Eichengreen, B., 2001, Capital Account Liberalization: What do the Cross-Country Studies Tell Us?, *World Bank Economic Review* 15, 3, 341-365.
- Erb, C. B, C. R. Harvey and T. E. Viskanta, 1997, Demographics and International Investment, *Financial Analysts Journal* 53:4, 14-28
- Errunza, V., K. Hogan and M.-W. Hung, 1999, Can the Gains from International Diversification be Achieved Without Trading Abroad? *Journal of Finance*, Vol. 54, pp. 2075-2107
- Errunza, V. K. Hogan and L. Senbet, 1998, The Pricing of Country Funds From Emerging Markets: Theory and Evidence, *International Journal of Theoretical and Applied Finance*, 111-143.
- Errunza, Vihang R. and Etienne Losq, 1985, International asset pricing under mild segmentation: Theory and test, *Journal of Finance* 40, 105--124.
- Esquivel G. and F. Larrain, 2000, Determinants of Currency Crises, *Trimestre Economico* 67 (266), 191-237.

- Estrada, J., 2000, The Cost Of Equity In Emerging Markets: A Downside Risk Approach, *Emerging Markets Quarterly* 4, 9-30
- Fama, E. F. and K.R. French, 1998, Value versus growth: International evidence, *Journal of Finance* 53, 1975-2000.
- Foerster, Stephen and Andrew Karolyi, 1999, The Effects of Market Segmentation and Investor Recognition on Asset Prices: Evidence from Foreign Stocks Listing in the U.S., *Journal of Finance* 54, 1999, 981-1014.
- Forbes, Kristin and Roberto Rigobon, 2002, No Contagion, Only Interdependence: Measuring Stock Market Co-movements, *Journal of Finance*, forthcoming.
- Froot, K. A., O'Connell, P. G. J., Seasholes, M. S., 2001. The Portfolio Flows of International Investors. *Journal of Financial Economics* 59, 151-194.
- Galindo, A., F. Schiantarelli, and A. Weiss, 2001, Does Financial Liberalization Improve the Allocation of Investment, Unpublished working paper, Boston College.
- Goetzmann, W. and P. Jorion, 1999, Re-emerging markets, *Journal of Financial and Quantitative Analysis* 34, 1-32.
- Griffin, J.M., F. Nardari and R. Stulz, Daily cross-border equity flows: pushed or pulled? Working paper, The Ohio State University.
- Harvey, Campbell R., 1995, Predictable risk and returns in emerging markets, *Review of Financial Studies* 8, 773--816.
- Harvey, Campbell R., 2000, The drivers of expected returns in international markets, *Emerging Markets Quarterly*, 32-49.
- Harvey, C. R. and A. Siddique, 2000, Conditional skewness in asset pricing tests, *Journal of Finance* 55, 1263-1295
- Harvey, C. R., K. Lins and A. Roper, 2002, The effect of capital structure when expected agency costs are extreme, Working paper, Duke University.
- Henry, Peter Blair, 2000a, Stock market liberalization, economic reform, and emerging market equity prices, *Journal of Finance* 55, 529-564
- Henry, P. B., 2000b, Do Stock Market Liberalizations Cause Investment Booms, *Journal of Financial Economics* 58, 301-334.
- Jones, C. M., 2000, A century of stock market liquidity and trading costs, Working paper, Columbia University.
- Karolyi, G. Andrew, 1998, Why Do Companies List Their Shares Abroad? (A Survey of the Evidence and its Managerial Implications), Volume 7, Number 1, Salomon Brothers Monograph Series, New York University, 60 pages.
- Kawakatsu, H. and M.R. Morey, 1999, An empirical examination of financial liberalization and efficiency of emerging market stock prices, *Journal of Financial Research* 22 (4), 385-411.
- Kim, E. H., Singal, V., 2000. Opening up of stock markets: Lessons from emerging economies. *Journal of Business* 73, 25-66.
- Kim, Woochan and Shang-Jin Wei, 2002, Foreign Portfolio Investors Before and During a Crisis, *Journal of International Economics* 56, 77-96
- Klapper, L. and I. Love, 2002, Corporate governance, investor protection and performance in emerging markets, World Bank.

