

# The Importance of Emerging Capital Markets

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1. Introduction

In a little under two decades, the spread of market-oriented policies has turned the once so-called lesser-developed countries into emerging markets. In 1982, the 32 developing country stock markets surveyed by the International Finance Corporation (IFC) had a market capitalization of \$67 billion representing about 2.5% of world market capitalization. By the end of 1999, the IFC identified 81 emerging stock markets with total market capitalization exceeding \$3,000 billion or 8.5% of world equity market capitalization. In 1999, the value of outstanding domestic debt securities trading in emerging markets exceeded \$1.4 trillion, representing 4.7% of the global bond market and a several-fold increase over the total 20 years earlier. On the other hand, bank lending to emerging markets in 1999 totaled only \$783.7 billion (11.9% of consolidated international claims of BIS reporting banks), a relatively small increase over the \$517.6 billion (36.9% of the total) in claims held by banks in 1980.

Many forces underlie these broad trends. The debt crisis of the early 1980s cooled bankers' appetite for sovereign loans to developing nations. The financial crises in the second half of the 1990s (in Mexico 1995, Asia 1997, and Russia 1998 along with other hot spots) brought a fresh reminder of the perils of cross-border lending. In contrast, public financial markets for equity and debt securities were encouraged by market-oriented policies to permit private ownership of economic activities, including ownership to a larger extent by foreigners. Massive privatization programs, corporate restructuring, and financial

innovations (such as global offerings and changes to the financial infrastructure) helped to fuel the process.

As dramatic as these changes have been, emerging financial markets still reflect a continuum of market conditions. Some markets are maturing and on course toward converging and integrating into the world of mature, developed financial markets. Markets in other countries are almost non-existent or deserving of the “frontier” label given by the IFC to markets one step below emerging.

This paper will present data that sketches the size and scope of financial markets in emerging nations. Our focus is on the markets for foreign exchange, debt securities, equities, and bank lending in emerging nations. We will present descriptive information about these markets, and analyze some of the important institutional features that have affected their growth and development. While the paper is largely descriptive, we will attempt to analyze the overall importance of emerging financial markets, not from the standpoint of how they contribute to their own national development, but rather from the standpoint of how they contribute to the opportunities for investors and financial intermediaries from developed nations.

In international economics, it is often the case that the gains from international trade in goods or capital are proportional to the difference in some measure between the two trading nations. Thus, the gains from trade are enhanced when there is a greater difference in relative factor endowments, relative prices, or technology on a pre-trade basis. In many respects, economists have used this concept to assess the impact of bringing emerging financial markets into the picture. The potential gains are greatest as the pre-trade marginal product of capital differs (expected value gains) or as the time

pattern of asset returns differ (diversification gains from imperfect correlation in business cycles or financial market conditions).

However, an argument can be made that emerging markets have paid a price for being “too different,” meaning laden with idiosyncratic risks, weak institutions, and poor corporate governance. These are properties that discourage investors and lessen the prospects for reaping the full gains from international trade in capital. If this is the case, then emerging markets may find that their future lies in becoming more integrated into the world financial markets rather than remaining on the fringes where they risk being marginalized. A related consideration is whether countries should attempt to reform their own institutions and markets to encourage this type of integration, or simply “outsource” many financial market activities (such as listing, clearing and settlement) to more mature markets that have experience and credibility.

In the next section of this paper, we present an overview of emerging nations and the nature of their financial markets. In Section 3, we review more detailed data on the markets for foreign exchange, fixed income, equity, and bank lending in emerging markets. Where appropriate, we assess primary as well as secondary market data, and the role of recent and prospective innovations for the market. In Section 4, we re-examine the importance of emerging markets in light of recent findings about the nature of emerging market returns and the investment opportunities open to investors from mature markets. A summary and conclusions are in the final section.

## 2. A Helicopter View of Emerging Markets

### *a. Defining Emerging Markets and Countries*

To begin, it is important to define what we mean by an emerging market (EM). The International Finance Corporation (IFC) uses income per capita and market capitalization relative to GNP for classifying equity markets. If either (1) a market resides in a low- or middle-income economy, or (2) the ratio of investable market capitalization to GNP is low, then the IFC classifies the market as *emerging*. The IFC identified 81 such countries in their *Emerging Stock Markets Factbook 2000*. Countries that meet the income criteria (in 1998, high income was defined by the World Bank as \$9,361 per capita GNP) and have an investable market capitalization to GNP ratio in the top 25% of all emerging markets for three consecutive years become part of the Emerging Markets Data Base (EMDB) Index.<sup>1</sup> Currently, this index is comprised of 30 countries. Countries are “graduated” from the EMDB Index if their income rises into the high-income category for three consecutive years.<sup>2</sup>

In September 1996, the IFC began calculating an index for “frontier” markets that were relatively illiquid but still met several criteria based on market capitalization, turnover, number of listings, and development prospects. Currently the S&P/IFC Frontier Index is comprised of 20 countries.<sup>3</sup> Figure 1 charts GNP per capita against market capitalization as a percentage of GNP to show the general characteristics of developed, emerging, and frontier equity markets.

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<sup>1</sup> Unless otherwise noted, all World Bank and IFC statistics are taken from various issues of the *Emerging Stock Markets Factbook*, published by the International Finance Corporation from 1987-1999, and by Standard & Poor’s in 2000.

<sup>2</sup> In March 31, 1999, Portugal became the first graduate from the IFC emerging market indices.

<sup>3</sup> In 1998, Slovakia graduated from the Frontier Index to join the S&P/IFC Investable Index.

Perhaps surprisingly, several countries (South Korea, Mexico, Czech Republic, Hungary, and Poland) are classified as emerging even though they are members of the Organization for Economic Cooperation and Development (OECD). Greece, a member of the OECD as well as the European Economic and Monetary Union (EMU), is also classified as an emerging market. Figure 1 suggests that Greece may soon be a candidate for graduation.<sup>4</sup>

Bond markets are classified as emerging on a similar basis. However, on those criteria, both Hong Kong and Singapore (nations with high per capita GNP and well developed equity markets) are classified as “emerging” from the standpoint of their bond markets.

#### *b. How Large are Global and Emerging Financial Markets?*

Table 1 shows a snapshot of various absolute and relative size measures of emerging and developed markets in 1998. As of 1998, the World Bank reported development indicators for 206 countries, of which 155 (or about 75%) were classified as emerging. As shown in Table 1, emerging market nations represent the vast majority of the world’s population (about 85% of 5.8 billion people in 1998), but a far smaller share of world GNP (only 21.7% of a \$28.8 trillion world total in 1998). The combination of low income and high population results in GNP per capita of only \$1,246 in EM nations, compared to \$25,480 in the developed nations. Income growth in EM nations

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<sup>4</sup> Indeed, in July 2000, Morgan Stanley Capital International (MSCI), one of the leading providers of global indices and benchmark related products, reclassified Greece as a developed market. The MSCI decision came shortly after Greek admission to EMU was announced. However, Standard and Poor’s continues to classify Greece as an emerging market for the S&P/IFC indices.

has generally been faster so that the 21.7% share for emerging markets is the largest in recent history, rising from about 12% in 1987. (See Figure 2)

By definition, financial markets in EM nations have a smaller profile than in developed countries. While all developed countries have an equity marketplace, of the 155 EM nations only 81 have equity markets that are tracked in any way by the IFC. And in those 81 markets, equity markets are small relative to their economies with market capitalization at only 30-40% of GNP, as compared to 70-80% of GNP in the developed markets (See Figure 3). Indeed, the surge of initial public offerings, privatization sales and rising share prices helped push the market capitalization to GNP ratio in developed markets to over 110% in 1998.

The major categories of financial markets have shown spectacular growth over the last 20 years, but with few exceptions, the role played by emerging market nations remains small. World equity market capitalization has grown from under \$3.0 trillion in 1980 to over \$36 trillion in 1999 (See Figure 4). Over this period, the EM share has grown from roughly 3.0% to 8.5%, after hitting a peak of 12.5% in 1994. Over the same period, the size of the world bond market has grown on a similar scale, from \$4.0 trillion in 1981 to more than \$31 trillion in 1999.<sup>5</sup> (See Figure 5) The share of debt securities in emerging markets has grown from around 3.0% in 1990 to almost 5.0% in 1999, representing \$1.4 trillion in outstanding bonds.<sup>6</sup> (See Figure 6) Like equity markets,

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<sup>5</sup> The size of the bond market is based on the face value of bonds outstanding and not current market values. See Merrill Lynch, "Size and Structure of the World Bond Market," various issues.

<sup>6</sup> Bank for International Settlements, *International Monetary and Banking Developments*, Table 16a. Merrill Lynch estimates the local debt market in emerging markets at \$1.2 trillion or 3.86% of the global total in 1999.

bond market capitalization relative to GDP is far smaller in emerging markets than in developed markets (See Table 1). Worldwide trading in the foreign exchange (FX) market has expanded from \$620 billion per day in 1989 to \$1,500 billion per day in 1998. This market is also predominately located in the same high-income countries as other financial markets (See Table 1). But Singapore and Hong Kong retain a 7% and 4% share (respectively) of total global trading, while another 3.3% of FX trading is spread across more than 20 other EM countries.<sup>7</sup>

Over the last 25 years, derivatives markets for financial futures, options, and swaps have grown from negligible or non-existent markets to gargantuan and essential components of international financial management.<sup>8</sup> The BIS estimates that the notional value of outstanding financial derivative instruments (i.e. futures, options, and swaps on currencies, interest rates, and stock market indices) exceeded \$100 *trillion* at year-end 1999. And daily turnover in exchange traded financial derivative instruments exceeded \$1.3 trillion in 1999.<sup>9</sup> Hong Kong and Singapore together accounted for 10% of global over-the-counter FX derivative turnover in 1998, but only about 2% of global over-the-counter interest rate derivative turnover. Many EM nations have organized futures and options exchanges for some agricultural products, metals, or local foreign currency and interest rate products. These markets are small by world standards with the exception of Brazil and Korea.<sup>10</sup>

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<sup>7</sup> Bank for International Settlements, *Central Bank Survey of Foreign Exchange and Derivatives Market Activity 1998*, May 1999.

<sup>8</sup> *The Economist* referred to swaps as “the glue that binds together the world’s financial system.” See *The Economist*, June 10, 2000, page 81.

<sup>9</sup> Bank for International Settlements, *BIS Quarterly Review*, August 2000, pp. 29-30.

<sup>10</sup> The Korea Stock Exchange is a notable exception. Options on the KOSPI 200 were the most actively traded option contract in the world in 1999, with turnover totaling 80 million contracts.



Overall, these figures leave the impression that financial markets in emerging markets are small in comparison to their own economies and in comparison to markets elsewhere. Still, small may be beautiful if investments in emerging markets offer superior returns or happen to be weakly correlated with other investment returns so that they contribute a diversification benefit.

### *Measures of Integration – Price and Quantity*

Regardless of whether emerging markets are segmented from or integrated with financial markets in the rest of the world, they may still make an important addition to the investor's opportunity set. Marketplaces are said to be *segmented* when they offer different returns for the same unit of risk bearing. Marketplaces are *integrated* when they offer similar returns for investments that reflect similar measures of risk.

When segmentation is present, we expect that investors from the capital abundant country where returns are low will make investments in the capital scarce country where the marginal product of capital (and returns) are high. Investments of this sort should eventually equalize the returns across markets, and integrate the markets. Or consider a case where investors in one market (A) will buy bonds from a issuer at a 9.0% yield, but another group of investors (perhaps offshore) would pay a higher price for the same bonds to yield 8.5%. This difference in evaluation reflects a market segmentation, which should eventually close as the issuer offers more bonds for sale offshore, or investors in both locations converge on a similar pricing formula.

When markets are integrated, simple expected value gains are ruled out, but diversification gains are still available to the extent that returns in emerging markets are

weakly correlated with core investments, and do not simply mimic the pattern of returns on investments already in place. In such an idealized setting, the world is a single market and emerging markets could be likened to a market segment, such as rust-belt stocks, or small-firm stocks, or high-tech stocks. In this setting, a rational, index-style investor will hold some proportion of a portfolio that reflects all risky assets, including emerging market assets.

As a practical matter, segmentation and integration may be thought of as two extreme points on a continuum. Integration may be time varying and many markets are better described as either partially segmented or partially integrated.<sup>11</sup> Testing for integration versus segmentation is notoriously difficult. Integration implies that assets with similar risks will have similar prices. If the classic one-factor asset pricing model prevails, then asset returns will vary systematically only with that one single (global) factor. If a multi-factor pricing model prevails, then emerging market assets will be priced to reflect how much of each factor they represent, but using the prices that have been established for these factors worldwide. The absence of substantial capital flows (either gross or net) between markets need not imply market segmentation, because investors could be (1) setting prices to eliminate expected value gains, and (2) using synthetic instruments (e.g. tracking securities) to mimic the returns of overseas assets. The presence of substantial capital flows (either gross or net) certainly establishes that there are linkages between markets, but not necessarily integration.<sup>12</sup>

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<sup>11</sup> Bekaert and Harvey (1995).

<sup>12</sup> The pricing discrepancies in Shell Oil, Unilever, and other Siamese twin stocks observed by Froot and Dabora (1999) suggests that even the market for the same company's stock may not be integrated.

Data on net private capital flows to emerging markets in Table 2 show that these flows were substantial, reaching \$227 billion, or 3.5% of GDP in 1995. Flows remained robust in 1996, but fell off sharply in 1997 with the advent of the Asian crisis in July, and fell further in 1998 when compounded by the Russian crisis in August. The change in the composition of these flows is also significant. Net portfolio flows hit \$110 billion in 1994 but fell to under \$9 billion by 1998. Bank lending was curtailed with net reductions in loans in 1997, 1998, and 1999. Net foreign direct investment (FDI) flows increased substantially to nearly \$150 billion in 1999. Indeed, FDI accounted for more than the sum of all capital flows in 1998 and 1999, given that there were net redemptions in the other two categories.

