Capital Markets: An Engine for Economic Growth[*]

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ABSTRACT

This paper explores the links between financial markets and economic growth with a special emphasis on the stock market and capital market integration. Our paper comes at an opportune time given the recent interest among the investment community in emerging markets and the enthusiasm of a number of countries to launch capital markets for the first time. Throughout, we stress the role of regulators in making financial markets an engine for economic growth.

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1. Introduction

Economic growth in a modern economy hinges on an efficient financial sector that pools domestic savings and mobilizes foreign capital for productive investments. Without an effective set of financial institutions, productive projects may remain unexploited. Inefficient financial institutions will have the effect of taxing productive investment and thus reducing scope for increasing the stock of equipment needed to compete globally. Inefficiency can substantially cut growth from the levels that might have been possible given appropriate policies and market structures.

This paper focuses on the link between growth and capital markets, in particular, stock markets. Section 2 explores the latest research on this subject and presents empirical evidence indicating that stock markets are indeed important to economic development. Of paramount importance is their efficiency. This means that assets are traded at "fair" prices: the seller does not sell too cheaply, and the buyer does not pay too much for the asset. To function well, there must be a large group of traders, and information about the assets must be readily available. Finally, particular care must be paid to the structural characteristics of the market to ensure that the trading process is enhanced rather than hindered.

Underdeveloped or poorly functioning capital markets deter foreign investors because the markets are illiquid and trading is expensive. Direct investment is adversely affected if raising local capital is difficult and costly. Illiquidity and high transaction costs also hinder the capital-raising efforts of large domestic corporations and may push them to foreign markets. In Section 3, we explore the relationship between global capital market integration and economic growth. A country that restricts its capital markets not only is less attractive to foreign investors but also imposes major economic penalties on local companies. This reduces growth rates below their full potential and makes it more difficult for domestic firms to compete in world markets.

Some concluding remarks, as well as a future research agenda, are offered in the final section of the paper.

2. Stock Markets and Economic Growth

2.1 Financial Development and Growth

It is only in the last few years that interest in the link between financial development and economic growth has surged.[1] Whereas previous research focused exclusively on technological progress as the main engine of growth, the new models show that growth can be self-sustaining without technological progress (for example, see Lucas 1988). In many of these new models, financial development has the ability to increase economic growth through various channels (see the survey of Pagano 1993). By far the primary role of financial institutions and capital markets is to allocate capital efficiently, that is, to allocate funds to the investment projects with the highest marginal product of capital.

Concretely, the financial sector pools funds from dispersed households and allocates them efficiently to dispersed entrepreneurs. Through the first activity, an efficient financial sector allows households to diversify risk and maintain liquid investments (e.g., bank deposits). Their second activity involves information gathering and selecting investment projects ("screening") together with monitoring entrepreneurial activities. These tasks cannot be efficiently carried out by individuals. Greenwood and Jovanovic (1990), Bencivenga and Smith (1991) and St.-Paul (1992) develop sophisticated economic models stressing the growth-enhancing role of financial intermediation.

Empirically, early research by Goldsmith (1969), McKinnon (1973), and Shaw (1973) document a positive correlation between financial development and economic growth. However, questions remain about causality: does financial development affect growth, does economic growth lead to more financial development, or both? Recent research has not completely resolved the issue but suggests strongly that financial development is an important determinant of future economic growth. The most comprehensive of this research to date is by King and Levine (1993). They use

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[1] See Sachs and Warner (1995, 1996), Rajan and Zingales (1996), Demirgüç-Kunt and Levine (1996a,b), Demirgüç-Kunt and Maksimovic (1996) and Levine and Zervos (1996) for example.

four measures of financial development related to the development of a banking sector.[2] Their findings can be summarized as follows. First, using cross-country regressions, they find that all financial indicators have strong positive correlation with economic growth. Second, and more importantly, their analysis shows that countries with higher indicators of financial development at one point subsequently had higher real GDP growth rates, more specifically in the next 10 or 30 years. King and Levine conclude, "Our findings suggest that government policies toward financial systems may have an important causal effect on long-run growth" (p. 540).

