Growth and Returns in Emerging Markets

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Abstract

From 1976 to 2005, emerging economies grew at an average rate of 5.1 percent per year, roughly twice the average growth rate of the United States. In contrast, average annual stock returns for emerging markets over the same time period were 7.78 percent, a number that is not significantly higher than the corresponding figure for the US. On the other hand, average expected returns in emerging economies are greater than expected returns in the US. Realized returns in emerging markets generally exceed expected returns, but the differential between the two (unexpected capital gains), has been larger in Latin America than in Asia.

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1. Introduction

Conventional wisdom gives two rationales for investing in the stock markets of developing countries. The first says that the low correlation of developing country stock returns with those of developed markets provides diversification opportunities that enable investors in developed countries to increase the expected return on their portfolio while reducing the risk. The second says that high rates of economic growth in emerging markets provide great absolute investment opportunities. Because the rate of economic growth in most developing countries is expected to exceed the rate of growth in the developed world for many years to come, the typical discussion presumes that long-run stock returns in emerging markets will also exceed those of developed markets (Malkiel and Mei, 1998; Mobius, 1994).

This paper focuses on the empirical validity of the second rationale. To what extent do stock returns in developing countries track the real economy—GDP growth in particular—and is it true that stock returns in emerging markets are, on average, higher than in developed countries? The notion that stock returns in fast-growing countries will be higher than stock returns in slow growing countries sounds almost too obvious to question, but the scatter diagram in Figure 1 shows that there is no systematic long-run relationship between stock returns and economic growth in emerging economies over the past 30 years. Not only is the relationship between stock returns and economic growth statistically insignificant, the sign of the relationship actually goes the wrong way; it is negative instead of positive.

A simple example using the Solow growth model helps illustrate why higher economic growth does not always imply higher stock returns. Consider two economies

(A and B) that are identical and therefore growing at the same rate. A standard result of the Solow model is that an increase in the savings rate of Country A will temporarily raise its rate of growth. It is also a standard result that an increase in the savings rate will reduce the rate of return to capital. The rate of return falls, because the increase in the savings rate of Country A drives up its rate of investment. Consequently, capital becomes less scarce, and the marginal benefit from an additional unit falls. When diminishing returns has run its course, Country A settles down to a new steady state, in which it has the same growth rate as Country B, a higher level of GDP per capita, and a lower rate of return to capital.

This specific example illustrates a more general lesson. In order to understand whether a fast-growing country will have higher stock returns than a slow-growing country, at a minimum we must ask what accounts for the difference in the two countries' growth rates of GDP. The stock market is the aggregate collection of financial claims on the real assets of an economy. Therefore, aggregate stock market returns should be tied to the rate of return to real assets in the long run. In turn, the rate of return to real assets depends on their productivity as determined by the interaction of capital, labor, technology, and institutions. For instance, in contrast to the savings rate example in the previous paragraph, the Solow Model predicts that high rates of growth caused by improvements in total factor productivity will raise the rate of return to capital.

These are not mere academic distinctions. Relative to developed countries like the United States, the emerging economies of Asia save and invest a much larger fraction of their income. Many scholars attribute the exceptionally high growth rates of Asian economies over the past three decades to the rapid rate of capital accumulation made possible by the thriftiness of their populations rather than increases in the growth rate of total factor productivity (Krugman, 1994; Young, 1995). In the face of diminishing returns to capital, and an absence of increases in total factor productivity, growth rates of GDP per capita will slow to more pedestrian levels, and the rate of return to capital will fall.

But a falling rate of return to capital in a given country tells you nothing about the level of its return to capital relative to rates of return elsewhere. In the neoclassical model, the rate of return to capital is equal to capital's share in output times the ratio of output to capital. Although East Asian economies have experienced significant capital deepening over the past few decades, to the extent that they started from greater output-to-capital ratios than the US, their rates of return may still be higher.

A similar caveat about levels versus changes in rates of return applies to Latin America, a region where country after country in the past two decades struggled with, and to varying degrees embraced, economic reforms. Reforms such as inflation stabilization, trade liberalization, and privatization hold the potential to raise total factor productivity. If these reforms increased total factor productivity in the region, then they probably also drove up rates of return. But even if the rate of return to capital in Latin America is higher today than it was two decades ago, returns there could still be lower than in the US.

As the previous two paragraphs suggest, the question of whether faster rates of economic growth in emerging markets translate into higher stock returns is ultimately an empirical question. While neoclassical theory provides the framework for the exercise ahead, our principal goal is to let the data speak for themselves. In Section 2 of the paper we document that average realized stock returns in emerging markets over the last thirty years have not been significantly higher than realized stock returns in the United States. This finding is particularly striking in the case of fast-growing regions like Asia, which have average realized returns that are actually lower than returns in the U.S.

There are legitimate objections to using realized stock returns to test the validity of the view that high growth and high stock returns go together. For instance, high rates of growth may be associated with high expected returns (as opposed to realized returns). To address this concern, Section 3 constructs measures of expected returns using dividend-price ratios and earnings yields. Unlike the case of average realized rates of return, we find some evidence that average expected returns in emerging markets have been significantly higher than expected returns in the U.S. We also document that average realized returns in emerging markets have generally been higher than average expected returns over the past 20 years.

To gain a better understanding of the forces that account for the higher-than-expected returns in emerging markets over the past two decades, Section 4 presents short vignettes that focus on inflation stabilization and capital account liberalization episodes in Latin America and Asia. The central, if unsurprising, message is that stock markets respond positively to news about major economic reforms. Specifically, we document that episodes of major economic reforms go together with episodes of large capital gains.

Between 1986 and 2005 Latin America experienced average annual capital gains of 10.83 percent per year, more than twice the figure experienced by Asia. Yet, average annual inflation in Asia during this time period was much lower than in Latin America (6.4 percent versus 167), and growth was much higher (7.41 percent versus 2.9).

Section 5 discusses a simple and consistent explanation for high growth with low returns in Asia and low growth with high returns in Latin America. High growth implies high returns only if the stock market has not already capitalized the growth into current prices. Coming into the 1980s, the Asian Tigers had already experienced two decades of rapid output growth and expectations for the future were great. In contrast, Latin America entered the 1980s well on its way to the Debt Crisis. Starting in 1986, over the next two decades, Latin American countries attempted to stabilize inflation, liberalize trade, and privatize state owned enterprises. While these efforts were not entirely successful (and some also occurred in Asia), the very attempt at reform in Latin America was a shock. Hence, relative to the low expectations for the region at the start of the 1980s, Latin America achieved better outcomes than Asia over the next twenty years.

2. Data

In order to compare rates of return in emerging economies with those in mature markets, we compute dollar-denominated, inflation-adjusted stock returns for a number of countries. All of the stock market data come from Standard and Poor's (S&P) Emerging Markets Data Base (EMDB). We use the dividend-inclusive, total return index denominated in US dollars. We compute a real, inflation-adjusted index by deflating the total return index with the US consumer price index. The consumer price index data come from the Bureau of Economic Analysis.