### 3. Financial Markets in Emerging Market Nations

#### *a. Foreign Exchange Markets*

Although foreign exchange is the world's largest financial market, there is little systematic reporting of turnover activity. The Bank for International Settlements conducts a triennial survey of the foreign exchange market that reflects the most systematic effort to measure the size of the foreign exchange market. The most recent survey, conducted in April 1998, covers 43 countries including 21 emerging markets as listed in Table 3. The emerging market countries account for 14.45% of global foreign exchange trading activity, with a somewhat higher share of spot market transactions (17.4%) and a lower share of outright forward volume (9.3%). Our list includes Singapore and Hong Kong, which are classified as developed markets for purposes of equity markets. Excluding Singapore and Hong Kong, emerging markets account for only 3.47% of global foreign exchange

turnover. Roughly two-thirds of this trading is in the spot market. In most cases these emerging market countries report trading is either outright forward contracts or FX swaps. The BIS reports that the bulk of forwards and FX swaps are short term, but they can extend out to one year, and longer in some cases.<sup>13</sup>

To gain another perspective on FX trading, we scale the annual volume of FX trading by GNP, by GNP calculated using PPP exchange rates, and by equity market capitalization. The results in Table 4 show that annual FX turnover is between and 27 and 31 times GNP in developed countries, and between 3 and 6 times GNP in emerging markets (excluding Hong Kong and Singapore). Thus, FX turnover in developed markets is roughly 4 to 10 times greater than in emerging markets. The results appear less extreme when we scale by equity market capitalization. Annual FX turnover is about 40 times market capitalization in developed countries, but only about 22 times market capitalization in emerging markets – a difference of about 2-to-1. A scatter diagram of foreign exchange trading volume versus equity market capitalization (see Figure 7) shows several developed countries that plot within the range of emerging countries. However, these developed countries with small FX markets tend to be those (Austria, Finland, Ireland, Portugal, Sweden) that were linked to the Deutsche Mark, or now to the euro, and have less need to structure their own local currency market.

#### *b. Bank Lending*

Over the last 20 years, the role of bank lending to emerging markets has varied, with banks at times being a major supplier of funds and at other times withdrawing funds

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<sup>13</sup> In some cases a non-deliverable forward contract is traded offshore even when there is an onshore market for forwards. See *J.P. Morgan Guide to Emerging Local Markets* (1997).

and lowering exposures. In the period preceding the debt crisis of the 1980s, bank lending represented virtually all of the net private flow of capital to developing countries. (See Table 2) Throughout the 1980s, banks were writing down and withdrawing capital from developing countries. The 1990s saw a resumption of bank lending, but from 1997-1999 banks reduced their lending to emerging market countries by more than \$200 billion.

A recent study by Palmer (2000) focuses on U.S. bank exposure to emerging market countries. While U.S. banks have increased their lending to foreign counterparties by 11.2% (to \$755.5 billion) in the two years ending June 1999, claims on emerging market counterparties actually declined by 6.1% (\$183.2 billion). Claims on emerging market counterparties thus represented a 24.2% share of all U.S. bank claims on foreigners, but only a 4.3% of U.S. bank total assets. The decline in emerging market lending by U.S. banks reflects a still sharper decline (-18.2%) in cross-border lending, and a modest increase (8.8%) in local claims.<sup>14</sup> This changing mix may reflect a desire to keep an active presence in local markets, while reducing overall exposures.

In addition to cross-border and local claims, revaluation gains on foreign exchange and derivative contracts represent a third category of possible exposure. At year-end 1997, U.S. banks had revaluation gains totaling \$16.7 billion on derivative contracts – or about 8.2% of their overall claims with emerging market counterparties. By June 1999, these revaluation gains had been reduced to only \$5.5 billion through a combination of several factors. In some cases, the derivative contracts were short-term, and paid off. In other cases, market fundamentals reversed course and removed gains from some

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<sup>14</sup> Local claims on foreign counterparties are booked in the overseas offices of the U.S. bank, while cross-border claims are usually booked from the U.S. bank's head office.

derivative positions. And in other cases, banks wrote off some contracts where payment seemed unlikely.

The longer run behavior of U.S. bank lending to emerging markets allows more useful comparisons. In Table 5, we see the severe drop in U.S. bank claims between 1982 and 1990, followed by a substantial return to lending that puts claims on emerging markets at \$176.1 billion in 1998, or modestly above the level of 1982. However, the composition of claims shows a radical shift away from cross-border claims and toward local claims, which expanded seven-fold over the 16 years. To the extent that these local claims are funded and denominated in local currency, banks are not exposed to the foreign currency risk in cross-border lending. However, banks retain their exposure to counterparty credit risks, which may be greater now with fewer explicit or implicit public sector guarantees in effect.

In the lower part of Table 5, we see that in 1982, U.S. bank claims on emerging market counterparties amounted to 12% of total bank assets, and represented more than 200% of total bank capital. By 1998, emerging market claims represented only 4.3% of U.S. banks total assets, and 41.6% of their total capital. This transformation resulted first from a reduction in U.S. bank claims on emerging markets through about 1990, and second from an increase in U.S. bank capital positions in 1994 and 1998.

Overall, these figures suggest that U.S. banks still have considerable exposure to emerging market countries, even though it is substantially less than in the 1980s. As a percentage of total assets, U.S. bank claims on emerging markets are smaller than these countries' share of world GNP or equity market capitalization, but similar to the share of emerging market debt securities in the global market.

### *c. Debt Securities Markets*

Regional Trends. In Figure 6, we referred to BIS data showing that the aggregate size of emerging country debt markets has grown from about \$450 billion in 1989 to over \$1.4 trillion in 1999, representing growth from about 3% to 5% of the world market. Taken together, the Bank for International Settlements, Merrill Lynch, and J.P. Morgan report on 27 emerging market countries with domestic debt securities markets. A list of the 20 markets compiled by Merrill Lynch is presented in Table 6. Across these 20 markets, Asian countries represent 60% of the overall market, with 21% in Latin America and the remaining 19% in Eastern Europe, the Middle East and Africa. Government debt represents 72% of the market, corporate debt about 25%, and the remainder represents Eurobond issues by local obligors.

A closer look at the data reveals some important regional differences and differences within regions. A local currency bond market may develop through fiscal deficit financing. In Brazil and Mexico, we see that government bonds account for the entire local bond market, and in Argentina and several European markets, the government share exceeds 85%. A local currency bond market may also develop as a means to channel high rates of domestic savings into private investments. In the nine Asian markets (excluding China), corporate bonds account for 45% of their local bond markets, and almost all (97%) of the corporate bonds across these 20 emerging markets.

Despite the higher savings propensity in East Asian countries, their bond markets remain at varying stages of development. In Figure 8, we see that the local bond market as a percentage of GDP clusters in the 30-50% range for Malaysia, Korea, Philippines and India, while this ratio is under 10% in Hong Kong, Thailand, China and Indonesia. Despite

their relatively large size, a recent OECD report cautions that most emerging debt markets lack a full yield curve running from one month to several years, and this prevents them from functioning as deep and liquid markets.<sup>15</sup> The Philippines is one exception with a yield curve that extends to twenty years, albeit with questionable liquidity for certain issues.

Market liquidity could be influenced by size as well as institutional features such as the presence of a short-term money market, or the use of government bonds for reserve requirements. Estimates of the bid-ask spread as a measure of market liquidity are shown in Figure 9. These spreads are huge in comparison to those in U.S. markets. The range of spreads (from 5 basis points on Indian T-bills to 150 basis points on Indonesian T-bonds) is also substantial, but no clear pattern emerges to relate these spreads to market size.

Whatever the source of supply, market development is aided when there is a strong demand from institutional investors. Pension reforms in Latin America have helped increase institutional demand. But elsewhere, restrictions on institutional investors and inadequate regulations plus the dominant role of banks in emerging financial markets, have held back institutional demand.<sup>16</sup>

Primary Markets. A recent study by Aylward and Glen (2000) chronicles the development of primary markets for debt and equity securities in emerging markets. Aylward and Glen examine primary securities activity over 1980-1995 for 32 countries including 24 emerging markets, 4 Asian Tigers (Hong Kong, Korea, Singapore, and Taiwan) and 4 developed countries (G4: Germany, Japan, United Kingdom, and United

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<sup>15</sup> "The Development of Fixed-Income Securities Markets in Emerging Market Economies: Key Issues and Policy Actions," *Financial Market Trends*, No. 74, October 1999.

<sup>16</sup> "The Development of Fixed-Income Securities Markets in Emerging Market Economies: Key Issues and Policy Actions," *Financial Market Trends*, No. 74, October 1999.



States). Over this 16-year period, these 32 countries raised \$28.4 trillion through primary markets, representing \$13.4 trillion in the first 11 years (1980-90) and another \$15.0 trillion in the last 5 years (1991-95) as shown in Table 7.

In the 1991-95 period, almost 95% of the funds raised were debt securities, and not surprisingly, the vast bulk of these (97%) were issued in the G4 and 4 Asian Tiger countries.<sup>17</sup> However, Aylward and Glen remind us that these same 8 countries also represent more than 85% of world GDP. So on a relative basis, emerging markets may be said to have relatively important primary capital markets. Once primary markets have been scaled by GDP, the relative importance of primary markets appears less concentrated. Indeed, in 1995 after scaling by GDP, eleven emerging market countries had primary equity markets as large as the United States and larger than the other G3 countries. However, in the primary debt markets, emerging nations lag far behind the G4 even when scaled by GDP. This is not so apparent in the long-term government sector, but very pronounced in the long-term private sector. As a result, emerging markets have turned more to international issues (e.g. Yankee bonds, Eurobonds, and depositary receipt programs) that represented 20% of all equity issues and 10% of all debt issues in the 1991-95 period. These international issues represent a separate channel of funding outside of domestic primary markets.

Secondary Market Spreads. While our discussion has so far focused on domestic debt securities markets, analysis of pricing and returns is generally based on a mixture of

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<sup>17</sup> Short-term debt issues are not included in these data. Private placements also are not included. Private capital sources could be important in emerging markets where wealth may be more concentrated. But emerging markets may also lack institutional investors and venture capital firms that aid private capital formation.

international and domestic issues. The J. P. Morgan Emerging Markets Bond Index Plus (EMBI<sup>+</sup>) is a popular index for tracking the total return on traded emerging market debt instruments.<sup>18</sup> The EMBI<sup>+</sup> includes external-currency denominated Brady bonds, loans, Eurobonds and local market instruments. The current composition of EMBI<sup>+</sup> includes 15 countries. As of June 30, 1995, the index was heavily weighted toward Brady issues (80%) and Latin American countries (80%).

Not surprisingly, spreads on emerging market debt securities (relative to U.S. Treasury yields) are typically large and prone to sharp jumps during crisis periods as shown in Figure 10. In 1995 at the onset of the Mexican crisis, the yield spread on emerging market issues spiked to over 1,700 basis points, compared to about 350 basis points for U.S. high-yield bonds. During the Russian crisis, spreads spiked to over 1,200 basis points. The pattern of yield spreads varies somewhat across countries as shown in Figure 11. Korean spreads spiked in late 1997 during their chapter of the Asian crisis, but spreads in China, Hungary, and Russia were fairly tranquil. During the Russian crisis in 1998, virtually all markets spiked. After Brazil's exchange rate crisis in early 1999, Latin American spreads remained high, while spreads elsewhere declined more rapidly.

In addition, spreads are typically greater (and sometimes by substantially amounts) for non-investment grade issues compared to investment-grade emerging market bonds. During the Russian crisis (September 1998) spreads for B-rated obligors were nearly 2,000 basis points compared to a 375 basis points for BBB-rated obligors. Prior to the

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<sup>18</sup> See "Introducing the Emerging Markets Bond Index Plus (EMBI<sup>+</sup>)," J.P. Morgan Securities, Inc., July 12, 1995 available through the J.P. Morgan website at <[www.jpmorgan.com](http://www.jpmorgan.com)>.

Asian crisis (June 1997), B-rated obligors were priced at only 400 basis points over U.S. Treasuries while the spread for BBB-rated firms was less than 175 basis points.<sup>19</sup>

Secondary Market Returns and Risk. In the environment just described, we expect returns on emerging market bonds to be volatile. Measures of risk and return for the period 1991-2000 prepared by the International Monetary Fund (2000) are shown in Figure 12. The annualized differential between emerging market returns (represented by the EMBI Global Index) and mature market returns (based on an equally-weighted portfolio of U.S. investment grade and non-investment grade corporate debt) is shown on the vertical axis. The horizontal axis shows the impact on portfolio risk ( $\sigma$ ) by rebalancing from a 100% mature market portfolio to a 90% mature / 10% emerging market mix. Figure 12 shows that in almost every year, emerging markets would have added risk, and sometimes a substantial amount of risk, to a mature market portfolio. The impact on return was less consistent, producing a positive contribution in some years and a negative contribution in others. Over the entire sample, the IMF report concludes that emerging market debt would have added about 5 percent per year to portfolio returns, but at a cost of adding 16 percent to portfolio risk.<sup>20</sup> The report suggests that given the more conservative posture of bond investors and the lower return environment, this represents an unfavorable trade-off, and that the case for adding emerging market bonds to a core portfolio depends on added returns rather than on risk reduction.

The correlation between emerging bond market returns and other market returns shows that emerging bond markets are priced in context with other markets, but that the

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<sup>19</sup> International Monetary Fund (2000), p. 64.

<sup>20</sup> *Ibid.*, p. 67.

degree of correlation varies over time. For example, over the 1994-2000 period, the correlation of weekly returns on the EMBI Global Index and returns on the Dow-Jones Industrials, S&P 500, and NASDAQ indices was 0.39, 0.37 and 0.30 respectively. The correlation of emerging market bonds with the Merrill Lynch U.S. high-yield bond index was 0.38. All of these correlations are significant at the 5% level, but there is considerable time variation as shown in Figure 13.<sup>21</sup> A multivariate analysis by the IMF (2000, pp. 60-2) shows that the U.S. high-yield market is always significant and the most important variable explaining emerging market debt returns. U.S. equity returns also are always significant explanatory variables. The results suggest that returns on emerging market debt are quite sensitive to measures of profitability, the business cycle, and the risk appetite of investors in mature markets.

#### d. *Equity Markets*

Regional and Institutional Comparisons. In Figure 4, we observed that the emerging equity markets have grown since 1980 to reach an aggregate size of \$3 trillion or about 8.5% of global market capitalization in 1999. This market capitalization reflects the sum of 81 individual equity markets with market capitalization ranging from \$4 million for Azerbaijan to \$376 billion for Taiwan. Among these 81 markets, the IFC lists seven countries with market capitalization under \$100 million, and 27 countries with market capitalization under \$1 billion.<sup>22</sup> The largest emerging equity markets such as Taiwan, China (\$330 billion), and Korea (\$308 billion) have larger market capitalization

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<sup>21</sup> *Ibid.*, p. 60-1.