These empirical studies all focus on the bank sector. The role of stock markets for economic growth is relatively unexplored. In the next subsection, we explore whether stock markets are in fact essential to economic progress and present new evidence showing stock markets to be positively correlated with economic growth.

2.2 Stock Markets and Economic Growth: Theory

A number of economists have suggested that the existence of stock markets has little relevance to real economic activity (see Stiglitz 1989; Mayer 1989). From a casual reading of the corporate finance literature, this view is not so surprising [see Harris and Raviv 1991]. For example, since managers typically have more information that outsiders, equity may be mispriced in the market from their point of view. Given that they have the choice of borrowing, the managers may only issue new equity if equity is overpriced. This may make investors reluctant to invest in new equity issues and it is consequently not surprising that many companies do not heavily rely on new equity to finance new investments. Below, we argue that this view misses some important roles the stock market can play in the growth process.

2.2.1 Ability to Diversify

Without efficiently run capital markets, investors have limited means to diversify their portfolios. As a result, investors may avoid equity stakes because they are too risky. Hence, corporations may

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[2] The four measures are (1) the ratio of liquid liabilities to GDP; (2) deposit bank domestic credit divided by deposit bank domestic credit plus central bank domestic credit; (3) ratio of claims on the nonfinancial private sector to domestic credit; and (4) ratio of gross claims on the private sector to GDP.

find it difficult to raise equity capital. With the creation of stock markets, individuals can diversify firm-specific risks, thus making investment in firms more attractive.

There is another angle on the diversification argument. Corporations in countries with poorly functioning capital markets may choose lower value -- low risk projects to inefficiently diversify in order to attract investment capital. These projects may not even be within the realm of the corporations special expertise. They serve the purpose of diversifying because the capital markets have not provided the means for investors within that country to efficiently diversify. Hence, the stock market may play a key role in economic growth.

2.2.2 Moral Hazard

From a corporate finance perspective, the stock market plays a subtle but important role in mitigating the moral hazard problem. Moral hazard often arises because managers gain from decisions affecting firm value only to the extent of the shares they hold. Suppose a manager holds 1% of the firm's equity and his compensation (either flat rate or tied to firm earnings) produces most of his income. This manager has an incentive to take actions that maximize his compensation in ways that might have little or nothing to do with maximizing the firm's value (and equity value). For example, many ways of manipulating earnings can lead to higher compensation. Since the manager's equity ownership is small, he may have an incentive to take "imprudent actions."

How can the moral hazard problem be reduced? One possibility is debt. Debt holdings decrease incentives for imprudent actions in two ways: they increase the fraction of equity ownership held by managers, and they increase the probability of bankruptcy after imprudent actions.[3] Another possibility for mitigating the moral hazard problem is compensating managers with binding contracts that are contingent on long-term performance. Such contracts require a good measure of the long-term value of the firm. For example, as mentioned earlier, current profit is not a good measure for this purpose because it can be manipulated and it reflects short-term considerations.

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[3] Of course, in most countries, the existence of interest rate deductions in the tax code is an important factor favoring debt holdings.

Clearly, such a measure should be unbiased, free from manipulation by the management or outsiders, and verifiable.

The latter argument suggests an important use of efficient stock markets. Stock markets are efficient if the stock price incorporates all available information in the marketplace. Thus, the stock price in an efficient market gives us a good measure of the firm's performance and its long-term value. Tying the manager's compensation to stock prices reduces the incentives for imprudent actions and therefore increases the firm's value. Without an efficient market, the manager and the shareholders can still agree on the value of the firm (which may be different from the value observed in an inefficient market), but it would be difficult to establish a contract because the value is not verifiable.

This idea can be extended to the whole economy: an efficient stock market can enhance growth by mitigating moral hazard and consequently increasing productivity. The significance of this effect depends on the magnitude of the moral hazard problem and on the proportion of the economy that is represented in the stock market. Thus, one may expect a positive correlation between stock market coverage (total market value as a fraction of gross domestic product [GDP]) and growth from this effect. Also, the gains from efficient stock markets may be greater if disciplining managers through other means is ineffective.