The EMDB provides the most complete and consistent source of stock returns across a wide range of developing countries. Nevertheless, the EMDB data are less than ideal. For some of the larger emerging markets in Latin America and Asia, we have 30 years of stock returns (1976 to 2005). For other countries, most notably those of Eastern Europe, data are only available from the early 1990s. For valuation ratios, the data limitations are greater still. Even in the countries with 30 years of stock price data, price earnings ratios are only available since 1986. By comparison, long-term studies of the U.S. stock market typically employ time series that span close to 100 years (Blanchard, 1993; Fama and French, 2002).

Stock returns over long periods of time provide a reasonable proxy for the rate of return to capital in an economy, but returns viewed over shorter horizons may not be as easy to interpret. Because of movements in the business cycle and the volatility of returns, our time series may not be long enough to distinguish meaningful information from the noise in the data. Nevertheless, a dataset with limitations is better than no dataset at all, so we proceed to calculate long-run returns with the data we have.

Table 1 summarizes the average annual realized real return and standard deviation for a selection of 20 emerging market economies during the period from 1976 to 2005. For each country in the sample, we calculate annual real returns using continuously compounded growth rates—the natural log of the inflation-adjusted, dividend-inclusive value of the index at the end of the year minus the natural log of the same variable at the beginning of the year. The average annual real return for a country is the simple average of its continuously compounded annual return. In turn, the average annual return for a particular region is the simple average of the average annual real return of all countries in that region.[1]

Panel A of Table 1 shows that average annual stock returns in emerging markets

[1] Note that these numbers differ slightly from the regional averages computed by EMDB due to the range of countries included and the use of a simple average here as opposed to a weighted average used in the EMDB computations.

over the past 30 years have been 7.78 percent, while the average return on the US market over the same period was 7.69 percent. The two sets of returns are statistically indistinguishable. Hence, at least from an *ex-post* point of view, stock returns in emerging markets are no higher than stock returns in the US.

Over short horizons, and in markets with relatively low volatility, it makes little difference whether you use arithmetic or continuously compounded returns. But emerging market returns are volatile. Therefore, when comparing their performance with other markets over long periods of time, it matters greatly whether you use continuously compounded or arithmetic returns. In contrast to the numbers in Panel A, studies that compute stock returns arithmetically find that emerging markets have higher annual returns than the U.S. For instance, Harvey (1995) reports a 20.36 percent dollar return on the emerging market composite index as compared to 13.63 percent return on the U.S. market. To see whether this result obtains in an updated sample, Panel B of Table 1 replicates the calculations in Panel A using arithmetic returns. Panel B shows that using arithmetic returns, average annual returns in emerging markets are about two and a half times greater than those of the U.S.

Figure 2 and a few numerical examples help illustrate why continuously compounded returns provide a more appropriate metric than arithmetic returns for comparing emerging markets with the U.S. Figure 2 plots the evolution of the inflation-adjusted value of a dollar invested in various stock markets starting in 1975 (with full reinvestment of dividends). For example, a dollar invested in Latin America in 1975 was worth \$2.15 in 1987. A dollar invested in the U.S. over the same period grew to a value of \$2.26. What is the right way to calculate and compare annual average returns in the

U.S. and Latin America over this 12-year period?

If you use the value of the investment at the beginning and end of the period, it makes little difference whether you use arithmetic or continuously compounded returns. The average annual continuously compounded return is 6.8 percent for the U.S. and 6.4 percent for Latin America. The comparable arithmetic numbers are 10.5 and 9.6.

If instead of using beginning- and end-of-period values, you calculate returns on a year-by-year basis (and then compute the average of the year-by-year returns over the 12-year period), methodological differences do matter. Such an approach overstates the performance of emerging markets. To see why, continue with the example above. The arithmetic average of year-by-year arithmetic returns in the period from 1975 to 1987, is 13.9 percent for Latin America versus 7.8 percent for the U.S. This gives the misleading impression that the value of the Latin American investment at the end of the 12-year period is greater than the value of the U.S. investment when, in fact, the opposite is true. Taking the arithmetic average of year-by-year continuously compounded returns, of course, gives the same answer as computing the continuously compounded growth rate of the entire period divided by 12.[2]

Turn back to the data in Panel A of Table 1. While continuously compounded mean returns are about the same in emerging markets as in the U.S., the emerging market composite index displays substantially higher volatility. Column 2 of Table 1 shows that the standard deviation of emerging market returns is roughly one and a half times that of the US. Accordingly, the Sharpe Ratios in Columns 3 indicate that the higher risk associated with emerging markets has not resulted in higher returns. In spite of the poor

[2] Calculating the geometric average of the year-by-year arithmetic returns gives similar results to the continuously compounded method.

absolute performance indicated by their Sharpe Ratios, it is well known that emerging markets have the potential to improve the risk-return profile of a balanced portfolio, because of their low correlation with developed countries (Harvey, 1995). Column 4 of Table 1 shows that emerging market returns continue to exhibit relatively low correlation with U.S. returns.

Focusing on returns at the broad level of emerging markets masks significant heterogeneity across regions. Compared to returns in the U.S., Latin American stocks produced higher average returns over the same period. The average-annual return on Latin American stocks was 10.86 percent compared to the 7.69 percent return on U.S. stocks (although this difference is not statistically significant). The higher volatility of Latin American stocks, however, means that they also have low Sharpe Ratios relative to the U.S. Meanwhile, stocks in Asia have performed worse on both counts—they have lower average returns than stocks in the U.S. and higher volatility. Within the group, stocks in Indonesia, for example, produced an average annual real rate of return of negative 5 percent over this 30-year period. Even with the exclusion of Indonesia, average stock returns in Asia are only 6.9 percent over the period.

The relatively low real rate of return on Asian stocks weighs heavily against the view that high growth generates high returns. While countries in Asia such as China, India and Korea experienced high rates of growth relative to the U.S. and Latin America, the average annual realized return for Asia is the lowest amongst all three regions. A natural question to ask is whether this observation would still hold if we eliminated the influence of the 1997 Asian Crisis on our calculations. Three points are in order here.

First, even excluding the Asian Crisis, average real returns in Asia remain lower than in Latin America. Real continuously compounded returns in Asia from 1975 to 1996 were 10 percent; in Latin America they were 12.48. If instead of eliminating all of the data after 1996, you calculate returns for Asia using all years except 1997, average returns for Asia are 9.53 percent; returns calculated in the same way for Latin America are 10.54 percent.

Second, given the timing of the Asian Crisis, there is no theoretical justification for excluding data during that time period from our calculations. The returns series includes an ample number of years following the crisis to balance any undue influence that would occur if the series ended on a down year in the business cycle.

Third, and related to the second point, we are skeptical of throwing away data. The same instinct that suggests you should calculate Asian returns without including the 1997 data would also suggest that you throw away data on stock returns in Latin America during the debt crisis (1982 to 1989). For that matter, why not exclude data from the Mexican and Argentine Crisis periods? Indeed, given the volatility of returns in emerging markets, we would soon be left with little of an already-limited sample of data.