<sup>22</sup> To get another perspective on how small emerging equity markets are, note that the *average* market capitalization for a single New York Stock Exchange (NYSE) firm was \$3.7 billion at year-end 1999, while the largest *single* firm, General Electric had a market capitalization of \$575 billion.

than several developed country markets including Austria (\$33 billion), New Zealand (\$28 billion) and Singapore (\$198 billion), but still at least an order of magnitude smaller than developed country markets like the United States (\$16.6 trillion), Japan (\$4.6 trillion) or the United Kingdom (\$2.9 trillion).

At year-end 1999, roughly one-half of the \$3 trillion in emerging market capitalization was in Asian markets, another 19% in Latin America, and the remaining 31% split evenly between Eastern European markets and Middle East/Africa. The 30 countries in the S&P/IFC investable index represent 95% of total emerging market capitalization, while the 20 countries in the frontier index represent a mere 1% of the total.

Despite the small size of emerging equity markets, more domestic companies are listed on these exchanges (over 26,000) than in developed country markets (about 23,000 firms listed). (See Table 8) Thus, the average market capitalization per firm in emerging markets (\$117 million) is far smaller than in developed country markets (\$1,413 million). Again, however, there is considerable variation. The largest average market capitalization firms are in Mexico and Taiwan (both at \$0.8 billion). This is a larger figure than for several developed country markets such as Canada and New Zealand.

Market concentration is another statistic with wide variation across countries. In emerging market countries, the S&P/IFC measures concentration as the percentage of market capitalization accounted for by the largest ten firms. According to this measure, concentration in emerging markets varies from 30-60%. In developed countries, the International Federation of Stock Exchanges measures concentration as the percentage

of market capitalization accounting for by the largest 5% of all firms. According to this measure, concentration in developed country markets varies from 55-85%.

Market turnover, measured as the annual volume of trading as a percentage of market capitalization, varies substantially across countries (column 5 of Table 8). Among these countries, Korea has the highest turnover rate (347% in 1999) followed by Taiwan with a 286% turnover rate. Several other countries (including the United States) had turnover near to or exceeding 100%. At the other extreme, some developed countries (such as Belgium) and emerging markets had turnover below 30%. These data suggest that liquidity varies considerably across market, as high trading volume tends to reduce liquidity risks and trading costs. But liquidity could vary as well within a market, with greater liquidity for a small number of high capitalization stocks, and much lower liquidity otherwise.

Other factors such as transaction taxes, explicit and implicit transaction costs, and conditions for clearing and settlement affect the overall cost of trading and, in turn, the volume of trading in a market. While many governments have imposed securities transaction taxes, their impact has been muted by rules that allow investors to shift into nontaxed substitutes or to shift their trading from onshore to offshore locations to avoid taxation. In the last ten years, both developed and emerging markets have shown a greater tendency to lower or eliminate rather than adding to their turnover taxes.

Stated settlement periods for equity transactions are fairly uniform around the world. Many emerging markets stipulate settlement periods of T+3 days (e.g. Argentina, Brazil, Czech Republic, Jordan, Peru, and Thailand), or T+2 days (e.g. Chile, Korea,

and Mexico), or even less.<sup>23</sup> These compare favorably with the T+2 settlement cycle in Germany, T+3 in the United States and Japan, and T+5 in London. However, these figures mask differences in operational efficiency and the possibility of operational failures post-trade that confront emerging equity markets.

S&P (2000, p. 402-3) provides survey information comparing settlement performance, safekeeping in regard to the collection of dividends, and operational risks across emerging market countries. The settlement performance benchmark, for example, is based on the proportion of failed trades, the average trade size, length of time for a failed trade, and local interest cost. While some emerging markets (e.g. Turkey) have achieved settlement performance records that surpass many developed markets, and many emerging markets are improving on these operational risk benchmarks, the survey data give the impression that operational inefficiencies are common and material in most emerging markets.

Finally, transaction costs are another factor that distinguish emerging from developed markets. S&P (2000, p. 404) reports the results of a study that regularly surveys the trading costs in both developed and emerging markets. These trading costs include explicit costs such as brokerage commissions and fees, and the implicit impact that trading has on market prices. Across 150 large global institutional investors surveyed, average round-trip trading costs in the fourth quarter of 1999 were estimated at 0.90 percent in developed country markets, and 1.80 percent in emerging markets. In developed country markets, round-trip trading costs were lowest in France (0.53

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<sup>23</sup> Settlement is T+1 day in Uruguay and Taiwan, and even T+0 days for book entry securities in Poland. See Citibank Country Profiles, version 4.0, September 1998 for a list. See the International Federation of Stock Exchanges website <<http://www.fibv.com/marketin.asp>> for similar data.

percent) and highest in Ireland (1.73 percent).<sup>24</sup> While in emerging markets, round-trip trading costs were lowest in Brazil (0.88 percent) and highest in the Czech Republic (3.59 percent).

Overall, these statistics show that emerging markets are a heterogeneous group and differ from developed markets in some important categories such as size, liquidity, trading costs and operational efficiency. Our description reinforces the view that a small shift in investor allocations toward or away from emerging markets could have a large impact on equity prices. It also suggests that higher trading costs and lower operating efficiencies in emerging markets may underlie the trend toward trading depositary receipts and tracking securities in developed markets.

Primary Markets. Earlier we noted the study by Aylward and Glen (2000) on the development of primary markets for debt and equity in emerging markets. While emerging equity markets are small, we see (in Table 7) that in 1991-95, primary equity markets raised capital equal to 1.4% of GDP in emerging markets compared to only 1.0% of GDP in the G4 countries. Even over the entire 1980-95 period, equity capital raised in emerging market countries (0.9% of GDP) is comparable to the G4 countries (1.0% of GDP).

Despite this relative level of fundraising, absolute scale matters and may explain why emerging markets have turned to international issues (such as depositary receipts) as an additional source of equity funding. Depositary receipt programs were rare for emerging markets prior to 1990. But in most years since 1992, emerging market

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<sup>24</sup> In this study, estimated trading costs for institutional investors in the United States were 0.70 percent based on an average of NYSE and NASDAQ trading costs.



companies have accounted for the majority of new depositary receipt programs and capital raised through this channel.<sup>25</sup>

Secondary Market Returns and Risk. Offering a detailed analysis of emerging equity market return and risk is beyond the scope of this paper. Figure 12 plots the return and risk properties of emerging market equities (the IFC investable index) in relation to an MSCI index of mature markets. For the period January 1988 – June 2000, the results show that emerging market equities produced 3% higher annual returns and added about 1% to portfolio risk. In contrast to bonds, in several years (1989, 1992, 1993, and 1996) a 10% position in emerging equity markets would have reduced overall portfolio risk.

Studies by Bekaert et al. (1998) and Bekaert and Harvey (1997) among others suggest that the pattern of returns in emerging markets is much different from that in developed markets. In particular, the evidence shows that emerging market returns are generally nonnormally distributed, and that these deviations from normality appear to be time varying as well. The presence of substantial skewness and kurtosis in returns suggests that simple two-parameter asset pricing models where returns are a linear function of systematic (beta) risk will fail. Indeed, the results in Bekaert et al. (1998) show that returns in emerging markets can be related to volatility (total risk) and various other economic and country risk measures.

The relative level of volatility in emerging versus mature markets and the correlation of returns are important determinants of the gains from international diversification into emerging markets. While volatility in emerging equity markets has historically exceeded

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<sup>25</sup> International Monetary Fund (2000) , p. 73.

volatility in mature markets, over the 1990s these volatilities tended to converge. The crisis periods in 1994-5 and 1997-8 were exceptions where volatility in emerging markets temporarily spiked.<sup>26</sup> The correlation of mature and emerging equity markets has also generally increased over the 1990s as shown in Table 9. Over the most recent 5-year interval, the correlation of returns on the S&P 500 with the IFC regional indices as well as the IFC global composite index is about 0.50. This is a sharp increase in correlation when compared to the 1989-94 period, and an important element underlying the limited diversification gains for portfolios containing an allocation to emerging market equities.

#### 4. The Importance of Emerging Financial Markets Reconsidered

##### *a. The Traditional Arguments Lending Importance to Emerging Markets*

The traditional arguments lending support to a role for emerging markets in developed market investor portfolio rested on two simple points. First, as small, capital scarce countries, emerging markets could offer investors higher returns than those available in more mature capital abundant countries. Given their low initial income levels, continued capital flows could support an extended period of economic growth. Second, again as small countries, emerging market returns were likely to be weakly correlated with returns in developed markets, thus creating a diversification benefit. These effects could operate in tandem, thus giving investors a free lunch of higher expected returns and lower risks. Using historical data, portfolio theory was used to determine the optimal percentage

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<sup>26</sup> See International Monetary Fund (2000), p. 67.

of a portfolio to allocate to international securities, including emerging markets.<sup>27</sup>

While the simple story is appealing, it comes to a sudden halt when confronted with data showing that investor portfolios are heavily weighted toward domestic securities. As typically estimated, home country bias is so severe that in 1995, U.S. portfolios in the aggregate are thought to hold only about 10% foreign equities and fewer than 5% foreign bonds. Home bias appears to be strongest in Japan (roughly 5% in foreign equity holdings) but less severe in the United Kingdom and Germany (roughly 20% in foreign holdings).<sup>28</sup>

Explanations abound for home country bias. Some countries have severely limited foreign ownership of domestic equity shares. Investing overseas takes greater resources in the form of trading costs and arranging for many details attendant on foreign investing (e.g. the foreign exchange transaction, clearing, settlement and custody of securities, collection of foreign dividends, rights offerings, etc.). The foreign investor faces foreign exchange risk, and possibly an information disadvantage as local investors may be better informed or better equipped to receive and interpret foreign financial statements and news about the foreign macroeconomic environment. It is true that institutional investors who employ professional agents can overcome many of these barriers. But at the margin foreign investing may still entail additional costs and risks.<sup>29</sup>

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<sup>27</sup> For example, using 1970-1996 data, Lewis (1999, p. 572) estimates that a 39% share in foreign securities would have allowed US\$ based investors to reach the risk minimizing point on the mean-variance efficient frontier. Smith and Walter (1998) show that a 22% allocation to emerging markets within the foreign portfolio establishes another risk minimizing point. The implied overall share of emerging markets ( $0.39 \times 0.22 = 0.086$ ) is remarkably close to the market capitalization share of emerging markets in the world market.

<sup>28</sup> See Tesar and Werner (1998), p. 298-9.

<sup>29</sup> Tesar and Werner (1998) contend that the high volume of cross-border trading in securities suggests that high transaction costs are probably not a barrier responsible for home country bias.

Alternate theories can be constructed that support overweighting home assets. For example, Baxter, Jermann and King (1998) develop a model where investors also consume nontraded goods that rely intensively on nontraded, domestic factors of production. In their model, an overweight position in home equities is an effective hedge against future consumption of nontraded goods. Other models introduce deviations from Purchasing Power Parity as an additional international risk factor. When the PPP assumption is dropped, domestic securities may form a better hedge against exchange rate uncertainty than foreign securities, thereby creating a rationale for home country bias. In this context, a study by Glassman and Riddick (1996) cannot reject that the observed home-biased portfolio weights are equal to their optimal values. However a similar study by Cooper and Kaplanis (1994) rejects PPP deviations as an explanation of home country bias.

In a recent survey on home country bias in equities, Lewis (1999, p. 589) concludes that “two decades of research on equity home bias has yet to provide a definitive answer as to why domestic investors do not invest more heavily in foreign assets.” The evidence on market integration does not directly address the home bias issue. The use of home assets to hedge PPP deviations does not create a large demand for home assets. Lewis finds no evidence that shares in multinationals provide an indirect way to gain international diversification benefits. And while existing barriers to international investment are costly to overcome, Lewis concludes that this is not a credible argument for home bias because (1) the gains to international diversification appear substantial, and (2) the turnover rate in foreign securities is higher than in domestic securities which undermines the cost argument. Lewis suggests that the only plausible avenue left open is to consider the

impact of estimation error and uncertainty in the choice of foreign portfolio weights. Once uncertainty is taken into account, we cannot reject the hypothesis that the expected performance of home biased portfolios is no worse than the performance of portfolios with foreign investments.

*b. Recent Arguments for Overweighting Home Country Investments*

A recent paper by Kraay et al. (2000) offers up a new set of stylized facts on 68 country portfolios, and a new theoretical approach to modeling the composition of portfolios. The authors construct a new database that allows them to analyze the composition of 68 country portfolios over a 30-year period ending in 1997. Their analysis yields four stylized facts: (1) Net foreign assets as a percent of wealth is small and actually negative for most countries. The exceptions are a few rich countries. (2) There is a strong positive relation between a country's net financial wealth and its net foreign asset position. (3) The share of net foreign assets in a country's portfolio is highly persistent. (4) Gross foreign asset positions are small and consist mostly of foreign loans rather than foreign equity.

To explain these patterns, the authors examine a simple model that imbeds a probability of crisis and default. Given diminishing returns on capital and production risks, all investors would hold the same portfolio of capital distributed to equalize the risk-adjusted rate of return across countries. But the presence of sovereign risk generates a home bias in the demand for capital. The interplay of these two factors determines the shape of country portfolios. Kraay et al. show that small changes in benchmark values (in particular, a small increment in political risk to two large scale defaults per century) are

sufficient to produce substantially home biased portfolios that are broadly similar to the actual stylized figures.

As puzzling and troublesome as home country bias is, it may be more deeply engrained in investor behavior and have a domestic counterpart. Coval and Moskowitz (1999) show that U.S. investment managers have a preference for companies that are geographically close to the manager.<sup>30</sup> The findings are particularly striking because the United States market reflects a single currency, as well as fairly uniform regulation, taxation, political risk, language and culture. Coval and Moskowitz find that U.S. investment managers exhibit a preference for locally headquartered firms that are small, highly levered, and produce nontraded goods. The results suggest that information asymmetry between local and non-local investors may drive the preference for geographically proximate investments. The authors calculate that roughly one-third of the home-bias puzzle in an international context may be the result of geographic distance, rather than the result of national borders.

And other recent research suggests that the cost of home bias (in the international context) may not be as great as previously thought. To begin, the menu of foreign securities within easy reach of domestic investors has expanded significantly in recent years. This menu includes American Depositary Receipts (ADRs), closed-end country funds, open-end country index funds and other tracking securities (WEBS – World Equity Benchmark Shares).<sup>31</sup> ADRs allow investors to purchase and trade foreign securities more conveniently (in their own time zone, own currency, through their own

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<sup>30</sup> See Huberman (1999) for a related study showing that a customer of a U.S. Regional Bell Operating Company (RBOC) is more likely to invest in his local company than an RBOC from another service area.