2.2.3 Change of ownership

In addition to providing performance measures to be used in employment contracts, the stock market disciplines managers indirectly through change of ownership. If the managers are not doing a good job, the stock price declines below the potential value of the assets. Such firms are then takeover targets for investors, who will increase the value of the shares by replacing current managers. Clearly, managers should refrain from productivity-decreasing actions when faced with the threat of takeovers.

2.2.4 Innovation

Another key growth contribution of an efficient stock market is its effect on entrepreneurs. An entrepreneur considers not only the profits generated in a new venture but also the possibility of a lump-sum gain through selling the venture to the public. If the stock markets are not efficient, the public offering is less feasible as a result of high transaction costs or the uncertainty of getting a fair price in the stock market. Thus, inefficient stock markets may reduce the incentive to enter new ventures, reducing overall long-term productivity of the economy.

An efficient stock market reduces the transaction costs of trading the ownership of the physical assets and thereby opens the way for the emergence of an optimal ownership structure. Certain individuals possess the entrepreneurial spirit for "new start" ventures, and such entrepreneurs should be involved in the innovation phase of a firm's development. As the firm matures, they often transfer ownership to another class of investors, one that specializes in running mature firms. The entrepreneurs can then move on to another fledgling company. This is the idea of optimal ownership. Clearly, transferring the ownership of such assets would be very difficult without stock markets. The idea that stock markets contribute to the economy by providing rewards to innovators is an important one in the model studied by King and Levine (1993).

2.2.5 A Caveat: The Need for Liquid and Efficient Stock Markets

In the context of stock markets, liquidity is of paramount importance. For example, liquidity is necessary for the effective generation and dissemination of firm-specific information. That is, movements in the stock price are likely to reveal important information about changes in the firm value in liquid markets. A market is liquid if transactions of large size can be made instantaneously and continuously without moving the price significantly. In fact, all of the benefits listed above will be substantially hindered if the market for stocks is not liquid. Indeed, illiquidity and increased transaction costs are the most important symptoms of inefficient stock markets. Such inefficiencies may be caused by the market power of brokers or other individuals, which increases transaction costs, and by the dominance of the market by a small number of firms or individuals. The latter may result in the manipulation of stock prices, keeping them artificially low or high to suit the purposes of those in power. However, the net result is the eradication of the gains to be obtained

from the stock market. Such inefficiencies can also result in the loss of public confidence in capital markets, leading to reduced participation of the public and thereby making the situation worse.

2.3. Stock Markets and Economic Growth: Empirical Evidence

Work on growth through stock market development has been scanty. Atje and Jovanovic (1989) compare the impact of the level of stock market development and bank development on subsequent economic growth.[4] They find a large effect of stock market development as measured by the value traded divided by GDP on subsequent development, but they fail to find a similar effect for bank lending. In their conclusion they write, "It is even more surprising that more countries are not developing their stock markets as quickly as they can as a means of speeding up their economic development" (p. 636).

Of course, one study may not be the definitive answer to this important question, and more empirical work needs to be done. To complement the evidence of the Atje and Jovanovic study, we computed correlations between a number of stock market development indicators and growth of real GDP in 18 countries during the 1986–92 period. The results are presented in Table 1. Six measures of stock market development were considered: number of stocks listed, market capitalization (expressed in dollars), total value traded (again in dollars), turnover ratio (value traded divided by market capitalization), market capitalization divided by GDP, and total value traded divided by GDP. The data are averages of these variables for the period 1988–92 as reported by Demirguc-Kunt and Levine (1993). Eighteen countries were ranked according to these measures of stock market development and according to economic growth, as measured by real GDP growth during the 1986–92 period. All variables were ranked from high to low (e.g., the country with the highest GDP growth rate gets rank one). We then computed the rank correlation between the different stock market development measures and economic growth. If the ranks according to economic growth were to completely correspond to the ranks according to stock market

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[4] They control for other factors, such as schooling and initial income level.

development, the rank correlation would be one. The rank correlations presented in Table 1 are without exception positive. The small number of countries used in the analysis makes the standard error of these correlations rather high; namely 0.23. Nevertheless, the evidence broadly confirms that stock market development is positively associated with economic growth.