- Laeven, L., 2001, Financial Liberalization and Financing Constraints: Evidence from Panel Data on Emerging Economies, Working paper, World Bank.
- Lesmond, D. A., 2002, The costs of equity trading in emerging markets, Working paper, Tulane University.
- Levine, R., N. Loayza and T. Beck, 2000, Financial Intermediation and Growth: Causality and Causes, *Journal of Monetary Economics* 46, 31--77.
- Levine, R. and S. Zervos, 1996, Stock Market Development and Economic Growth, *World Bank Economic Review* 10, 323-340.
- Levine, R. and S. Zervos, 1998a, Stock Markets, Banks, and Economic Growth, *American Economic Review* 88:3, 537--558.
- Levine, R. and S. Zervos, 1998b, Capital Control Liberalization and Stock Market Development, *World Development*, August, 1169-1183.
- Lewis, K. K., 1996, What can explain the apparent lack of international consumption risk sharing?, *Journal of Political Economy* 104, 267-297.
- Lewis, K. K., 1999, Trying to explain home bias in equities and consumption, *Journal of Economic Literature* 37, 571-608.
- Lewis, K. K., 2000, Why do stocks and consumption imply such different gains from international risk sharing?, *Journal of International Economics* 52, 1-35.
- Li, K., A. Sarker and Z. Wang, 2003, Diversification benefits of emerging markets subject to portfolio constraints, *Journal of Empirical Finance* forthcoming.
- Lins, K., D. Strickland and M. Zenner, 2001, Do Non-U.S. Firms Issue Equity on U.S. Exchanges to Relax Capital Constraints? Working paper, University of Utah.
- Lintner, John, 1965, The valuation of risk assets and the selection of risky investments in stock portfolios and capital budgets, *Review of Economics and Statistics* 47, 13--37.
- Love, I., 2002, Financial Development and Financing Constraints: International Evidence from the Structural Investment Model, *Review of Financial Studies*, forthcoming.
- Meggison, W. L. and J. M. Netter, 2001, From state to market: A survey of empirical studies on privatization, *Journal of Economic Literature* 39, 321-389.
- Miller, Darius P., 1999, The impact of international market segmentation on securities prices: evidence from Depositary Receipts. *Journal of Financial Economics* 51, 103-123.
- Obstfeld, M., 1994, Risk-taking, global diversification, and growth, *American Economic Review* 84, 1310-1329.
- Perotti, E., and P. van Oijen, 2001, Privatization, Political Risk and Stock Market Development in Emerging Economies, *Journal of International Money and Finance* 20, 1, 43-69.
- Pinkowitz, L., R. M. Stulz and R. Williamson, 2002, Corporate Governance and the Home Bias, Working paper, The Ohio State University.
- Quinn, D., 1997, The Correlates of Changes in International Financial Regulation, *American Political Science Review* 91, 531--551.
- Quinn, D., 2001, Democratization and International Financial Liberalization, Unpublished working paper, Georgetown University.