<sup>31</sup> See Appendix 1 for further information on ADRs and WEBS.

broker, and with clearing and settlement in their own country) albeit still subject to the same foreign exchange and pricing risks as if they had traded the underlying foreign security in the foreign market. As of December 31, 1999 there were 2,085 ADRs comprising 1,713 available to retail investors and another 372 Rule 144a securities. These ADRs represent companies from 78 countries with more than \$6 trillion in market capitalization at end-of-1999. In 1999 alone, companies and governments from 33 countries raised a record \$22 billion through 113 depositary receipt offerings.<sup>32</sup>

What benefit can these alternative home-oriented securities yield? Errunza et al. (1999) examine whether portfolios of domestically traded securities – including multinational firms, country funds, ADR shares, and industry indices – can mimic the returns on foreign indices. Using data from 1973 to 1993 for seven developed and nine emerging markets, the authors find that a set of domestically traded assets including market indices, industry portfolios, 30 multinationals, closed-end country funds and ADRs are successful at mimicking the gains from international portfolio diversification. These results support the view that investors may be able to recreate most of the international diversification benefits by holding domestically traded assets. In this view, “home bias” in investor portfolios need not be associated with lost international investment or diversification opportunities.<sup>33</sup>

### *c. The Importance of Being Similar*

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<sup>32</sup> Bank of New York press release available at <[www.bankofny.com/adr/adr010300.htm](http://www.bankofny.com/adr/adr010300.htm)>.

<sup>33</sup> The authors also show that incremental gains from creating true internationally diversified portfolios have been declining over time in relation to these homemade portfolios. The authors take this as evidence that barriers to international investment have been declining over time.

While international economics and portfolio theory celebrate how national differences create the opportunities for gains through trade, the prospective gains from international financial diversification presume certain similarities – with respect to the institutional and legal safeguards affecting the ownership and transfer of equity shares in foreign markets, and the flow of information that investors use to value shares and monitor corporations in mature markets. Absent these similarities, foreign shares will have elements of risk that do not generate returns and cannot be diversified away. In this context, it becomes rational for home investors to underweight foreign shares.

A recent study by Morck, Yeung, and Yu (2000) calculates the percentage of stocks in one market that rise or fall over one-week and two-week holding periods. The authors find that in emerging markets it is common for 60%, 65%, 70% or more stocks to move in the same direction (up or down). By comparison, in mature markets, the figure is closer to 50%, suggesting that these assets are approximately fairly priced, and driven by favorable or unfavorable news that occurs with roughly equal chance. The empirical result in emerging markets is not related to fundamentals, but it is consistent with an absence of firm-specific information and noise trading. The higher firm-specific variation in returns in mature markets signals more firm-specific information and stronger investor property rights that promotes informed arbitrage. By implication, an effective financial information and analyst community and strong property rights are preconditions for enabling emerging markets to graduate to mature markets.

In some respects, the recent expansion of cross-listing and capital raising activities using ADRs and other depositary receipt programs offers a way for emerging market firms to link into the institutional framework underpinning mature markets. Remarks in a recent



IMF report underscore the importance of this trend. The IMF (2000, p. 73) writes that growth in the depositary receipt market represents “the strongest force behind the globalization of emerging equity markets.” By using depositary receipts, firms in emerging markets are unbundling the location of trading, and all the institutional details of trading (clearing, settlement, custody, information disclosure, etc.) from the nationality of the issuer of the security. Rather than trying to replicate an NYSE or NASDAQ in emerging markets, depositary receipts allow firms to tap into an acknowledged marketplace and signal their intention to align their interests more with shareholders. While this trend may have negative implications for stock exchanges in emerging markets, it is a positive development from the standpoint of raising capital and lowering the cost of capital for emerging nations.

Indeed, the notion of outsourcing versus replicating a financial market activity could have broader implications for emerging markets. As we just noted, by using ADRs, an emerging market firm outsources the provision of a stock exchange, clearing and settlement services, and safe custody to acknowledged market agents. The same might be said of bond issues that are outsourced to the Eurobond or Rule 144a markets, institutional frameworks that are outside the boundaries of an emerging nation. The recent interest in currency boards is also an example of outsourcing, whereby the country shuts down its own efforts to establish a credible domestic monetary policy, and instead adopts the monetary policy of a pegging partner. And we might interpret that rise of foreign direct investment in emerging nations as another form of outsourcing, whereby corporate governance is transferred to other, more acknowledged and credible

providers of this asset. The possible scope and success of these outsourcing efforts remains to be seen.

Finally, the creeping convergence in correlation among mature and emerging market returns appears to possibly be generating an unexpected benefit – for the emerging nations. As financial market liberalization has progressed in emerging markets and as the correlation of returns across emerging and mature markets has advanced, investors are now asking whether emerging markets are still a separate asset class, or can they be considered part of an integrated world financial market? Saunders and Walter (2000) examine a wide range of factors that impact financial market integration (e.g. financial liberalization, increased openness to foreign direct investment, growth of ADRs and similar cross-listings, growth of country funds and tracking securities, and cross border M&A transactions). In addition, the authors document the convergence in the correlation of returns across markets and find that to a greater extent, returns in emerging markets are driven by common global factors. They conclude that “it is hard to argue that the top 10 to 15 largest emerging market countries should be viewed as a separate class from those countries considered to be developed.”<sup>34</sup>

While one might take an “absence of differences” as bad news, in the real world of global benchmarking it may in fact turn out to be good news for emerging markets. As a separate asset class, institutional investors might easily decide not to invest in, or track, a small and specialized part of the global market. But if emerging markets are part of a larger, global benchmark, institutional investors will be much more inclined to hold emerging market securities – albeit for reasons related to herding and that investment

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<sup>34</sup> Saunders and Walter (2000), p. 22.

managers do not want to turn in a track record too far from the benchmark. The IMF puts the case as follows:

The result of the inclusion of emerging markets into the global benchmarks implies that the investment decision of such managers will start from a baseline of a certain proportion in emerging markets (5.8% in the ACWI Free index in June 2000), which can then be increased or decreased rather than a baseline of zero, which might then be increased but with little long-term commitment by the manager to the emerging market asset class.<sup>35</sup>

If indeed emerging markets join the mature markets in the popular global benchmarks, there will be strong incentives for countries to gain admittance to this important club. Good countries that gain admission will get a small slice of a large pie. Bad countries that fail the admission test may face financial market obscurity. The power of benchmarking to influence institutional investor behavior is also apparent in the bond market. Home bias in bond markets is more pronounced and international investment less advanced. Global equity indices pre-date bond indices by about 10-15 years. The IFC equity indices date from the early 1980s while the J.P. Morgan debt indices date only from the early to mid-1990s. It is possible that the absence of a benchmark for international investors to manage against has handicapped the development of emerging country bond markets.

The above analysis assumes that institutional investors follow a full replication strategy, implying that to track an index with 500 securities these investors would hold all 500 securities with market value weights. But full replication might not be required to track the benchmark closely, and full replication could be a very costly strategy.

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<sup>35</sup> International Monetary Fund (2000), p. 70-1. The ACWI Free is the Morgan Stanley All Country World Index reflecting the free float, or investable securities, in each market.

Consequently, some investors will weigh possible cost savings against the tracking error that is introduced by holding fewer than 500 securities. How does this apply to the case of emerging markets joining a global index? If the transaction costs in small emerging markets are particularly high, and returns well correlated with other markets, institutional investors may be able to track the global index very well without holding emerging market securities. Thus, graduating from emerging market to mature market status could harbor a negative impact for smaller countries.

A related risk faces once emerging markets like Ireland or Greece that are now part of the larger EMU. With currency risk removed, domestic investors that were tracking the local index have strong incentives to diversify out of local equities.<sup>36</sup> Thus EMU may promote capital flows to smaller nations, but not necessarily the development of capital markets.

## 5. Summary and Conclusions

Emerging markets remain important as the home to 85% of the world's population and investment projects likely to have among the highest private and social returns. International capital flows are an important ingredient to get the world closer to its theoretically optimum production possibility frontier. Healthy capital markets with a sound financial infrastructure are essential to guide capital to its most productive uses worldwide.

However, emerging financial markets are small relative to mature markets, and typically small relative to their GDP. These facts make emerging markets vulnerable to large inward and outward capital flows from global investors. But emerging financial

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<sup>36</sup> See "Squaring the Circle," *Financial Times*, January 8, 2001, page 18.

markets have grown in many ways over the last 20 years. They have become larger in absolute size, as a proportion of world markets, and as a proportion of domestic GDP.

Progress is being made in the financial infrastructure that heretofore created unseen and unrewarded risks for investors. But emerging markets still trail in the kind of financial transparency and safeguards that attract investors. Financial innovations such as ADRs, country funds, and other tracking securities represent ways for foreign investors to take positions in foreign assets without the administrative and overhead costs and risks of the emerging marketplaces themselves.

Primary markets for debt and equity also have been developing in emerging markets. Secondary market returns in equities appear to have grown more correlated with global factors, and in this sense more integrated into world markets. While greater correlation of returns might signal bad news for emerging markets (because investors will expect lower diversification gains), it may really only signal a new chapter for emerging markets. Entering the sphere of globally integrated capital markets will mean playing by the rules of that market. That in turn means offering projects, securities, marketplaces, and investor safeguards that compete with those offered in the mature markets. Those countries that meet this test will be rewarded with a proportional (or overweighted) allocation of a large global pool of capital. Countries that graduate into the world indices become more of a mainstream class of assets rather than an exotic class. While there is virtue and value in being different, in international investment it seems there is also value to commonalities that reassure investors and help promote stable, long-term investment flows.

## Appendix 1

### American Depositary Receipts (ADRs) and World Equity Benchmark Shares (WEBS)

The American Depositary Receipt (ADR) is an old financial innovation, introduced by Morgan Guaranty Bank in 1927 as a way to help American's purchase shares in the British retailer Selfridge's by overcoming many of the institutional barriers to international investment. In order to issue an ADR, a U.S. bank takes custody of the foreign shares in their foreign office. Then an ADR can be issued as a claim against these foreign shares. This can be particularly valuable when there are doubts about the authenticity of foreign shares as in some recent issues of Russian ADR shares.<sup>37</sup> Owners of the ADR have the right to redeem their ADR and obtain the true underlying foreign shares, which can then be sold on the foreign market. Arbitrage of this sort ensures that the price of the ADR and the underlying shares will be nearly identical.

The bank issuing the ADR provides various services including collection of all dividends and rights offerings in foreign currency and distributing the proceeds in US\$ to the ADR owner. Owners of ADRs can trade them in the U.S. market without recourse to the original foreign shares, without using the foreign exchange market, and without relying on foreign clearing and settlement. The underlying foreign shares remain at all times with the custodian. The ADR system thus can substantially reduce the cost of trading in foreign shares.

ADRs may be sponsored or unsponsored. In a sponsored offering, the foreign firm pays a fee to the depositary bank to cover the cost of the ADR program. In an

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<sup>37</sup> See Levich (2001, p. 565).

unsponsored offering, the ADR is created by demand from U.S. investors and securities firms to facilitate trading in a popular foreign issue.

There are different “levels” of ADRs depending on the level of information disclosure offered by the foreign firm. With only the home country annual report, the firm qualifies as a Level 1 ADR and over-the-counter trading on so-called “pink sheets.” If the company meets the disclosure requirements of a U.S. exchange it may be listed for trading as a Level 2 ADR. Firms that comply fully with U.S. accounting principles and disclosure requirements qualify as Level 3 ADRs and may raise equity capital through public offerings. A firm could also issue ADRs through a Rule 144a program that limits access to qualified institutional investors, but does not require compliance with U.S. accounting principles or SEC registration and disclosure requirements.

World Equity Benchmark Shares (WEBS) are shares in an index fund intended to track the performance of a single country index. Introduced in 1996, WEBS are currently available for 21 MSCI country indices, including 5 emerging markets (Brazil, Malaysia, Mexico, South Korea and Taiwan). WEBS are listed on the American Stock Exchange.

WEBS combine elements of both closed-end and open-end mutual funds. Like a closed-end fund, WEBS are exchange traded and can be bought and sold at any time of day, and even sold short. Similar to an open-end fund, the number of shares or units outstanding is flexible. WEBS can be created (when their market price exceeds the cost of the underlying shares) or purchased and liquidated (when their market price is less than the cost of the underlying shares). This type of arbitrage keeps the WEBS price close to the underlying index price.<sup>38</sup>

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<sup>38</sup> WEBS are now known as *iShares* to imply index shares of exchange traded mutual funds. For more information about the composition of iShares, see <[www.ishare.com](http://www.ishare.com)>.