3. Global Capital Market Integration and Economic Growth

3.1 Links Between Market Integration and Growth

Transaction costs are high for foreign investors in many emerging markets. Illiquidity (difficulty in finding a buyer when you are selling and vice versa) combined with taxes (income, withholding, and transaction based) and various capital market restrictions (official registration of securities transactions and exchange controls) make foreign market participation very costly to many investors.[5] This section explores the impact that world market integration has on the cost of capital in developing countries.

Many emerging markets are *segmented*. This means that investors are local residents and foreign participation in the local market is limited. Segmentation has many causes; for example, foreigners may be prohibited from participating in the local market. The causes may be more subtle in terms of regulatory, institutional, and tax barriers to investment. Nevertheless, a market dominated solely by local investors is not likely to be integrated into global capital markets.

In a segmented market, investors' portfolios are exposed to price fluctuations induced by the state of the local economy. Even though the investor might hold many stocks, this portfolio is not fully diversified, because all of the stocks are linked to the local economy. For example, if a recession or a currency crisis occurs in the local economy, all stocks will likely lose value. The extent of 'diversification' of that local portfolio does not matter. Since all the stocks originate within one

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[5] Bekaert, Erb, Harvey and Viskanta (1996) report estimates of equity transactions costs in 20 emerging markets.

country, they all are exposed to fluctuations emanating from the local economy. Logically, the investors in the segmented capital market require compensation for this risk. This compensation takes the form of higher expected rates of return, which translates into higher costs of capital for corporations operating within that market.

In *integrated* capital markets, however, compensation is different: the investor holds securities from many countries. This is a world diversified portfolio. Whereas local economic events will influence stocks in any one country, the investor has a portfolio that reaches across many national borders. A negative shock (bad news) in one country may be offset by a positive shock (good news) in another country. As a result, the investor does not demand compensation for local market volatility. In other words, the diversified international portfolio provides a natural hedge for country-specific events. The investor, although still concerned about negative shocks in any one country, does not require a risk premium for the lack of country diversification. The expected rate of return on the local stock is determined by how it interacts with all of the stocks in the investor's worldwide portfolio.

Recent research by Bekaert and Harvey (1995) suggests that the expected risk premium on equity investments in many emerging markets can be reduced by increasing their integration into world capital markets. Their research proposes an econometric model that examines two possible regimes: segmented capital markets and integrated capital markets. Using historical data, the model reveals the evolution of many markets from closed markets to being integrated into world capital markets. Some countries, however, move in the other direction, from integrated to closed.

As explained above, the expected rates of return on equity differ in segmented and integrated markets. In the segmented market, the expected rate of return is linked to local market volatility. In the integrated capital market, the expected rate of return is linked to the way the security interacts with a geographically broader investment portfolio. Why then would the cost of capital be lower in integrated markets? First, in emerging capital markets, the local market volatility is very high [see Bekaert and Harvey (1997a)]. This high volatility leads to high expected rates of return on equity investments in segmented capital markets. Second, emerging markets are attractive investments for world investors because these markets serve as a hedge for such investors' portfolios

(the local economies are not highly correlated with developed economies). Since the industrial structure of emerging markets is often much different from that of developed markets, bad news in developed markets is often cushioned with good news in emerging markets, and vice versa. This natural hedging property is very important. It causes a high demand for the emerging market's securities by foreign investors—if the emerging market is integrated into world capital markets. This demand raises equity prices and eventually reduces expected rates of return.[6]

This analysis shows that the cost of capital should be lower in integrated capital markets than in segmented capital markets. The fact that many emerging market enterprises are raising capital in other countries American depository receipts (ADRs) or Global depository receipts (GDRs) is indirect evidence of a lower cost of capital in world markets.