On the whole, the data in Table 1 demonstrate that historical stock returns provide little support to the view that higher growth rates and higher risk in emerging markets produce commensurately higher rates of return. The evidence in Table 1, however, requires a cautious interpretation. The data on realized returns span a 30-year period in which a number of crises and reforms occurred in the developing world. As such, it may be the case that the average realized rates of return computed in Table 1 differ significantly from the average expected returns in these economies over the period. We turn our attention to this distinction in the next section.

3. Expected Returns Versus Realized Returns

In order to compute expected rates of return we begin by using the constant dividend-growth model, or as it is more popularly known, the Gordon Model (Gordon, 1962). The Gordon Model says that the price of a stock should be equal to the dividend payment divided by the difference between the required rate of return for the stock and the expected long-term growth rate of dividends:

$$P = \frac{D}{\rho - g^e} \quad (1)$$

where D is the dividend, P is the stock price, ρ is the required rate of return, and g^e is the expected growth rate of the dividend stream. Rearranging equation (1) with ρ on the left-hand-side gives an expression which states that the required rate of return on a stock is the sum of its current dividend-price ratio and the expected growth rate of future dividends:

$$\rho = \frac{D}{P} + g^e \quad (2).$$

In order to use equation (2) to compute expected returns, we need a measure of expected future growth rates that we can add to the dividend-price ratio data we obtain from the EMDB. Because capital's share in national output within a give country does not fluctuate much over time (although it may vary significantly across countries), it is reasonable to assume that in the long-run earnings grow at the same rate as gross domestic product (GDP). The issue then becomes how to construct a measure of the expected future growth rate of GDP. Here we turn to the International Monetary Fund (IMF) publication, the *World Economic Outlook* (WEO).

The WEO provides annual analysis and forecasts for the world economy. Every year, the WEO produces three sets of numbers for a variety of countries and regions: (1) A forecast of GDP growth for the current year (year [0]), (2) a forecast of growth for the following year (year [+1]), and (3) a forecast of the average expected growth rate for the next four years (years [+2 to +5]).[3] Since the Gordon model assumes a constant expected future growth rate, the proper empirical analogue for g^e is a long-term forecast, not the growth forecast for any single year. In order to capture the spirit of the model, we calculate g^e as the geometric average of the three numbers provided in the WEO forecast—in essence, the average expected growth rate over the next five years

A simple example may help clarify things. Suppose that we want to calculate the expected return for Latin America in 1995. The first step is to produce, from the perspective of a market investor in 1995, a forecast of the expected future dividend growth rate. To do so, we open the 1995 issue of the WEO and find that the forecast for Latin American growth (as approximated by the "Western Hemisphere" region) in 1995 was 2.1 percent, the forecast for 1996 was 4.0 percent, and the forecast for 1997 through 2000 was a growth rate of 5.3 percent per year. Given these three growth numbers, our estimate of the expected future dividend growth rate for Latin America in 1995 is 4.5 percent.

Table 2 presents our calculations of average expected returns from 1985 to 2005. The time period in Table 2 is shorter than that for Table 1, because data on the dividend price ratio for the individual economies is only available since 1985. Table 2 also

[3] Strictly speaking, the IMF only began to consistently publish forecasts for "developing economies" along the lines mentioned in the main text from their 1995 issue of the WEO. For the earlier years, we used the regional growth forecasts for "net debtor developing countries". The composition of countries between the two groups is not significantly different. Where possible, we use the September/October issue of the WEO for that year.

presents data on the values of the underlying variables that comprise our calculation of expected returns. Column 1 gives the dividend-price ratio, column 2 the expected future growth rate of dividends. Column 3, which presents the sum of the first two columns, shows that over the period 1985-2005 average expected returns for the Composite Emerging Market Index, Latin America and Asia were all higher than average expected returns in the U.S.

To test whether these differences are statistically significant, we pooled the expected returns data and then ran a regression of annual expected returns on a constant and regional dummies (with the U.S. as a base). The coefficients on all of the regional dummies were significant. In other words, from 1985 to 2005, expected returns in Asia, Latin America, and emerging markets as a whole were significantly higher than expected returns in the U.S. In contrast, recall that the average realized returns for Asia, Latin America, and the composite emerging market index in Table 1 were not significantly different than the realized returns for the U.S.

It is also instructive to compare expected returns with realized returns for a given region. Column 5 in Table 2 shows the average realized annual return for each region over the same time period. For every emerging market region except Asia, we find that average realized returns exceeded average expected returns over the past two decades. Average realized returns for the U.S. also exceeded average expected returns over the period. This result is consistent with Fama and French (2002). Using an equation analogous to Equation (2), they find that average realized returns for the U.S. over the period 1951-2000 was much higher than the average expected return.

3A. Expected Returns Using The Earnings Yield

Using the dividend-price ratio to calculate expected returns has its disadvantages. As we can see from Equation (2), the expected rate of return depends on dividend policy. For instance, suppose that earnings rise, but firms decide not to increase their cash payouts to shareholders. Because earnings rise, so will the firm's stock price. But without any change in dividend policy, the dividend price ratio will fall, thereby reducing the level of expected returns implied by Equation (2). If the increase in earnings were permanent, one would eventually expect an increase in payouts. But given the persistence of dividend policy, the shortness of our earnings-yield series, and the increasing tendency of firms to distribute payouts in forms other than dividends, the change in earnings could have a non-trivial impact on our calculation of expected returns. This is an unattractive feature, because dividend policy is independent of real operations, like investment decisions, that ultimately drive fundamental firm value (Modigliani and Miller, 1958).

Since earnings, and not dividends, drive long run value, the earnings yield, $\frac{E}{P}$, provides a more robust measure of aggregate expected returns.[4] Now, it is true that for a given firm, the earnings yield may not accurately measure its expected return. The firm's earnings yield accurately measures the firm's expected returns only when the marginal product of capital equals the cost of capital. When the firm's marginal product of capital exceeds its cost of capital, then the earnings yield will understate the firm's expected rate of return and vice versa. While it is reasonable to expect that any firm may earn positive

[4] Mankiw (2005) also argues for the use of the earnings-price ratio over the dividend price ratio.

or negative economic profits for some period of time, there is no reason to think the same to be true for the economy as a whole.

Column 4 of Table 2 presents average earnings yields for the Composite Emerging Market Index, Asia, Latin America, and the U.S. The basic message about expected returns in emerging markets versus the U.S. does not change when we use earnings yields. With the exception of Asia, the average earnings yield for all emerging market regions between 1986 and 2005 was higher than in the U.S. The average level of expected returns was 9.69 for Latin America, 6.27 for all emerging markets and 4.17 for Asia. The average level of earnings yields for the U.S. during this period was 4.96. It is also worth noting that for any given region, average realized returns always exceed average earnings yields. However, given the shortness of the time series and the volatility of realized returns this result is not statistically significant.