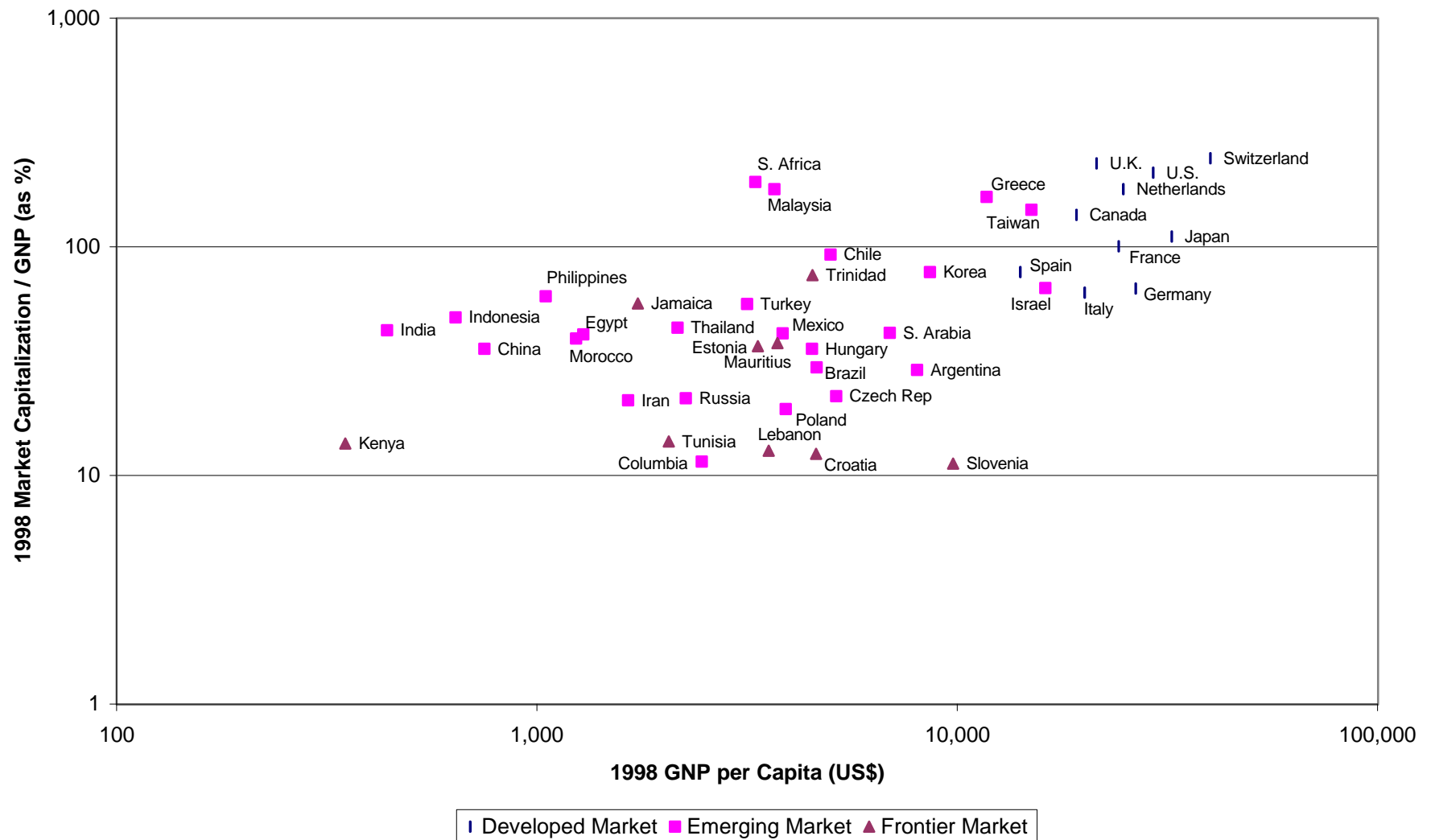
## References

- Aylward, Anthony and Jack Glen, "Primary Securities Markets: Cross Country Findings," International Finance Corporation, Discussion Paper No. 39, April 2000.
- Baxter, Marianne, Urban J. Jermann, and Robert G. King. "Nontraded Goods, Nontraded Factors, and International Non-Diversification," *Journal of International Economics*, 44, no. 2 (April 1998): 211-29.
- Bekaert, Geert, Claude B. Erb, Campbell R. Harvey, and Tadas E. Viskanta. "The Behavior of Emerging Market Returns," In *Emerging Market Capital Flows*. Richard M. Levich, editor, Boston: Kluwer Academic Publishers, 1998.
- Bekaert, Geert and Campbell R. Harvey. "Time-Varying World Market Integration," *Journal of Finance* 50 (1995): 403-44.
- Bekaert, Geert and Campbell R. Harvey. "Emerging Market Equity Volatility," *Journal of Financial Economics* 43 (1997): 29-77.
- Cooper, Ian A. and Evi Kaplanis. "Home Bias in Equity Portfolios: Inflation Hedging and International Capital Markets," *Review of Financial Studies* 7, no. 1 (1994): 45-60.
- Coval, Joshua D. and Tobias J. Moskowitz. "Home Bias at Home: Local Equity Preference in Domestic Portfolios," *Journal of Finance*, 54 no. 6 (December 1999): 2045-73.
- Errunza, Vihang, Ked Hogan and Mao-Wei Hung. "Can the Gains from International Diversification be Achieved Without Trading Abroad?" *Journal of Finance*, 54 no. 6 (December 1999): 2075-107.
- Froot, Kenneth A. and Emil Dabora. "How Are Stock Prices Affected by the Location of Trade?" *Journal of Financial Economics* 53 (August 1999): 182-216.
- Glassman, Debra A. and Leigh A. Riddick. "Why Empirical International Portfolio Models Fail: Evidence that Model Misspecification Creates Home Asset Bias," Journal of International Money and Finance 15, no. 2 (April 1996): 275-312.
- Huberman, Gur. "Familiarity Breeds Investment," working paper, Columbia University Business School, November 1999.
- International Monetary Fund. *International Capital Markets: Developments, Prospects, and Key Policy Issues*, (Washington, D.C.: International Monetary Fund): September 2000

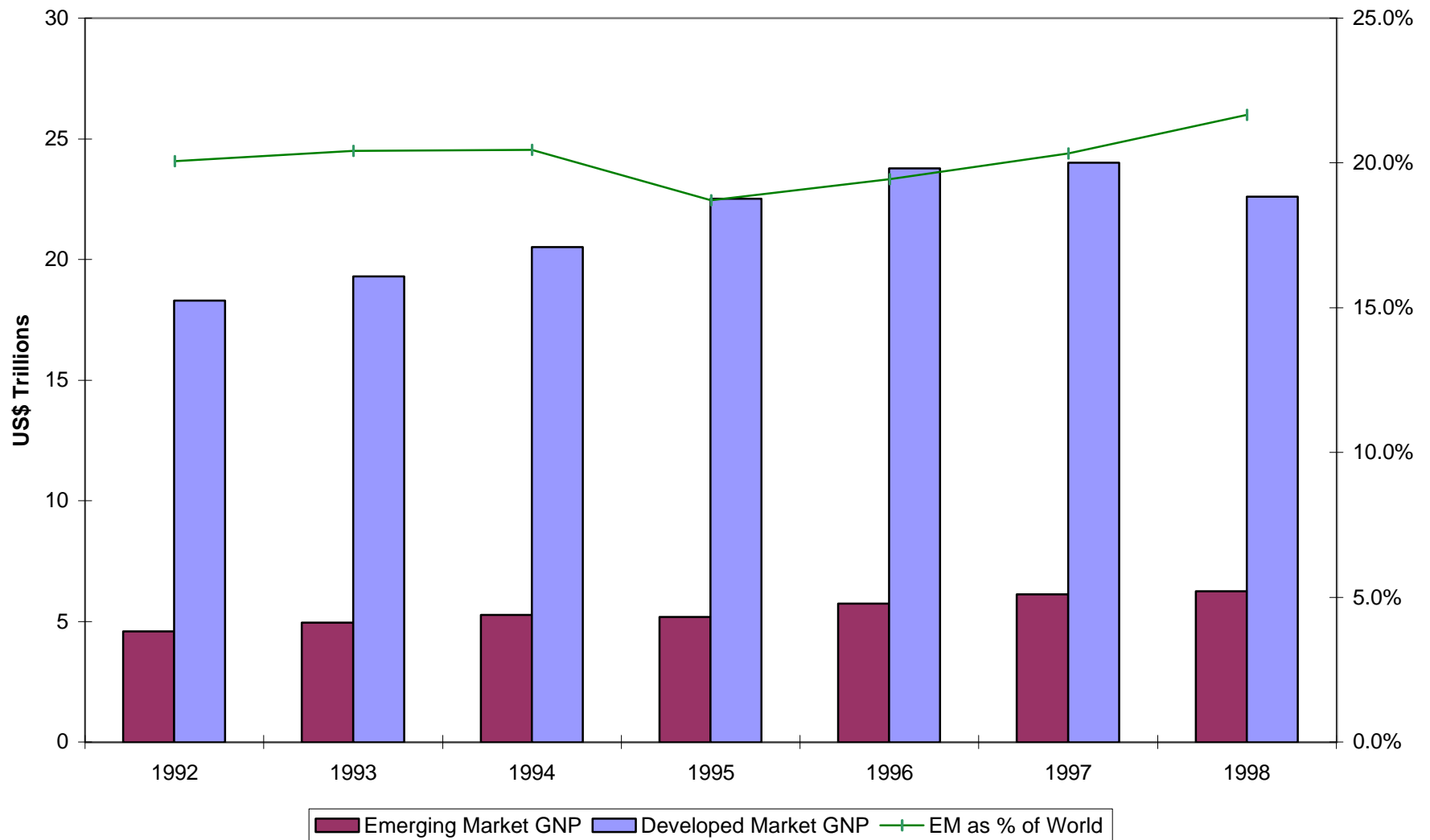


- J.P Morgan Bank, *J.P. Morgan Guide to Emerging Local Markets*, New York, 1997.
- Kraay, Aart, Norman Loayza, Luis Servén, and Jaime Ventura. "Country Portfolios," NBER Working Paper 7795, July 2000.
- Levich, Richard M. *International Financial Markets: Prices and Policies*, second edition, (Burr Ridge, Illinois: McGraw-Hill/Irwin), 2001.
- Lewis, Karen K. "Trying to Explain Home Bias in Equities and Consumption," *Journal of Economic Literature* XXXVII (June 1999): 571-608.
- Morck, Randall, Bernard Yeung, and Wayne Yu. "The Information Content of Stock Markets: Why Do Emerging Markets Have Synchronous Stock Price Movements?" *Journal of Financial Economics* (November 2000): forthcoming.
- Organization for Economic Cooperation and Development, "The Development of Fixed-Income Securities Markets in Emerging Market Economies: Key Issues and Policy Actions," *Financial Market Trends*, No. 74, October 1999.
- Palmer, David E. "U.S. Bank Exposure to Emerging Market Countries during Recent Financial Crises," *Federal Reserve Bulletin*, (February 2000): 81-96.
- Saunders, Anthony and Ingo Walter. "Are Emerging Market Equities a Separate Asset Class?" Stern School of Business Working Paper, July 2000.
- Smith, Roy C. and Ingo Walter. "Rethinking Emerging Markets," In *Emerging Market Capital Flows*. Richard M. Levich, editor, Boston: Kluwer Academic Publishers, 1998.
- Standard & Poor's, *Emerging Markets Factbook 2000*, (New York: Standard & Poor's), 2000.
- Tesar, Linda L. and Ingrid M. Werner. "The Internationalization of Securities Markets Since the 1987 Crash," *Brookings-Wharton Papers on Financial Services* (1998): 281-349.

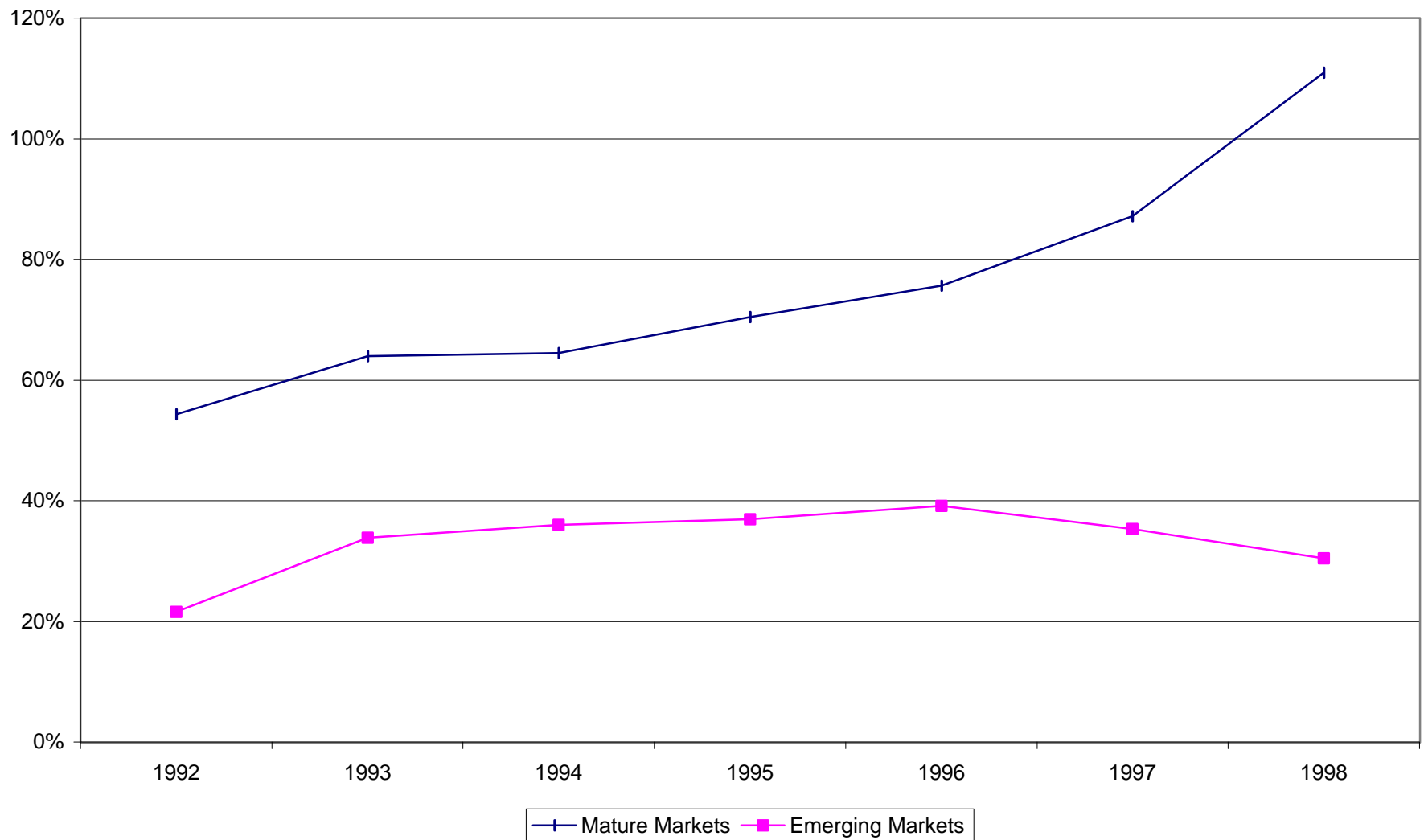
**Figure 1**  
**Market Capitalization as Percentage of GNP vs. GNP Per Capita**