How do the lower expected rates of return on equity translate into economic growth? Lower discount rates have an immediate impact on corporations operating in the developing market. In segmented capital markets with high discount rates, many investment projects are rejected because the projects' expected rates of return are too low. For example, suppose an investment project could yield an average return of 25% over 10 years. If prospective equity investors require a minimum 30% return for this project, the project will not be undertaken. Lowering the discount rate makes an additional set of investments attractive. Projects that would otherwise not be undertaken become viable, creating jobs and other benefits to the economy.

Lower discount rates have an immediate impact on multinational corporations' willingness to make direct investments in the emerging market. Suppose the multinational corporation is based in the United States and requires projects of average risk in the United States to yield 15%. A similar investment project in the emerging market promises to yield 25% over 10 years (calculated in U.S. dollars). Will this project be undertaken? Not necessarily. The 15% required rate of return only applies to projects of average risk within the United States. Projects are always evaluated with a

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[6] A formal model of how this desire for portfolio diversification can lead to higher economic growth for economies that integrate their capital markets with world markets is provided in Obstfeld (1994).

discount rate specific to the particular investment project. The project in the segmented emerging market is not likely to have the same discount rate as the project in the United States.

Indeed, if the relevant required rate of return in the emerging market was 30%, the multinational corporation would reject the project with an expected return of 25%. A lower discount rate increases the extent to which multinational corporations make a long-term commitment of resources to a country. This type of investment has many benefits to the local economy. It leads to job creation, it is long term in nature, and it often is associated with international expertise being passed on to the local population (transfer of knowledge). These factors contribute positively to economic growth.

3.2 Empirical Evidence

This section explores the investment barriers that segment markets from global capital markets and constructs a number of indicators of global capital market integration, examining empirically whether any positive association exists between integration and economic growth.[7] Unfortunately, no empirical work linking market integration and economic growth exists to date. Rank correlations presented here should be seen as suggestive of the true interactions between market integration and economic growth. Additional research is planned for the future.

3.2.1 Investment Barriers in Emerging Markets

We distinguish three different kinds of investment barriers: legal barriers arising from the different legal status of foreign and domestic investors (e.g., foreign ownership restrictions and taxes); indirect barriers arising from differences in available information, accounting standards, and investor protection; barriers arising from emerging market–specific risks (EMSRs) that discourage foreign investment and lead to de facto segmentation.

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[7] Some of the material here builds on Bekaert (1995).

EMSRs include liquidity risk, political risk, and economic policy risk (macroeconomic stability). Chuhan (1992), for instance, reports that market participants in Canada, Germany, Japan, the United Kingdom, and the United States mentioned liquidity problems as one of the major impediments to investing in emerging markets. In Section 2.3, indicators of market liquidity, such as the turnover ratio or the value traded divided by GDP, were reported as being positively correlated with economic growth.

Other EMSRs are related to the notion of country risk. Country risk indicators reflect the likelihood that companies or the government within the country will default on obligations. Credit rating agencies use country risk analysis to construct country credit ratings, which have a direct impact on the cost of funds risen in international markets. Country risk analysis not only reflects political stability assessments but also incorporates economic environment factors. In particular, unstable macroeconomic policies, leading to high and variable inflation, may jeopardize the credit rating of a country.[8]

Needless to say, these barriers to investment are a direct function of the domestic policies pursued in the various countries. Through a number of indirect routes, countries can attempt to integrate their markets with world markets. One route is to allow foreign investment companies to set up country funds that invest solely in the local market. Another is to let domestic companies offer securities in other countries, typically through ADRs or GDRs, which may list on an exchange or trade in the over-the-counter markets. These indirect channels of access to emerging markets are covered in more detail in Bekaert (1995).