Two main points emerge from Table 2. First, unlike the realized rates of return computed in Table 1, expected rates of return in emerging markets are significantly different from expected returns in the U.S. Using either the earnings yield or the dividend-price-ratio-based measure, average expected returns over the period 1985-2005 were higher in Latin America and Asia than they were in the U.S. Second, almost without exception, average realized returns in emerging economies over the past two decades have been higher than expected returns. The question, then, is what forces drive average realized returns in emerging market economies away from average expected returns. This is the topic to which we now turn.

4. Regional Vignettes

There are many potential explanations for the difference between realized and expected returns in emerging markets, but the economic reforms of the past two decades surely play a very prominent role. The big story in Latin America is the vanquishing of high inflation. Figure 3 shows that inflation began a precipitous decline in 1991 and continued falling throughout the 1990s. Latin America's disinflation is even more impressive when viewed in event time (Figure 4).

Year "[0]" on the *x*-axis of Figure 4 corresponds to the year in which each of the four successful disinflation episodes in the sample took place: The Mexican *Pacto* in 1987, Argentina's Convertibility Plan in 1991, the Real Plan in Brazil in 1994, and Chile's more garden variety stabilization in 1989 under its last IMF program to date. Of course, the reduction in inflation is only part of the story. Immediately preceding the drop in inflation in 1991, Mexico became the first country to receive debt relief under the Brady Plan (1989), Brazil substantially liberalized trade in 1990, and Venezuela opened its stock market to foreign investment in 1990.

To examine whether the good news of economic reforms in Latin America drove up realized returns relative to expected returns, define the variable, *UNEXPECTED RETURNS*, as the realized return on the stock market in a given year, minus the expected return on the stock market (as measured in Table 2) in the same year. For example, in 1991 the unexpected return is 77.8 percent using the earnings-based measure of expected returns and 81.9 percent using the dividend-based measure. The unexpected returns variable captures the extent to which new information drives a wedge between expected returns and realized returns. For instance, news about changes in policy may lead to unexpected capital gains because changes in policy lead to unexpected changes in growth. Indeed, in 1991 realized growth in Latin America exceeded expected growth by almost a full percentage point (3.9 versus 3.16).

The relation between unexpected returns and unexpected growth also works in the other direction. In 1994, the WEO forecasted that GDP in Latin America would grow by 3.3 percent in 1995. In December of 1994, Mexico devalued the peso, plunging the country into a full-fledged financial crisis. The Peso Crisis sent shock waves throughout Latin America. In order to maintain its fixed exchange rate, Argentina raised interest rates, financial tightening ensued throughout the region, and economic activity slowed accordingly. As a consequence, Latin America grew by only 1.8 percent in 1995. With realized growth falling 1.5 percentage points (1.8 minus 3.3) short of expectations for that year, Latin American stock returns also came in lower than expected. The unexpected return variable in 1995 was negative 28.7 percent using the earnings measure of expected returns and negative 27.3 percent using the dividend measure.

More generally, a significant correlation exists between unexpected returns and unexpected growth in Latin America:

$$\mathit{UNEXPECTED\ RETURN} = \underset{(7.0)}{15.2} + \underset{(3.7)}{8.7}*\mathit{UNEXPECTED\ GROWTH} \qquad (3)$$

Adjusted R-Squared =0.184, N=21 (standard errors in parentheses).

4A. East Asia

The emerging economies of East Asia did not have the serious inflation problems of Latin America. But like Latin America, the East Asian economies also began opening their stock markets to foreign investment in the 1980s. Significant liberalizations of restrictions of foreign ownership of domestic stocks took place in the Philippines in 1986, Taiwan in 1986, India in 1986, Malaysia in 1987, South Korea in 1987, and Thailand in 1988. Because emerging economies are capital-scarce relative to the developed world, opening the stock market to foreign investment has the potential to reduce a country's cost of capital.[5] Figure 5 suggests that the cost of capital may indeed fall when countries liberalize. The graph displays the profile of the average dividend yield across each of the five Asian economies that liberalized between 1986 and 1988. The average dividend yield falls by 231 basis points as a result of liberalization. The average growth forecast rises by 51 basis points. From Equation (2), the approximate fall in the cost of capital is equal to the difference—180 basis points.

When a country experiences an unexpected fall in its cost of capital, stock prices should increase, thereby generating a positive unexpected return. Consistent with the notion that liberalizations generate positive unexpected returns, during the three-year period from 1986 to 1988, the average wedge between realized returns and expected returns in the five Asian economies was 28.1 percent according to the earnings-based measure of expected returns, and 25.9 percent according to the dividend-based measure.

A lower cost of capital also has real implications, namely more investment, and faster economic growth in the short-term (Bekaert, Harvey, and Lundblad, 2005; Henry, 2000b; Henry, 2003). Accordingly, over the three-year liberalization period from 1986 to 1988, actual GDP growth in emerging Asia exceeds expected growth by an average of 1.9 percentage points per year (7.8 versus 5.9 percent). Again, as in Latin America, a more general correlation holds between unexpected returns and unexpected growth:

[5] See Stulz (1999), Bekaert and Harvey (2000), and Henry (2000a) for detailed discussions about the impact of liberalization on the cost of capital.

$$\textit{UNEXPECTED RETURN} = \underset{(8.3)}{-13.9} + \underset{(5.3)}{13.4} * \textit{UNEXPECTED GROWTH} \quad (4)$$

Adjusted R-Squared=0.21, N=21 (standard errors in parentheses)

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The negative intercept term in equation (4) reflects the extreme influence of the Asian Crisis on estimates of unexpected returns in a regression with only 21 data points. Nevertheless, we learn a lot from the outlier that is the Asian Crisis of 1997. In 1997, the actual growth rate of GDP in Indonesia, Korea, Malaysia, and Thailand crisis was four percentage points below expected growth, and realized returns were 90.1 percentage points less than expected returns.

Pooling all of the available data, we also estimate the average relationship between unexpected returns and unexpected growth across Latin America, Asia, and developed markets:

$$\textit{UNEXPECTED RETURN} = \underset{(3.3)}{2.9} + \underset{(2.2)}{5.9} * \textit{UNEXPECTED GROWTH} \quad (5)$$

Adjusted R-Squared=0.09, N=63 (standard errors in parentheses)

The general message here is that unexpected growth significantly predicts unexpected returns. Not surprisingly, from 2002 to 2005 GDP growth in emerging markets has been stronger than expected and realized returns have exceeded expected returns.

5. Discussion

From 1985 to 2005, the average realized return on Latin American stocks was 14.68 percent per year (Table 2). Realized returns consist of dividend yields plus capital gains. Since the average dividend yield for Latin America over the period was 3.85 percent per year, average annual capital gains come to 10.83 percent per year. The corresponding figures for Asia are realized returns of 7.01 percent per year, a dividend yield of 1.86 per year, and a capital gain of 5.15 percent per year. In other words, over the past twenty years, capital gains in Latin America exceeded those in Asia by a factor of two. Yet over the same period of time average annual inflation in Asia was much lower than in Latin America—6.4 percent versus 167 percent—and growth was much higher—7.41 percent per year as compared to 2.91 percent per year. What can explain these facts?