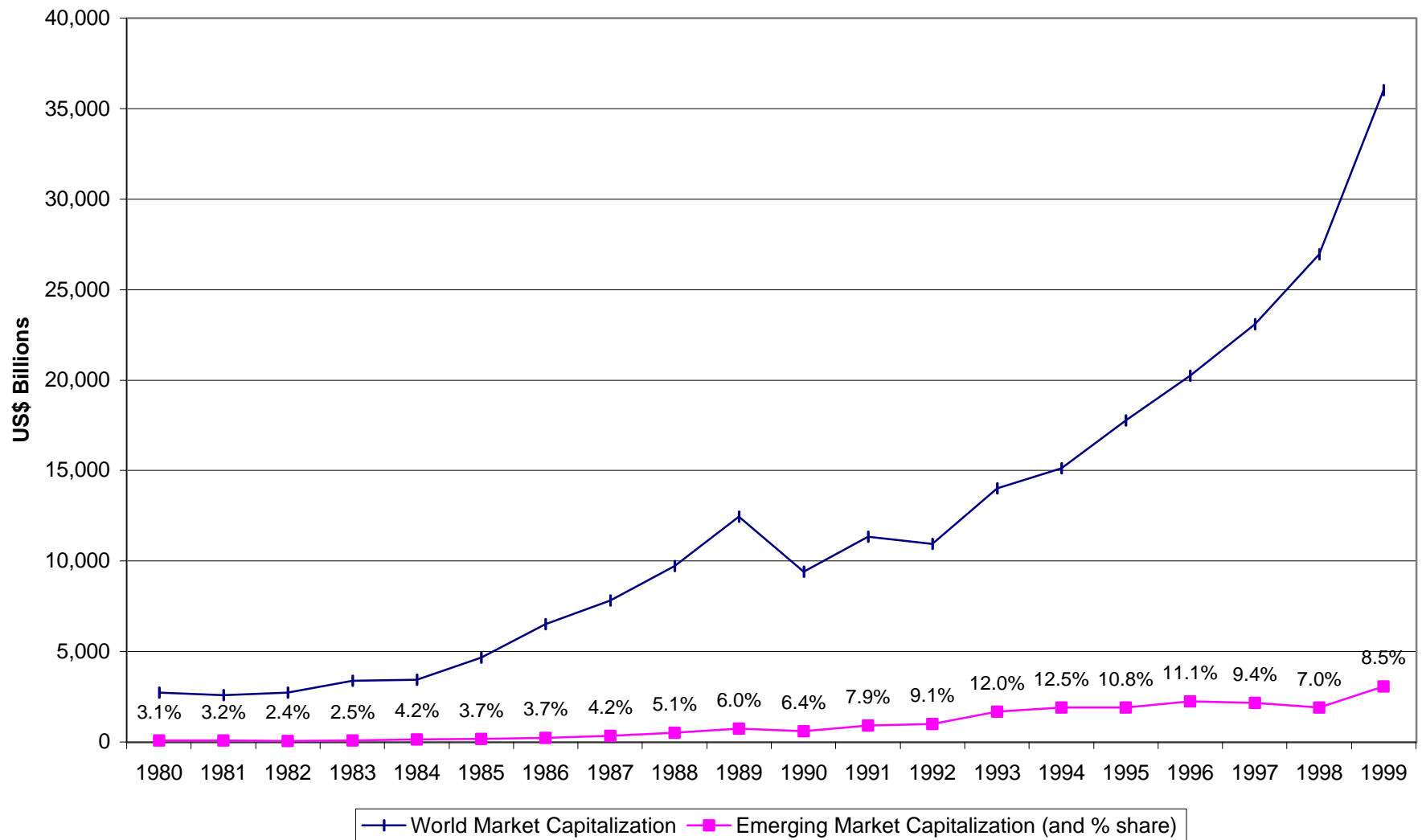
**Figure 2**  
**GNP in Emerging and Developed Market Countries**



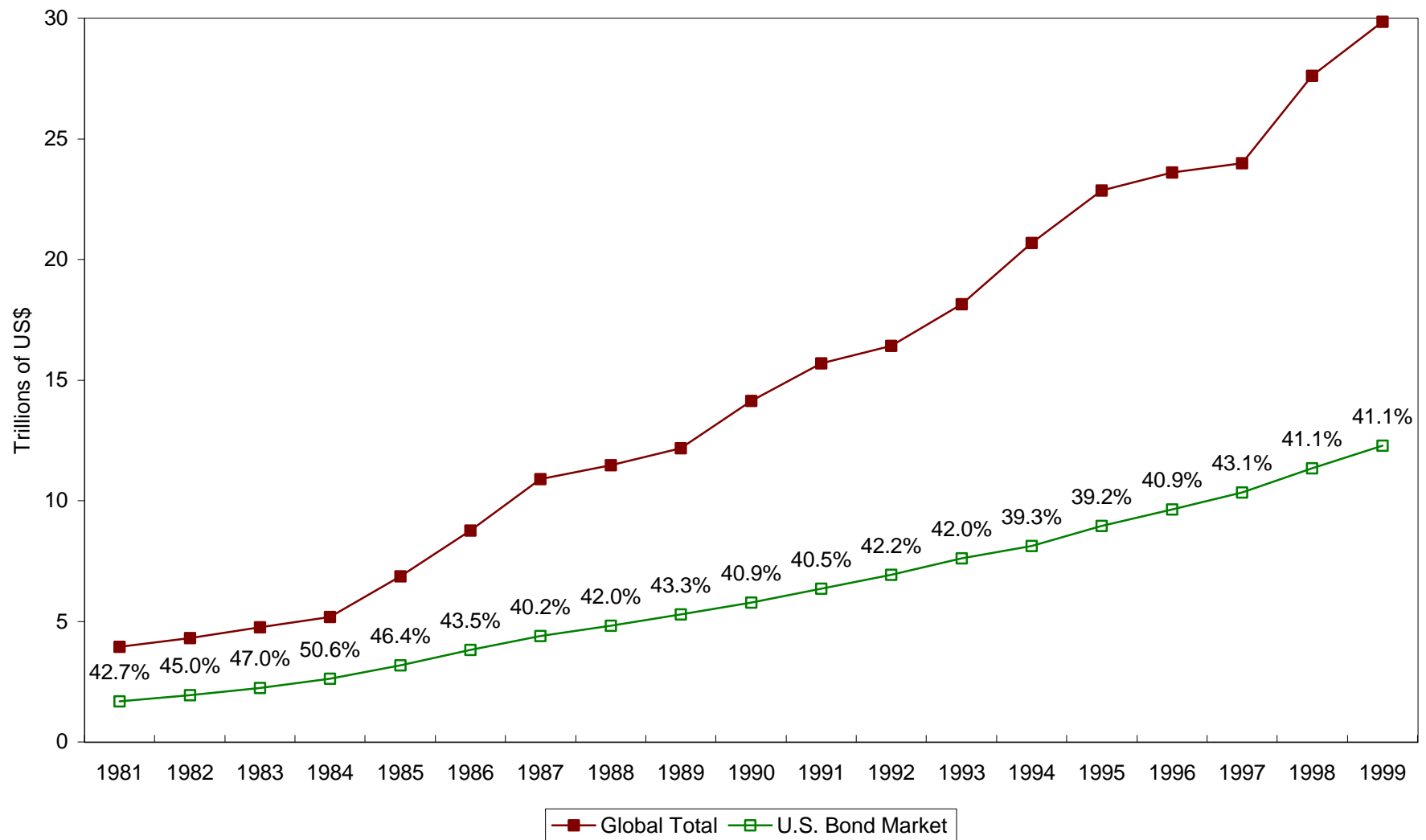
**Figure 3**  
**Equity Market Capitalization as a Percent of National GNP**



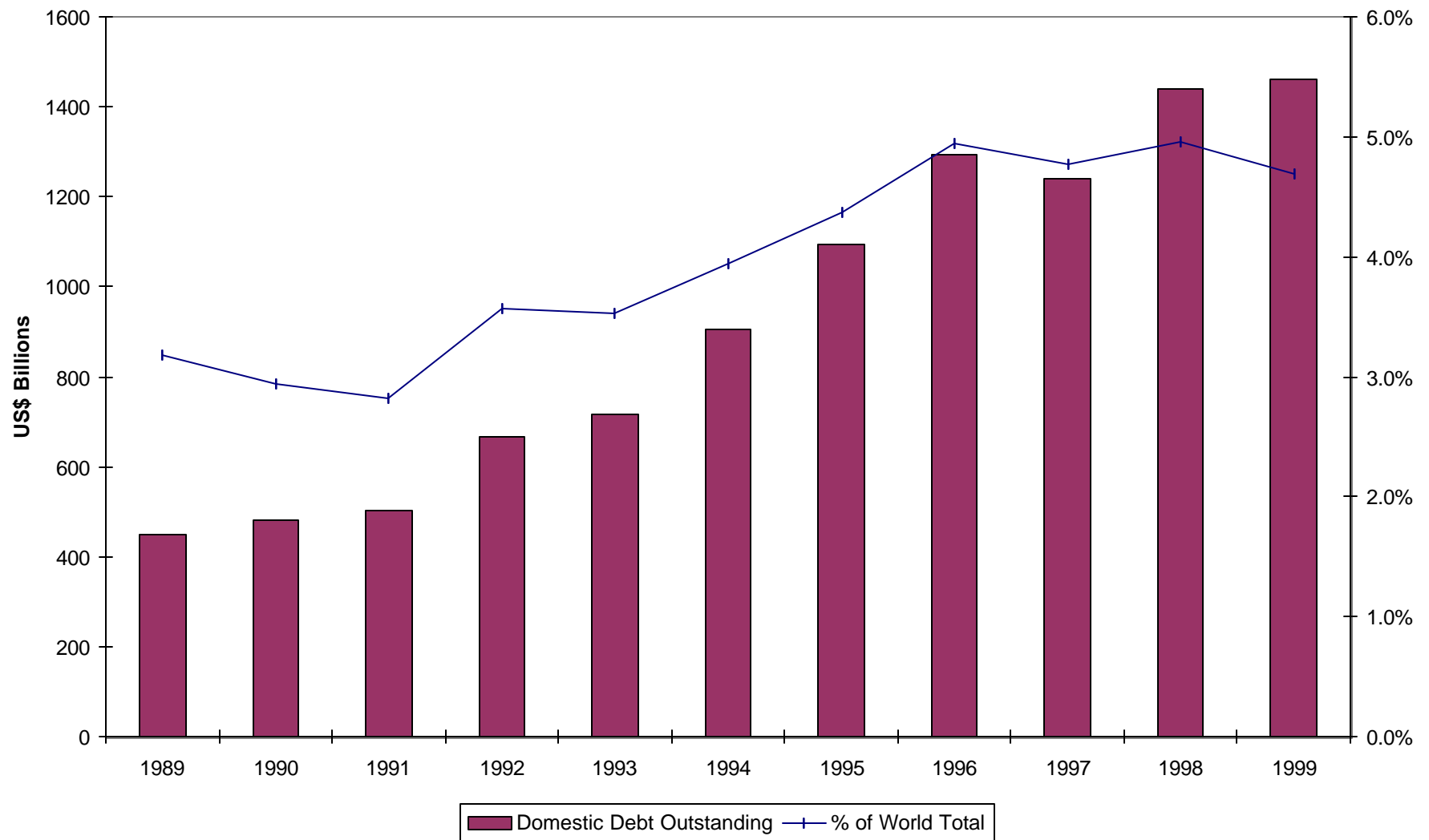
**Figure 4**  
**World Equity Market Capitalization and Emerging Market Share**



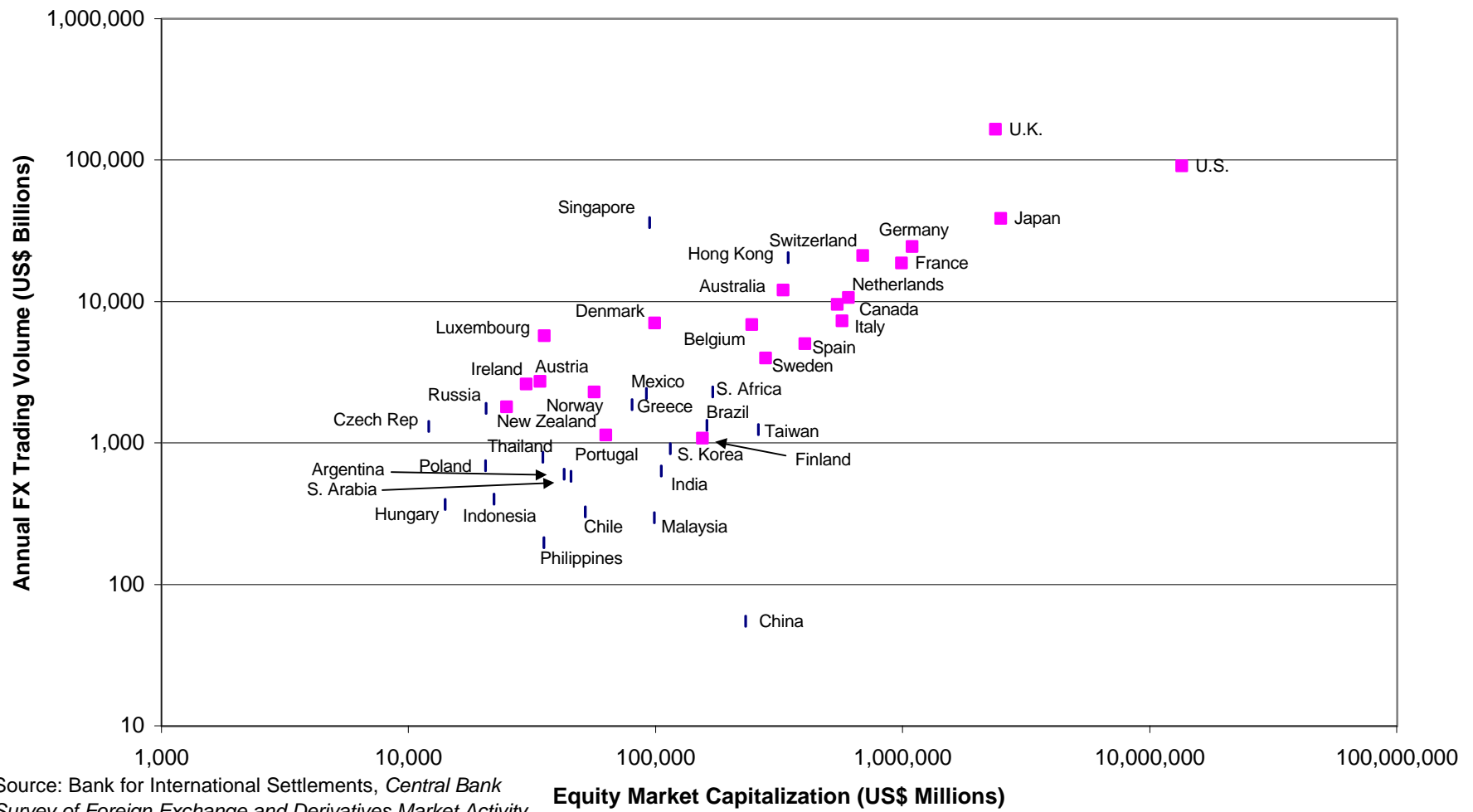
**Figure 5**  
**Global Bond Market and U.S. Bond Market Share**