Table 2 provides information on direct barriers to investment for 19 emerging markets. The first column contains information on the exchange rate regime. Many countries try to peg their exchange rates to the U.S. dollar or a basket of currencies. The second and third columns contain information on foreign ownership restrictions. They can take the form of certain sectors being closed for foreign investment or of direct equity participation limits. Some countries over our

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[8]   See Erb, Harvey and Viskanta (1996).

sample, such as Nigeria and Zimbabwe, are effectively closed to foreign investment. The proportion of the International Finance Corporation (IFC) Investable Index to the IFC Global Index given in the fourth column of the table will help the reader quantify the extent of direct foreign ownership restrictions. The IFC has recently launched indices that take the foreign ownership restrictions into account. The investable market capitalization of each stock is used for its weight in the index instead of the stock's total market capitalization as in the regular global indices.[9]

A second group of direct barriers to investment consists of exchange and capital controls that affect the repatriation of dividends and capital from emerging markets. Some countries have direct restrictions on the remittance of profits (e.g., a minimum investment period). Column (5) of Table 3 reproduces a coarse rating of 18 countries according to dividend and capital repatriation and general entry restrictions provided by the IFC *Factbook*. The paucity of available information prevents ranking of the countries more precisely according to the severity of capital and exchange restrictions. An indirect measure of these restrictions could be constructed from an analysis of black market premiums, the difference between the black market exchange rate and the official exchange rate. Unfortunately, data on black market premiums are insufficient to allow a thorough analysis. Table 3 also reports information on taxes on dividends and capital gains, a final category of direct investment barriers.

Overall, restrictions have been gradually relaxed, with an acceleration of this process occurring in the 90s. Examples of countries where restrictions have been lifted recently include Brazil, Colombia, India, South Korea, and Taiwan. The final column in Table 2 lists the dates of some recent capital market liberalizations.

The first four columns of Table 3 contain qualitative information on indirect barriers to investment involving the regulatory and accounting environment. Investors might not have adequate information on these markets and on the financial health of the companies, the settlement systems

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[9] More details on how a variety of restrictions on foreign ownership change the weights used to construct the index are provided in *IFC Index Methodology*, issued by the IFC.

might be inefficient and slow, accounting standards might be poor, and investor protection might be minimal. These factors can play a large role in the investment decisions of international investors. In her survey of market participants in industrialized countries, Chuhan (1992) lists limited information on emerging markets as one of the key impediments to investing in emerging markets.

As to EMSRs, the focus here is on political or, more broadly, country risk. Political instability and economic mismanagement might add substantial risk premiums to investors' desired returns and deter some foreign investors. Table 4 reports a number of indicators of country risk, together with data on economic growth as measured by growth in real GDP. A direct measure of political risk is the *Institutional Investor* country credit rating, reported in the last column. A useful indicator of the soundness of economic policies is the level of inflation and, especially, the variability of inflation. For completeness, the table also reports exchange rate variability.

3.2.2   Correlations Between Market Integration Measures and Growth

To compute rank correlations between global market integration and economic growth, a number of variables were constructed that measure the potential degree of openness of emerging equity markets. The first measure, OPEN I, simply ranks the countries according to the severity of ownership restrictions, using the investable index/global index proportion reported in Table 2, column (4). The number of country funds and cross-listed securities are used to construct a second measure, OPEN II. The measure is imperfect, as data availability prevents weighting of the funds and companies by market capitalization and the cross-listings are restricted to the United States. Based on information provided in Table 3 on the availability of market and company information and on the quality of accounting standards and investor protection, indirect barriers are computed in a summary measure called OPEN III. The final two measures of country risk and macroeconomic stability are inflation variability (INFLAT) and the country credit rating by *Institutional Investor* (POLRI).

The rank correlations between all these different measures and real GDP growth are reported in Table 5; all but one are positive. Partly because the samples are small, most relationships are not

statistically significantly different from zero. The one negative relationship, with the ranks according to ownership restrictions, may reflect a definition problem. For example, one country that ranks as the least open according to this measure is fast-growing South Korea. However, despite the ownership restrictions, the many means of indirect access, especially through numerous country funds, have effectively integrated the South Korean market with the world market. The return-based measures in both Bekaert (1995) and Bekaert and Harvey (1995) find South Korea to be integrated rather than segmented. Interestingly, the significant relations are with POLRI and INFLAT—another indication that foreign investors value solid macroeconomic policies and a stable regulatory framework.