Unexpected changes in the economic environment cause unexpected capital gains (or losses). Relative to initial expectations, Latin America has had better outcomes than Asia over the past two decades. Taken at face value, this assertion sounds a bit far-fetched, but becomes less so upon deeper reflection. Coming into the 1980s, the Asian Tigers were well on their way to achieving the status of newly industrializing countries. They had already experienced two decades of rapid output growth and expectations for the future were great. Accordingly, price earnings ratios in Asia were high in 1986, 18.29 to be exact. In contrast, the early 1980s saw Latin America fall headlong into the Debt Crisis. Inflation was high, growth was low, and perhaps most importantly, growth rates in Latin America had begun to diverge substantially from those in Asia (see Figure 6). The price-earnings ratio of 3.53 for Latin American stocks in 1986 reflected the dismal outlook for the region.

In short, a simple and consistent explanation for high growth with low returns in Asia and low growth with high returns in Latin America goes as follows: High growth implies high returns only if the stock market has not already capitalized the growth into current prices. To the extent that corporate earnings grow, so will stock prices. When there is good news about the future that is not captured in current earnings, prices will jump relative to earnings, and existing shareholders will experience unexpected capital gains.

In 1986, price earnings ratios in Latin America and Asia were substantially different. Stock markets in Asia had already priced in high expected future growth, but by reducing the cost of capital, opening the stock market to foreign investors did generate some unexpected capital gains in the mid-to-late 1980s (Figure 5). However, in addition to opening to foreign capital flows, Latin American countries also attempted to stabilize inflation, liberalize trade, and privatize state owned enterprises. While these efforts were not uniformly successful (and some also occurred in Asia), the very attempt to move the region in this direction was a shock given low expectations at the time. Hence, the scope of reforms and the magnitude of unexpected capital gains in Asia were modest in comparison with what was yet to occur in Latin America.

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Figure 1. Stock Returns and Real GDP Growth in Emerging Market Economies Are Uncorrelated.