**Figure 6. Domestic Debt Securities in Emerging Markets**  
Amount Outstanding at Year-End



**Figure 7**  
**Annual Foreign Exchange Trading Volume vs. Equity Market Capitalization, 1998**



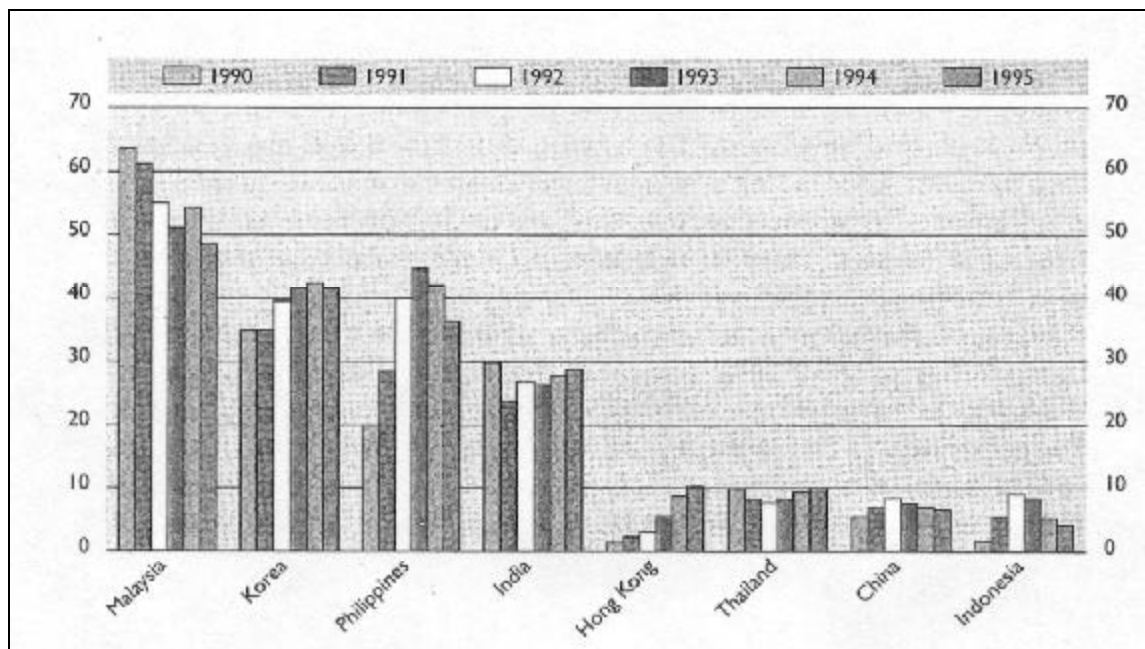
Source: Bank for International Settlements, *Central Bank Survey of Foreign Exchange and Derivatives Market Activity, 1998* and Standard and Poor's, *Emerging Stock Markets Factbook, 2000*, and author's calculations.

**Equity Market Capitalization (US\$ Millions)**

■ Emerging Markets ■ Developed Markets

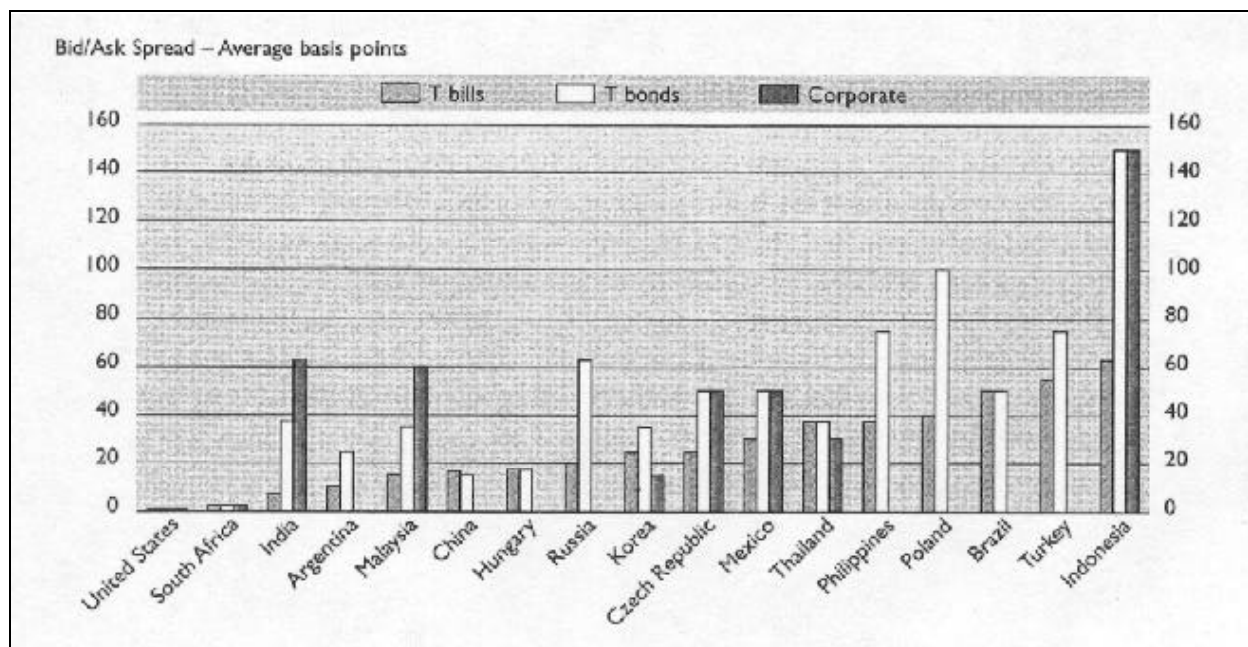


Figure 8. Emerging Asia Local Bond Market Size as a percentage of GDP



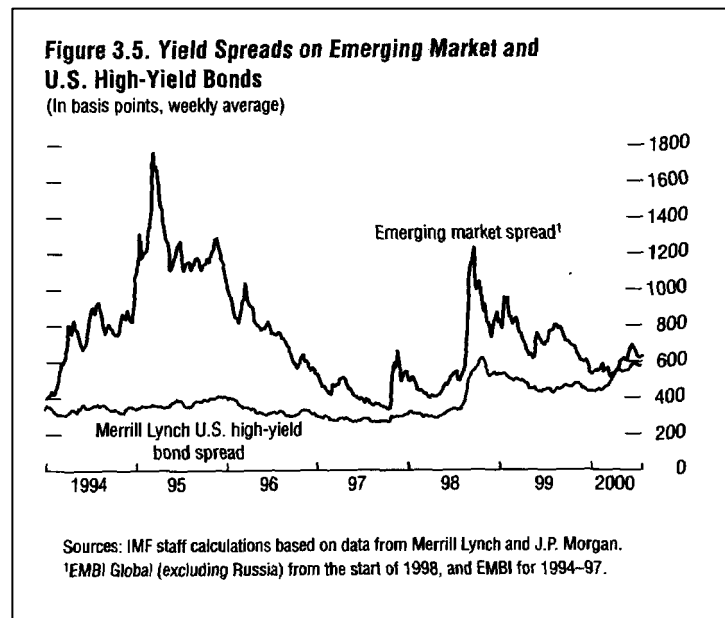
Source: "The Development of Fixed-Income Securities Markets in Emerging Market Economies: Key Issues and Policy Actions," *Financial Market Trends*, No. 74, October 1999.

Figure 9. Liquidity Measures in Selected Emerging Bond Markets



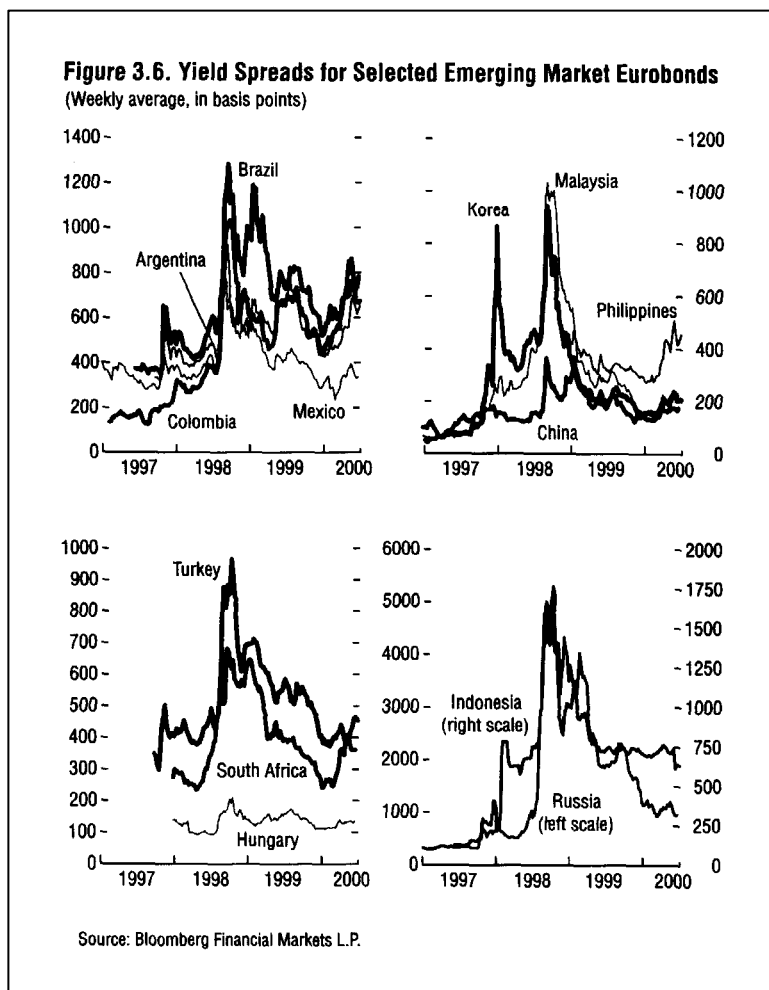
Source: "The Development of Fixed-Income Securities Markets in Emerging Market Economies: Key Issues and Policy Actions," *Financial Market Trends*, No. 74, October 1999.

Figure 10. Yield Spreads on Emerging Market and U.S. High-Yield Bonds



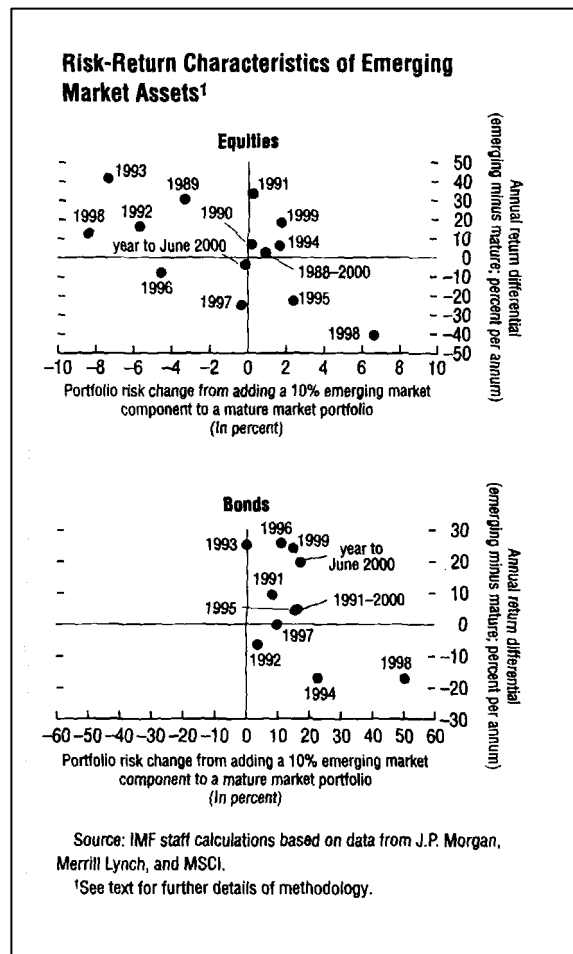
Source: *International Capital Markets: Developments, Prospects, and Key Policy Issues*, (Washington, D.C.: International Monetary Fund): September 2000, p. 57.

Figure 11. Yield Spreads for Selected Emerging Eurobonds



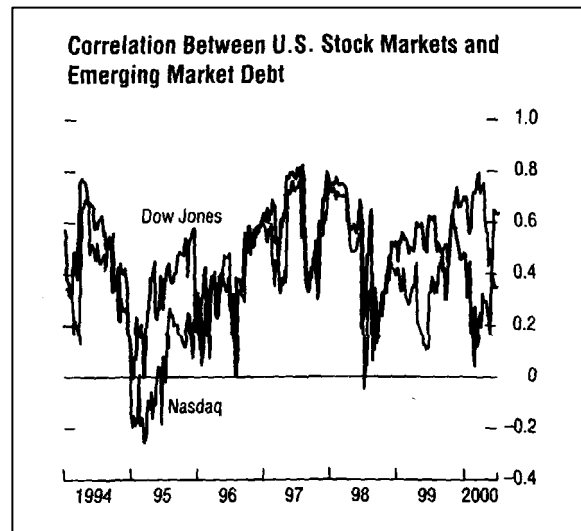
Source: *International Capital Markets: Developments, Prospects, and Key Policy Issues*, (Washington, D.C.: International Monetary Fund): September 2000, p. 63.

Figure 12. Risk-Return Characteristics of Emerging Market Equities and Bonds



Source: *International Capital Markets: Developments, Prospects, and Key Policy Issues*, (Washington, D.C.: International Monetary Fund): September 2000, p. 57.

Figure 13. Correlation Between U.S. Stock Markets and Emerging Market Debt



Source: *International Capital Markets: Developments, Prospects, and Key Policy Issues*, (Washington, D.C.: International Monetary Fund): September 2000, p. 60.

Table 1. Summary Measures of Absolute and Relative Size of Emerging Market Countries, 1998.

	World	Developed Markets	Emerging Markets
Population	5.8 billion	15%	85%
GNP	\$28.8 trillion	78.3%	21.7%
GNP per capita	\$4,966	\$25,480	\$1,246
Equity market capitalization <sup>a</sup>	\$36.0 trillion	91.5%	8.5%
Equity market capitalization/GNP	0.936	1.10	0.30
Bond market capitalization <sup>a</sup>	\$31.1 trillion	95.3%	4.7%
Bond market capitalization/GNP	1.007	1.221	0.232
FX trading / day	\$1.5 trillion	85.7%	14.3% <sup>b</sup>
Annual FX trading / GNP	29.1	27.2	31.0 <sup>c</sup>

Notes:

(a) Data for 1999

(b) Includes 7% share in Singapore and 4.0% in Hong Kong

(c) Drops to 6.2 excluding Singapore and Hong Kong

Sources: Standard & Poor's, *Emerging Stock Markets Factbook 2000*; Merrill Lynch, "Size and Structure of the World Bond Market: 2000," April 2000; Bank for International Settlements, *Central Bank Survey of Foreign Exchange and Derivatives Market Activity*, 1998, May 1999.