These measures have a number of disadvantages. First, each measure focuses on only one particular aspect of the barriers to access in a particular market. To examine the relation between the degree of investability and economic growth is difficult if other factors are not controlled for, such as macroeconomic stability. That is, one factor alone may not be enough to fully characterize barriers to investment. What is needed is one summary measure. Second, investment restrictions can be circumvented and need not be binding. Moreover, the existence of indirect means of access, such as country funds or ADRs, makes inferring the degree of integration from statutory investment restrictions even harder. The solution is to try to measure the degree of integration from data on equity returns. As described in Section 3.1, stocks will be priced differently in integrated markets than in segmented or partially segmented markets. Bekaert (1995), for example, postulates that in relatively well integrated markets, expected returns are likely to be highly correlated and the costs of capital similar.[10] We indicate this return-based measure by CORREL.[11] As Table 5 shows, CORREL is also positively associated with economic growth.[12]

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[10] This measure has a number of disadvantages that are detailed in Bekaert (1995), but his analysis seems to be robust to the use of an alternative return-based market integration measure.

[11] For the countries for which data are available on black market premiums, this measure correlates very highly with an integration measure computed from black market premiums.

[12] Bekaert and Harvey (1995) develop a more sophisticated measure of integration in the context of an asset pricing model.

To sum up, economic growth and indicators of market integration seem to be positively correlated across countries. Of course, our computations do not show that financial market integration *leads to* future economic growth. In ongoing research, [Bekaert and Harvey (1997b)], we attempt to test more formally the dynamic links between stock market development, market integration and future economic growth.

4. Conclusions

Investors in developed markets are increasingly becoming convinced of the merits of investing in emerging markets. Indeed, a number of major investment banks in the United States have recommended that 5–10% of investors' portfolio be allocated to emerging markets. Notwithstanding short-term fluctuations, the long-term trend will involve portfolio investment flows to emerging markets on a large scale. There are many possible emerging markets among which investors can choose. Developing policy to ensure that emerging nations benefit from this tide of capital inflows, rather than misses out, is critical.

This paper focus on the implications of efficiently operating financial markets. Efficiency has many implications. Fundamentally, it means that securities are traded at fair prices. This fairness may make portfolio investment, whether in bonds or stocks, more attractive to both foreign and domestic investors. Indeed, many domestic investors may avoid the equity market in particular because of reservations about its fairness. Domestic investment, as well as foreign investment, is a critical ingredient in fostering the right environment for economic growth.

Efficiency also affects the allocation of capital. Research has detailed how inefficiencies may distort the investment process of the firm. Important projects may be turned down, leading to lower economic growth, while low-return projects are implemented. Within this context, it is important to recognize that this argument is not just directed to firms that already have equity or bonds traded in the capital markets. Efficiency implies that new, smaller firms should be able to access the capital markets successfully. An efficient market creates the conditions for venture capital to work through initial public offerings. Experience in the United States suggests that such venture capital-funded company start-ups can prove to be major engines of growth.

Finally, we explore the link between capital market integration and economic growth. We argue that investment projects in segmented capital markets are likely to have higher discount rates because the required rate of return on equity is linked to the local market volatility. We provide new empirical evidence to suggest that the openness of the economy is positively correlated with economic growth.

TABLE 1

STOCK MARKET DEVELOPMENT AND ECONOMIC GROWTH

Stock Market Development Measures	Rank Correlation
Number of stocks	.412
Market capitalization	.341
Value traded	.335
Turnover ratio	.203
Market capitalization/GDP	.249
Value traded /GDP	.360

Source: Authors' computations based International Finance Corporation data.