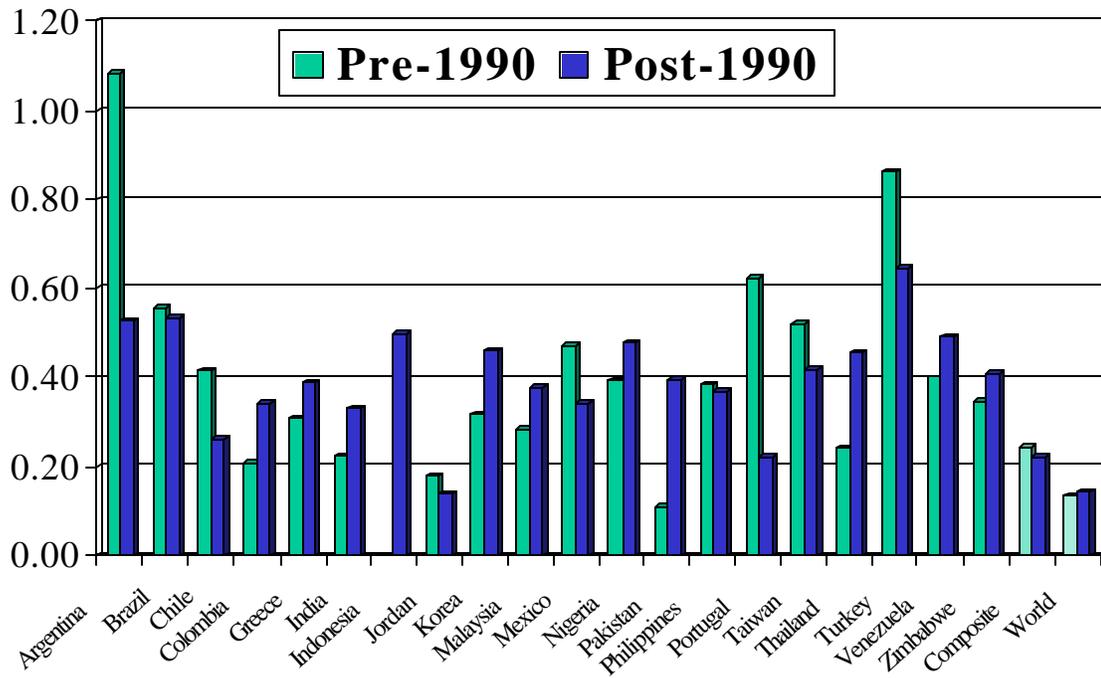
- Quinn, D., C. Inchan and A. M. Toyoda, 2001, How and Where Capital Account Liberalization Leads to Growth, Unpublished working paper, Georgetown University.
- Rajan, R. G. and L. Zingales, 1998, Financial Dependence and Growth, *American Economic Review* 88, 559-586.
- Richards, A. J., 1996, Volatility and predictability in national markets: How do emerging and mature markets differ? Staff paper, International Monetary Fund, Washington, D.C.
- Rouwenhorst, K. G., 1999, Local return factors and turnover in emerging stock markets, *Journal of Finance* 54, 1439-1464.
- Sharpe, William, 1964, Capital asset prices: A theory of market equilibrium under conditions of risk, *Journal of Finance* 19, 425-442.
- Stiglitz, J. E., 2000, Capital Market Liberalization, Economic Growth and Instability, *World Development* 25, 1075-1086.
- Stulz, Rene, 1981a, On the Effects of Barriers to International Investment, *Journal of Finance* 36 923-934.
- Stulz, Rene, 1981b, A model of international asset pricing, *Journal of Financial Economics* 9, 383-406.
- Stulz, R. M., 1999. International portfolio flows and security markets. In Feldstein, M., (Ed.), *International Capital Flows*, National Bureau of Economic Research.
- Stulz, R. M. and R. Williamson, 2002, Culture, Openness, and Finance, Working paper, The Ohio State University.
- Tang, J.W., 2002, Contagion: An Empirical Test, Unpublished working paper, Duke University.
- Tesar, L., Werner, I., 1995. U.S. equity investment in emerging stock markets. *World Bank Economic Review* 9 (1), 109-130.
- Urias, Michael, 1994, The impact of security cross-listing on the cost of capital in emerging markets, Unpublished dissertation, Stanford University, Stanford CA.
- Van Der Hart, J. V., E. Slagter and D. van Dijk, 2003, Stock selection strategies in emerging markets, *Journal of Empirical Finance* forthcoming.
- Warther, V. A., 1995. Aggregate mutual fund flows and security returns. *Journal of Financial Economics* 39, 209-235.
- Wurgler, J., 2000, Financial Markets and the Allocation of Capital, *Journal of Financial Economics* 58, 187-214.