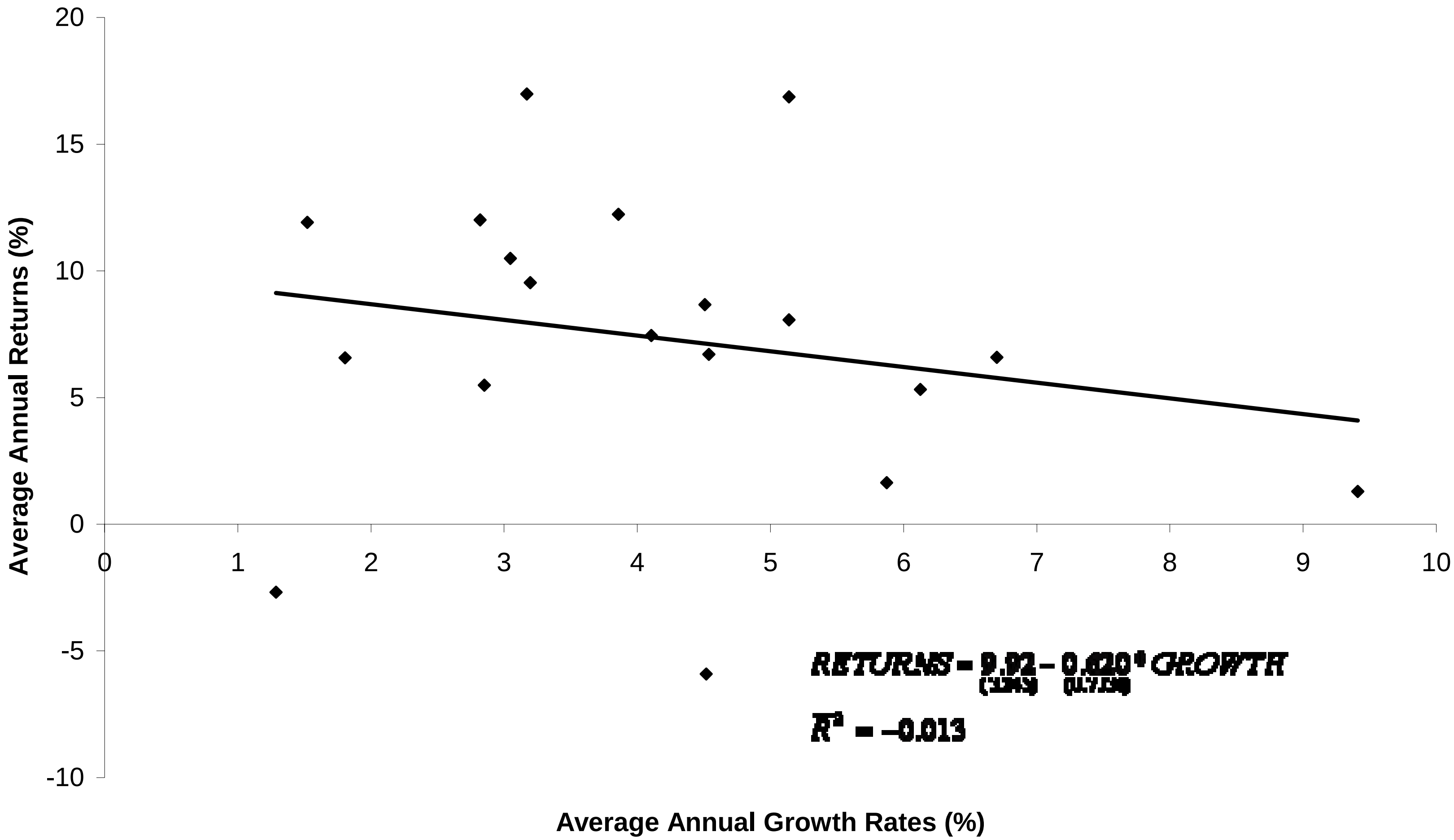

Figure 2. The Inflation-Adjusted Value of a Dollar Invested in 1975

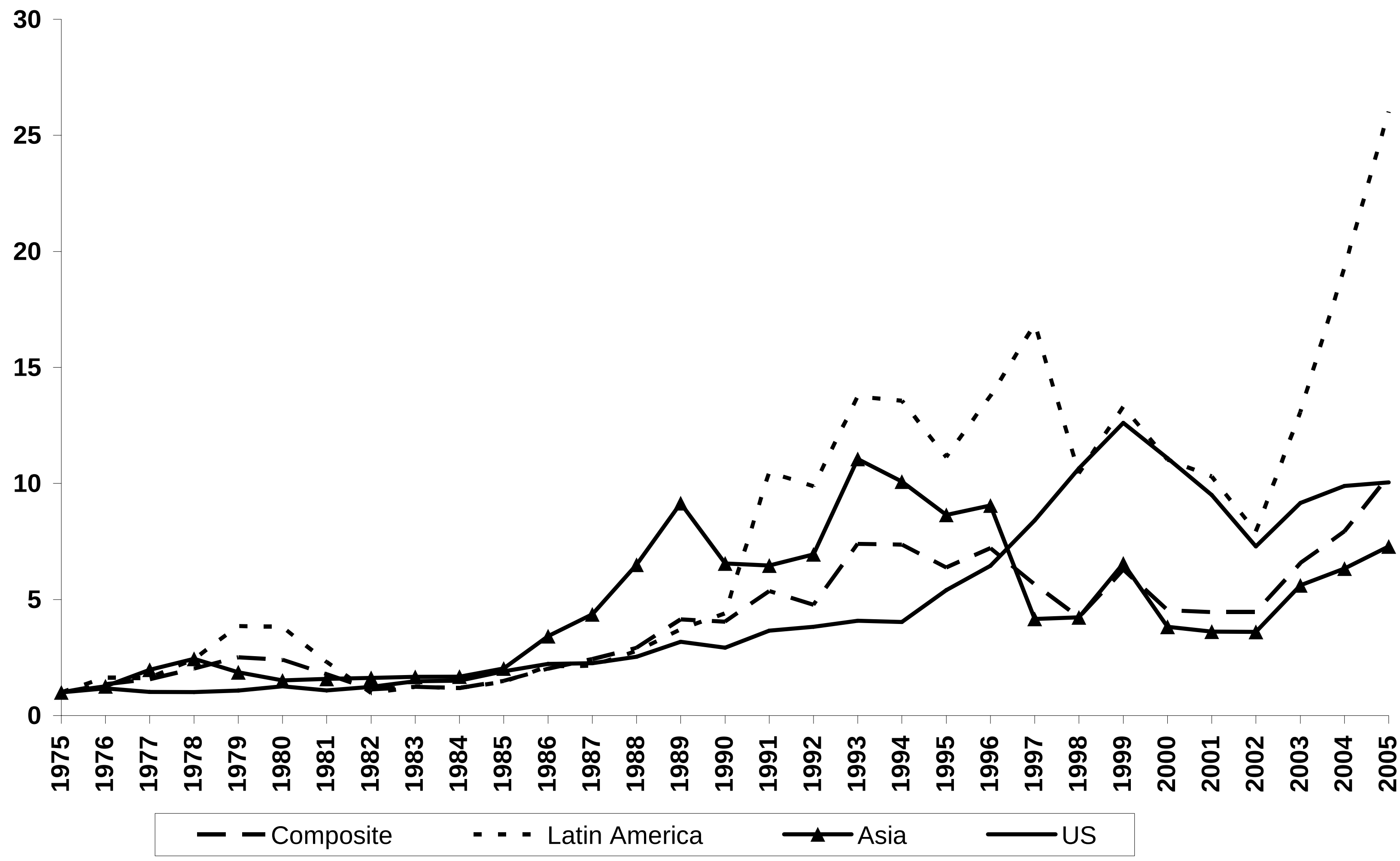

Figure 3. Latin America: Average Inflation Rate (annual % change in CPI)

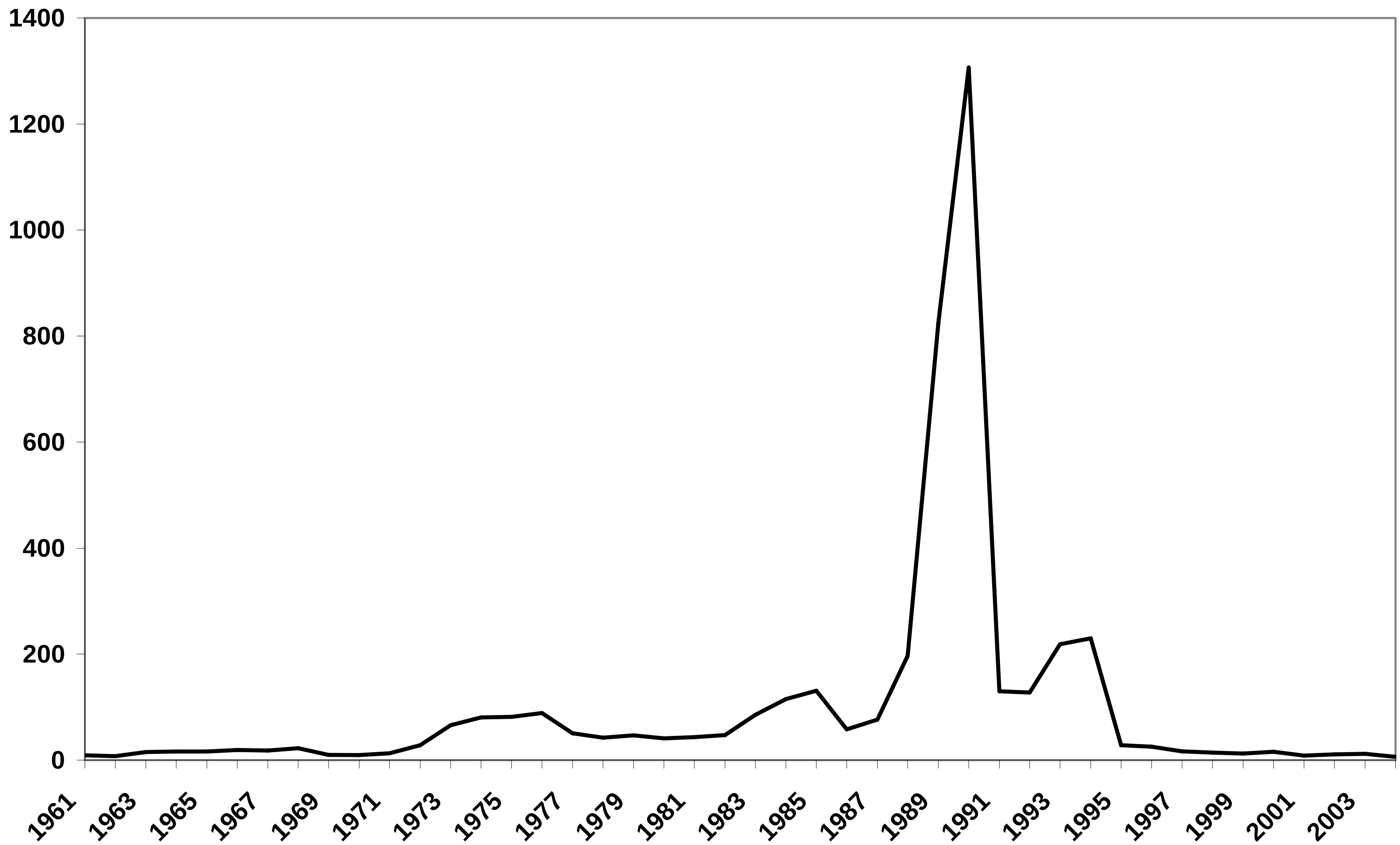

Figure 4. Inflation Rates in Latin American Countries around Stabilization Episodes