Table 2. Net Private Capital Flows to Emerging Markets, 1992-99.

	Average 1977-82	Average 1983-89	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total (US\$ billions)	30.5	8.8	39.8	92.9	112.6	172.1	136.3	226.9	215.9	147.6	75.1	80.5
Net foreign direct investment	11.2	13.3	19.5	28.8	35.4	59.4	84.0	92.6	113.2	138.6	143.3	149.8
Net portfolio investment	-10.5	6.5	6.2	22.5	56.1	84.4	109.6	36.9	77.8	52.9	8.5	23.3
Bank loans and other	29.8	-11.0	14.2	41.7	21.0	28.3	-57.3	97.4	24.9	-44.0	-76.7	-92.5
As a percent of GDP	NA	NA	NA	NA	2.3	3.0	2.3	3.5	3.0	2.0	1.1	1.1
Net foreign direct investment	NA	NA	NA	NA	0.7	1.0	1.4	1.4	1.6	1.9	2.1	2.1
Net portfolio investment	NA	NA	NA	NA	1.1	1.5	1.9	0.6	1.1	0.7	0.1	0.3
Bank loans and other	NA	NA	NA	NA	0.4	0.5	-1.0	1.5	0.4	-0.6	-1.1	-1.3

Source: Data for 1977-1991 are from *International Capital Markets: Developments, Prospects, and Key Policy Issues*, (Washington, D.C.: International Monetary Fund): August 1995, pp. 3. Data for 1992-1999 are from *International Capital Markets: Developments, Prospects, and Key Policy Issues*, (Washington, D.C.: International Monetary Fund): September 2000, pp. 46-7.

Table 3. Foreign Exchange Turnover in Emerging Market Countries, Daily Volume in US\$ Millions.

Country	Total	Spot	Outright Forward	FX Swaps	Typical Spot Transaction Size in US\$ Millions
Argentina	2,244	2,107	137	0	10
Brazil	5,127	5,127	0	0	5
Chile	1,255	789	466	0	5
China	211	211	0	0	10
Czech Republic	5,027	2,130	0	2,897	2-5
Greece	7,185	3,123	774	3,288	€ 5-10
Hong Kong	78,555	30,985	3,720	43,850	5-10
Hungary	1,417	984	153	280	na
India	2,441	1,156	382	903	1-5
Indonesia	1,540	729	78	733	5
Malaysia	1,140	343	61	736	5-10
Mexico	8,622	6,262	403	1,957	10
Philippines	759	356	178	224	3-5
Poland	2,664	2,123	53	488	na
Saudi Arabia	2,310	1,297	409	604	na
Russia	6,763	6,036	658	68	na
Singapore	138,986	59,872	4,408	74,706	5
South Africa	8,848	3,727	1,618	3,503	3
South Korea	3,502	2,512	287	703	5
Taiwan	4,763	3,404	606	754	1-5
Thailand	3,042	891	188	1,962	2-5
EM Total	286,401	134,164	14,579	137,656	
EM Total - Ex Singapore, HK	68,860	43,307	6,451	19,100	
World Total	1,981,619	771,996	156,660	1,052,962	
EM Total (%)	14.45%	17.38%	9.31%	13.07%	
EM Total - Ex Singapore, HK (%)	3.47%	5.61%	4.12%	1.81%	
EM Total	100.00%	46.84%	5.09%	48.06%	
EM Total - Ex Singapore, HK	100.00%	62.89%	9.37%	27.74%	
World Total	100.00%	38.96%	7.91%	53.14%	

Sources: Bank for International Settlements, *Central Bank Survey of Foreign Exchange and Derivatives Market Activity*, 1998, May 1999. Total volume (Table E-4), Spot volume (Table E-9), Outright forward volume (Table E-10), and FX swaps volume (Table E-11). Typical spot transaction size from *J.P. Morgan Guide to Emerging Local Markets*, November 1997.

Note: The *J.P. Morgan Guide to Emerging Local Markets* lists four other emerging countries and their estimated daily trading volume: Egypt (\$100-300 MM), Israel (\$300-500 MM), Slovak Republic (\$1,000 MM), Turkey (\$500 MM) and Venezuela (\$75-100 MM).



Table 4. Annual Foreign Exchange Turnover Relative to GNP and Equity Market Capitalization, 1998.

	No. of Countries	Annual FX Volume in Billions	FX Turnover / GNP	FX Turnover / GNP (PPP)	FX Turnover / Equity Market Capitalization
Average, all countries	42	12,252.2	29.1	31.9	40.7
Average, Emerging Markets only <sup>a</sup>	21	3,545.9	31.0	32.7	41.3
Average, Emerging Markets (except Hong Kong and Singapore) <sup>a</sup>	19	942.3	6.2	3.1	22.4
Average, Developed Markets only <sup>b</sup>	21	20,958.5	27.2	31.0	40.2

Source: Bank for International Settlements, *Central Bank Survey of Foreign Exchange and Derivatives Market Activity, 1998*, May 1999. Total volume (Table E-4).

Notes: (a) Average excludes Taiwan for which there is no GNP data.  
(b) Average excludes Luxembourg for which there is no GNP data.

Table 5. Claims of U.S. Banks on Foreign Counterparties, by type of claim and region, selected years, 1982-98.

Item	1982	1986	1990	1994	1998
Total claims in US\$ billions					
Developed countries and banking centers	278.9	286.7	269.2	280.7	467.0
Emerging Market Countries	150.9	133.0	85.3	122.7	176.1
Cross-border claims	137.0	116.1	61.9	79.9	83.6
Local claims	13.9	16.9	23.3	42.8	92.5
Africa	7.6	4.1	2.3	1.7	3.1
Asia Pacific	46.6	36.6	31.9	51.2	63.2
Eastern Europe	5.9	3.7	2.1	4.6	7.9
Latin America	90.8	88.6	48.9	65.3	102.0
Total claims as a percentage of total assets					
Developed countries and banking centers	22.1	17.8	14.4	12.8	11.5
Emerging Market Countries	12.0	8.2	4.5	5.6	4.3
Total claims as a percentage of total capital					
Developed countries and banking centers	395.1	246.7	166.5	125.3	110.2
Emerging Market Countries	213.8	114.4	52.7	54.8	41.6

Source: Palmer, David E. "U.S. Bank Exposure to Emerging Market Countries during Recent Financial Crises," *Federal Reserve Bulletin*, (February 2000), p. 94.

Table 6. Size of Global Emerging Bond Markets  
1999 Nominal Value Outstanding, US\$ Billions

Country	Amount	Government % Share	Corporate % Share	Eurobond % Share
Argentina	9.8	86.7	NA	13.3
Brazil	208.6	100.0	NA	0.0
China	72.8	91.3	8.7	0.0
Czech Republic	2.1	100.0	NA	0.0
Greece	87.8	88.4	2.9	8.7
Hong Kong	70.3	18.6	57.5	23.9
Hungary	10.7	98.1	1.9	0.0
India	135.7	70.4	29.6	0.0
Indonesia	7.1	5.6	94.4	0.0
Malaysia	37.8	56.1	43.9	0.0
Mexico	33.7	100.0	NA	0.0
Pakistan	4.8	100.0	NA	0.0
Philippines	62.0	39.2	60.5	0.3
Poland	19.1	89.5	NA	10.5
Singapore	5.4	25.9	74.1	0.0
South Africa	72.0	90.0	0.8	9.2
South Korea	226.5	52.3	47.7	0.0
Taiwan	63.7	60.3	35.8	3.9
Thailand	36.1	72.9	27.1	0.0
Turkey	31.2	100.0	NA	0.0
Total	1,197.2	72.2%	24.7%	3.1%
Emerging as % of Global Market	3.86%			

Source: Merrill Lynch, *Size and Structure of the World Bond Market: 2000*, April 2000, p. 14.

**Table 7. Primary Market Activity, 1980-1995**

		US\$ billion				% of GDP				
Equity		1980-85	1986-90	1991-95	1980-95	% of Grand total	1980-85	1986-90	1991-95	1980-95
	24 Emerging markets	12.40	45.60	111.50	169.50	17.60%	0.60	0.70	1.40	0.90
	4 Asian Tigers	5.40	48.30	83.00	136.70	28.22%	0.70	1.50	2.80	1.70
	G4	278.70	610.60	613.30	1502.60	5.56%	0.70	1.40	1.00	1.00
	Total (N=32)	296.50	704.40	807.80	1808.70	6.36%	0.60	0.90	1.50	1.00
Lt Govt Debt										
	24 Emerging markets	66.00	169.40	335.50	570.90	59.27%	2.70	3.30	5.30	3.70
	4 Asian Tigers	2.30	9.80	46.40	58.60	12.10%	0.40	0.80	1.40	0.80
	G4	2,527.20	3,414.30	6,366.60	12,308.10	45.58%	5.80	5.60	7.90	6.50
	Total (N=32)	2,595.40	3,593.60	6,748.50	12,937.50	45.47%	3.10	3.50	5.20	4.00
LT SOE Debt										
	24 Emerging markets	4.00	18.10	37.40	59.60	6.19%	0.10	0.20	0.30	0.20
	4 Asian Tigers	4.20	2.70	20.20	27.10	5.59%	0.30	0.10	0.40	0.30
	G4	589.20	668.70	1,190.80	2,448.70	9.07%	1.10	1.10	1.70	1.30
	Total (N=32)	597.40	689.60	1,248.40	2,535.40	8.91%	0.40	0.30	0.50	0.40
LT Private Debt										
	24 Emerging markets	9.40	33.60	120.30	163.30	16.95%	0.20	0.60	0.90	0.60
	4 Asian Tigers	19.80	63.00	179.20	262.00	54.09%	2.40	2.50	3.60	2.80
	G4	1,308.30	3,525.30	5,910.80	10,744.30	39.79%	4.80	6.80	7.60	6.40
	Total (N=32)	1,337.50	3,621.90	6,210.30	11,169.60	39.26%	1.60	1.90	2.20	1.90
Grand totals										
	24 Emerging markets	91.80	266.70	604.70	963.30		3.60	4.80	7.90	5.40
	4 Asian Tigers	31.70	123.80	328.80	484.40		3.80	4.90	8.20	5.60
	G4	4,703.40	8,218.90	14,081.50	27,003.70		12.40	14.90	18.20	15.20
	Total (N=32)	4,826.80	8,609.50	15,015.00	28,451.20		5.70	6.60	9.40	7.30

**Table 8**  
**Market Statistics on U.S. and World Stock Markets, 1999**

1999		(1)	(2a)	(2b)	(3)	(4)	(5)
Country		Market Capitalization	Number of Listed Domestic Companies	Number of Listed Foreign Companies	Average Company Size	Market Concentration	Market Turnover Ratio
Developed Markets							
Australia		427,683	1,217	70	351	76.8	28.0
Belgium		184,942	172	122	1075	59.0	27.5
Canada		800,914	3,767	48	213	72.7	54.2
France		1,475,457	968	176	1524	80.8	62.4
Germany		1,432,190	933	234	1535	79.2	107.5
Hong Kong		609,090	695	13	876	84.1	51.4
Italy		728,273	241	6	3022	60.8	82.7
Japan		4,546,937	2,470	43	1841	68.3	52.5
Netherlands		695,209	344	154	2021	72.2	145.1
New Zealand		28,352	114	58	249	56.6	45.0
Singapore		198,407	355	45	559	64.9	66.9
Switzerland		693,127	239	173	2900	79.1	78.0
United Kingdom		2,933,280	1,945	448	1508	79.3	51.9
United States		16,635,114	7,651	835	2174	70.8	123.5
Other Developed		1,567,964	2,215	NA	708	NA	NA
	Total	32,956,939	23,326	NA	1413	NA	NA
Emerging Markets							
Brazil		227,962	478	2	477	32.6	44.9
Chile		68,228	285	0	239	42.3	11.4
China		330,703	950	0	348	30.3	134.2
India		184,605	5,963	0	31	31.2	84.4
Indonesia		64,087	277	0	231	47.6	46.2
Korea		308,534	725	0	426	59.1	346.7
Malaysia		145,445	757	3	192	33.4	39.8
Mexico		154,044	188	4	819	53.2	29.3
Philippines		48,105	226	1	213	42.2	47.2
Poland		29,577	221	0	134	59.0	44.6
South Africa		262,478	668	24	393	23.0	33.7
Taiwan		375,991	462	0	814	36.4	286.2
Thailand		58,365	392	0	149	46.8	89.2
Other Emerging Markets		815,747	14,722	NA	55	NA	NA
	Total	3,073,871	26,314	NA	117	NA	NA
World Total		36,030,810	49,640	NA	726	NA	NA
Notes:		Column 1: <i>Emerging Stock Markets Factbook 2000</i> , pp. 16-7; US\$ millions.					
		Column 2a: <i>ibid</i> , pp. 22-3. Column 2b: International Federation of Stock Exchanges, Tables I.1 and V.1 at website, <a href="http://www.fibv.com/">http://www.fibv.com/</a>					
		Column 3: in US\$ millions; column (1)/column (2a)					
		Column 4: Data for developed countries represent the largest 5% of firms. Source: International Federation of Stock Exchanges, Table I.7.1 at website, <a href="http://www.fibv.com">http://www.fibv.com</a> . Data for emerging markets represent the ten largest firms as percentage of market capitalization. Source: <i>Emerging Stock Markets Factbook</i> , 2000, p. 46.					
		Column 5: Annual trading value / Market capitalization, <i>Emerging Stock Markets Factbook</i> , 2000, p. 15.					

Table 9. IFC Global Composite Total Return Index Correlations  
(Returns in US\$)

Correlation of U.S. S&P 500 with	Dec 89 – Dec 94	Dec 90 – Dec 95	Dec 91 – Dec 96	Dec 92 – Dec 97	Dec 93 – Dec 98	Dec 94 – Dec 99
IFCG Composite	0.29	0.24	0.19	0.37	0.62	0.56
IFCG Latin America	0.40	0.38	0.22	0.41	0.52	0.46
IFCG Asia	0.19	0.10	0.11	0.26	0.54	0.50
IFCG Europe Mid-East/Africa	NA	NA	NA	NA	0.57	0.50

Source: *Emerging Stock Markets Factbook*, editions of 1995-2000.