Fig. 1
Average Annual Geometric Returns



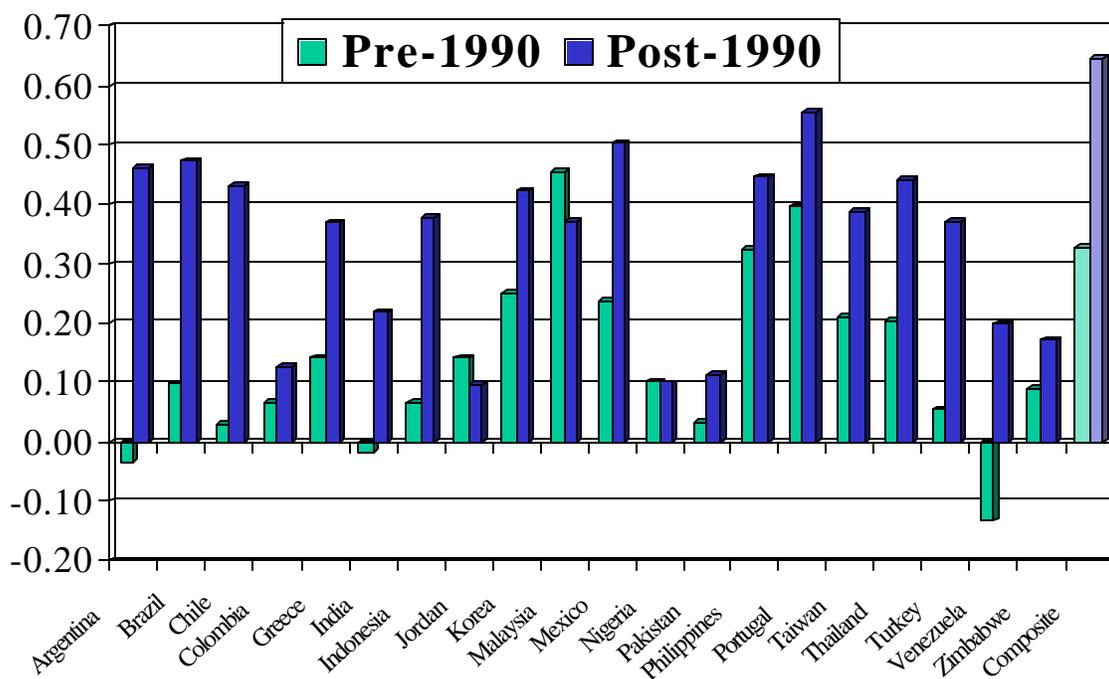
Data through April 2002

Fig. 2
Average Annualized Standard Deviation



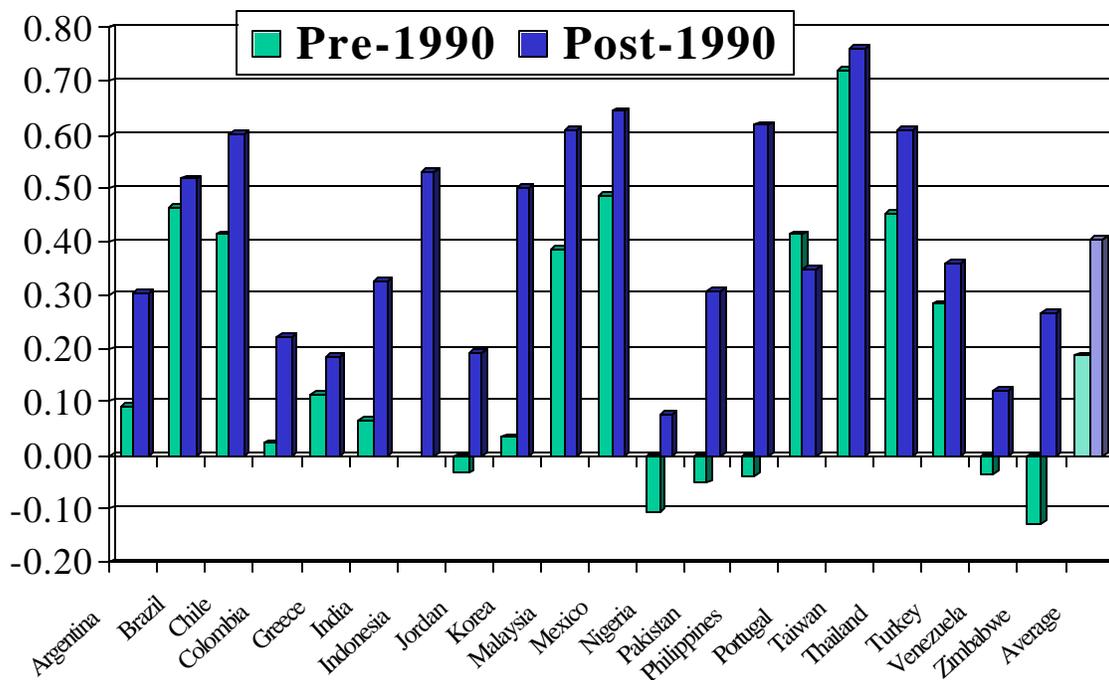
Data through April 2002

Fig. 3