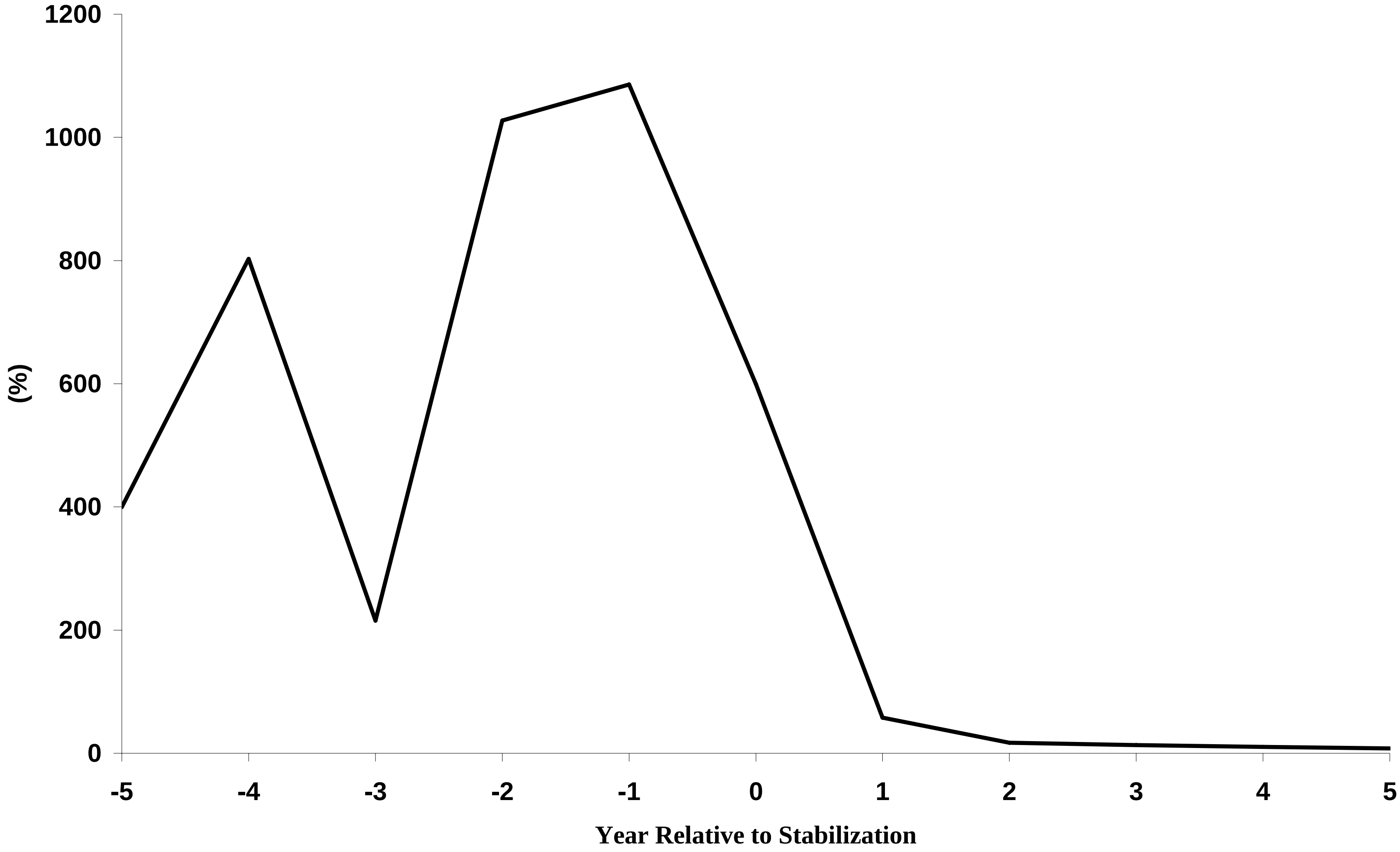

Figure 5. Dividend Yields in Asian Economies around Capital Account Liberalization Episodes