Correlation with the MSCI World Market Return



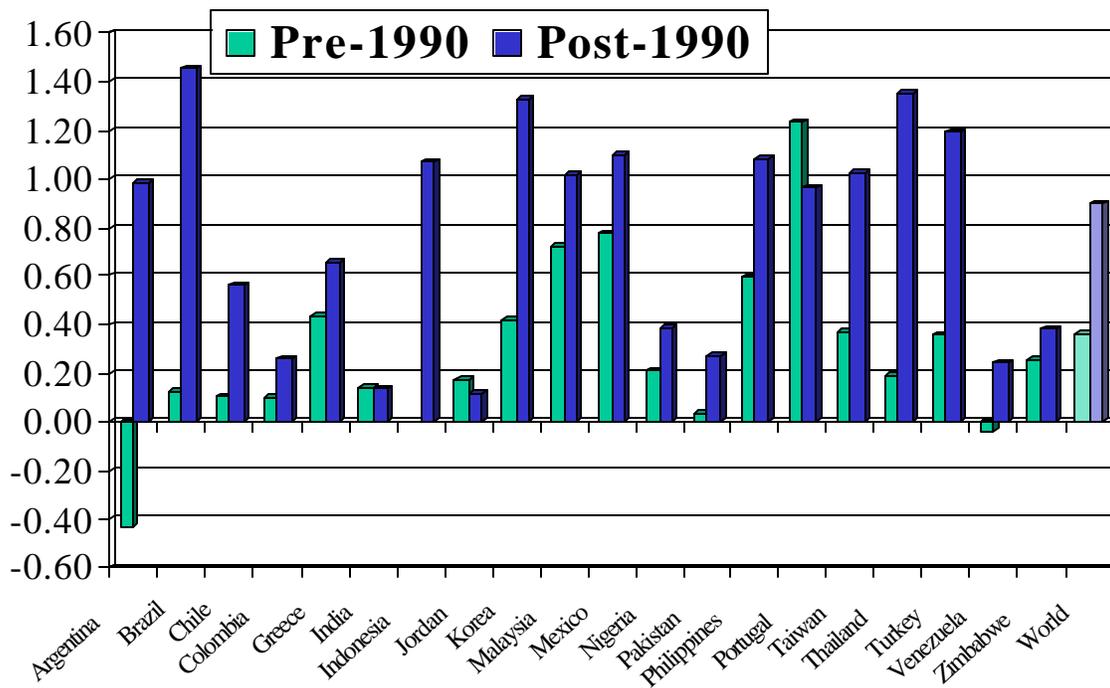
Data through April 2002

Fig. 4
Correlation with the IFC Composite Return



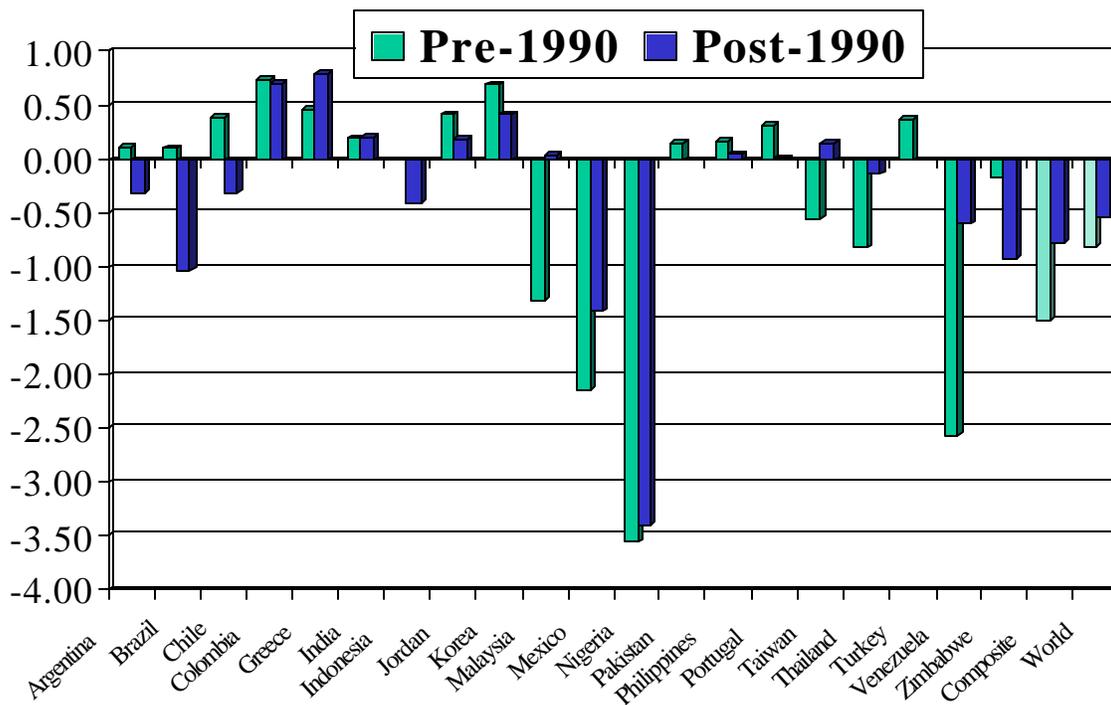
Data through April 2002

Fig. 5