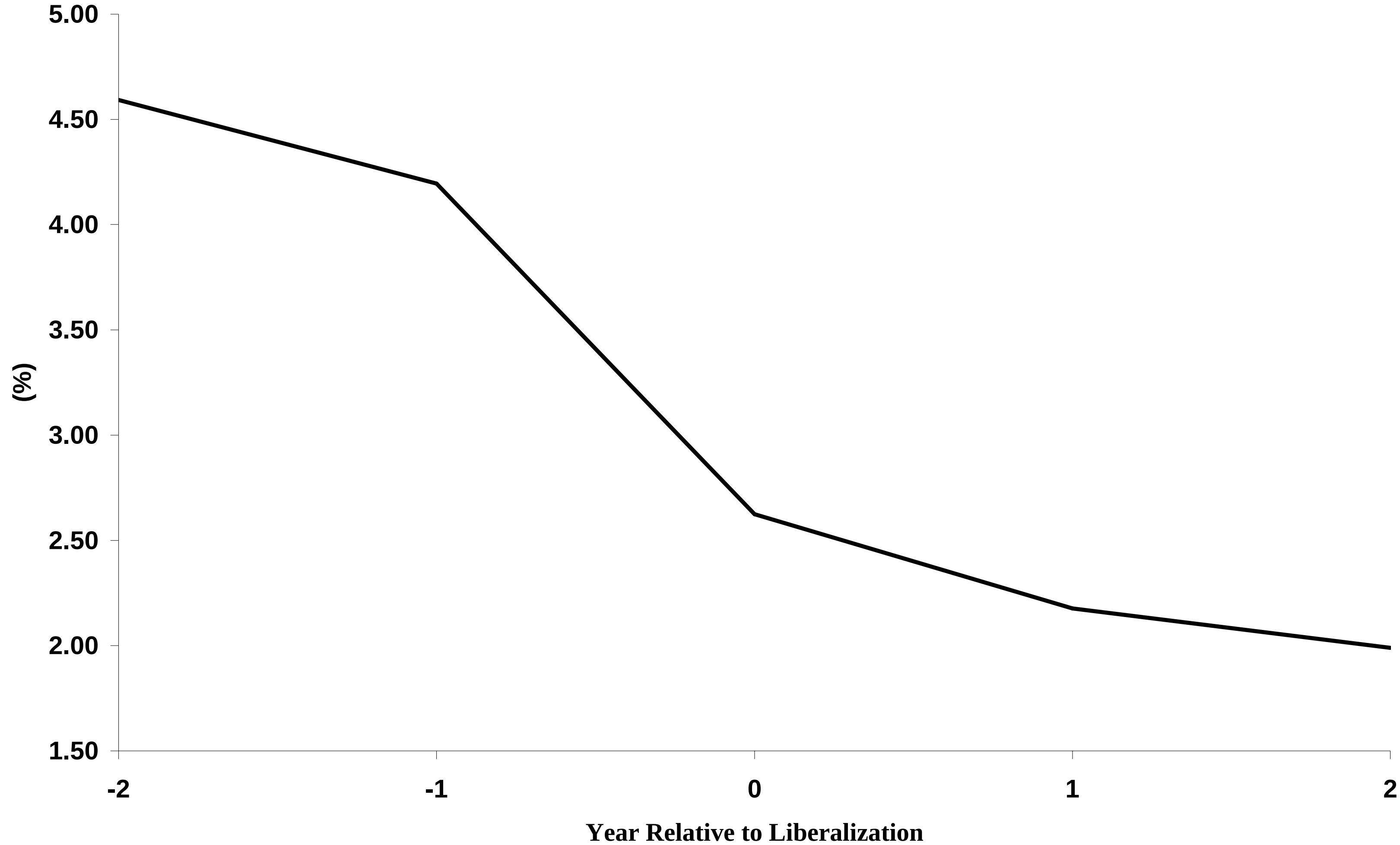

Figure 6. GDP Growth in Asia and Latin America: 1976-1983

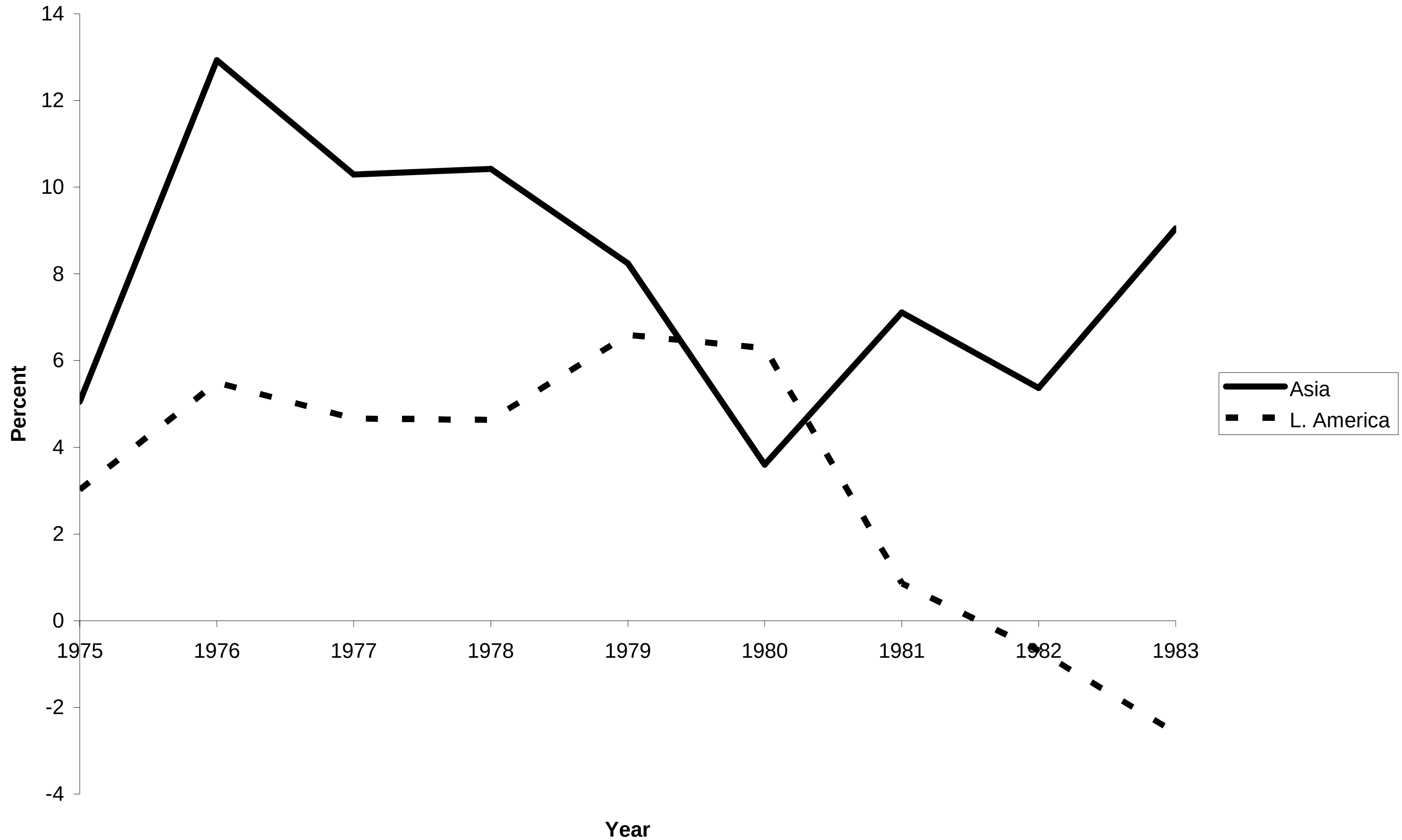

Table1. Realized Returns in Emerging Markets Are Not Significantly Higher Than Realized Returns in The U.S.

(%, annual rates 1976-2005)

	Average Return	**Standard Deviation**	**Sharpe Ratio**	**Correlation with U.S.**
Panel A: Continuously Compounded Returns				
Composite[1]	7.78	23.98	0.22	0.21
Latin America[2]	10.86	35.24	0.24	0.31
Asia[3]	6.62	30.05	0.14	0.09
U.S.	7.69	14.57	0.36	1.00
Panel B: Arithmetic Returns				
Emerging Market Composite[1]	23.57	30.45	0.70	0.22
Latin America[2]	31.01	49.40	0.58	0.25
Asia[3]	16.35	33.83	0.41	0.12
U.S.	9.54	15.81	0.45	1.00

[1] Composite returns are the average returns of the following economies: Argentina, Brazil, Chile, China, Colombia, India, Indonesia, Jordan, Korea, Malaysia, Mexico, Nigeria, Pakistan, Philippines, South Africa, Taiwan, Thailand, Turkey, Venezuela, and Zimbabwe.

[2] Latin America returns are the average returns of Argentina, Brazil, Chile, Colombia, Mexico and Venezuela.

[3] Asia returns are the average returns of China, India, Indonesia, Korea, Malaysia, Philippines, Taiwan and Thailand

Table 2 Expected Returns in Emerging Markets Versus the U.S. 1985-2005.

	D/P	g^e	Expected return: D/P + g^e	Expected return: E/P [1]	Realized return	Realized Growth
Emerging Market Composite	3.17	5.24	8.41	6.27	10.32	5.48
Latin America	3.85	3.89	7.74	9.69	14.68	2.94
Asia	1.86	6.47	8.33	4.17	7.01	7.41
U.S.	2.48	2.83	5.31	4.96	9.05	2.98

[1] Earnings-price data only begin from 1986.