Beta with the MSCI World Market Return



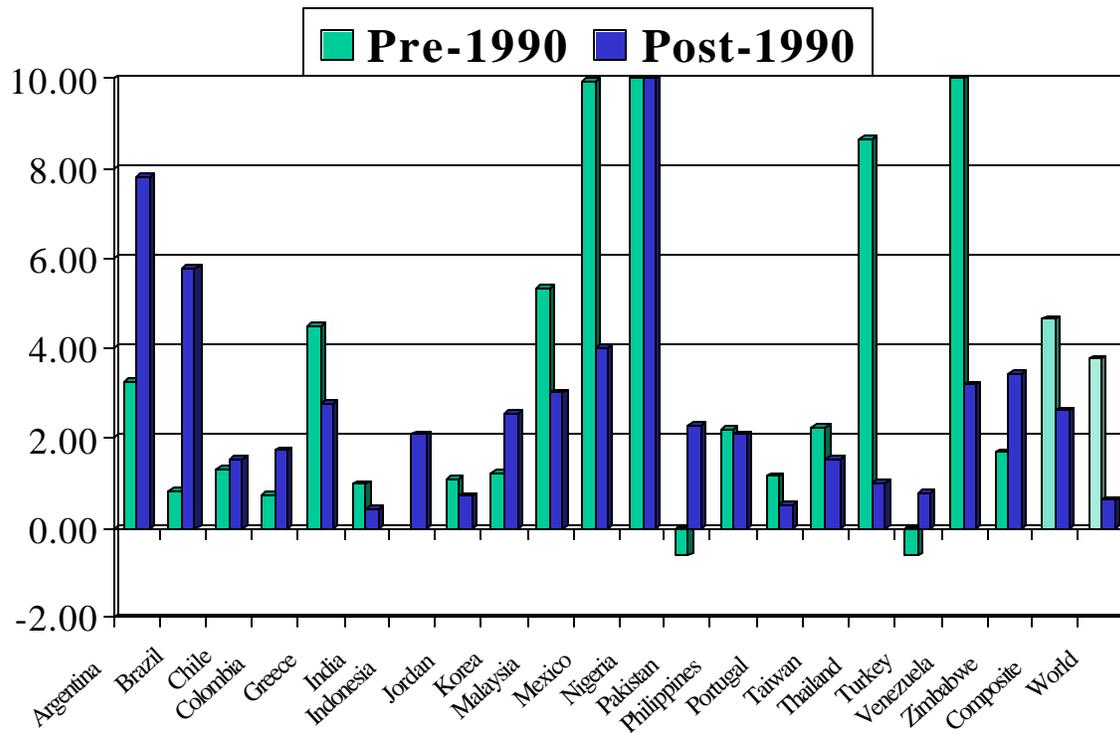
Data through April 2002

Fig. 6
Average Monthly Skewness



Log returns. Data through April 2002

Fig. 7
Average Monthly Excess Kurtosis



Log returns. Data through April 2002