TABLE 2

EXCHANGE RATE RESTRICTIONS, OWNERSHIP RESTRICTIONS AND LIBERALIZATIONS IN EMERGING MARKETS

(1) Market	(2) Exchange Rate Regime, 1994	(3) Percentage Investable, 1992	(4) Percentage Investable/ Global, 1993	Liberalization	Date
Argentina	Pegged to dollar	100	88.2	All limits on foreign capital abolished	Dec. 89
Brazil	Free float	49[a]	60.4	Group of foreign investment trusts approved	Mar. 87
				Interbank foreign exchange markets allowed	Mar. 90
				Foreign ownership levels increased	May 91
				Foreign portfolios without custody allowed, and minimum holding period and portfolio diversification restrictions abolished	Jul. 91
Chile	Pegged to basket	25	20.9	Noncentral bank foreign exchange market authorization	Apr. 90
Colombia	Free float	100	76.0	Made 100% investable	Feb. 91
Greece	Managed float	100	80.8	N/A[b]	N/A
India	Free float	24	19.1	All shares made investable	Nov. 92
				Managed exchange rate abolished	Mar. 93
Jordan	Pegged to basket	49	29.0	N/A	N/A
Malaysia	Free float	30	67.4	N/A	N/A
Mexico	Free float	100[a]	87.7	Made 100% investable	May 89
				Dual exchange rate system unified	Nov. 91
Nigeria	Pegged to dollar	0[a]	0.0	N/A	N/A
Pakistan	Managed float	100	29.3	Made 100% investable	Feb. 91
Philippines	Free float	40[a]	47.3	All shares made investable	Nov. 91
Portugal	EMS[c]	100[a]	54.1	N/A	N/A
South Korea	Pegged to dollar	10[a]	9.6	Government announced sweeping liberalization	Dec. 88
				Investment preapproval rules softened	Jan. 90
				Market average exchange rate system introduced	Mar. 90
Taiwan	N/A	10[a]	3.0	Equity market broadly opened, $5 billion foreign holdings	Jan. 91
				Maximum foreign security holdings limit increased to $10 billion	Mar. 93
Thailand	Pegged to basket	100[a]	27.0	N/A	N/A
Turkey	Free float	100	97.3	N/A	N/A
Venezuela	Free float	100	36.3	Foreign ownership allowed with limits	Dec. 88
				All restrictions lifted	Jan. 90
Zimbabwe	Pegged to basket	a	0.0	N/A	N/A

Source: For foreign exchange policies: Exchange Agreements and Exchange Restrictions, 1994 annual report (IMF); for foreign ownership levels and liberalizations, IFC Index Methodology (1993); some liberalization dates from Park and Van Agtmael, ed. (1993), World's Emerging Stock Markets.

[a] Industry exceptions.

[a] Industry exceptions.
[b] N/A = Not applicable.
[c] EMS = European Monetary System.

TABLE 3

EMERGING STOCK MARKETS—INSTITUTIONAL INDICATORS

Country	(1) Regular Publication of P/E Yield	(2) Accounting Standards	(3) Investor Protection	(4) Securities Commission	(5) Restrictions			(6) Withholding Tax Rate	
					Dividend	Capital	Entry	Capital Gains	Dividend
Latin America									
Argentina	0	1	1	1	0	0	0	36%	17.5%
Brazil	1	2	2	1	0	0	0	25	25
Chile	1	2	2	1	0	1	0	10	10
Colombia	0	1	1	1	1	0	0	30	0
Mexico	1	2	2	1	0	0	0	0	0
Venezuela	0	1	1	1	1	1	0	0	20
Asia									
India	1	2	2	1	1	1	1	40	25
Indonesia	1	0	1	1	1	1	0	20	20
Malaysia	1	2	2	0	0	0	0	0	0
Pakistan	0	1	1	1	0	0	0	0	15
South Korea	1	2	2	1	0	0	1	0	25
Thailand	1	1	1	1	0	0	0	25	20
Europe/Mideast/Africa									
Greece	1	0	0	0	1	1	0	0	42
Jordan	0	0	1	1	0	0	0	0	0
Nigeria	0	1	1	1	1	1	2	20	15
Portugal	1	1	1	1	0	0	0	0	25
Turkey	1	1	0	1	0	0	0	0	0
Zimbabwe	0	1	1	1	1	1	1	30	20

Column (1): 0 = published, 1 = comprehensive and published internationally.
Columns (2) and (3): 0 = poor, 1 = adequate, 2 = good, of internationally acceptable quality.
Column (4): 1 = functioning securities commission or similar government agency, 0 = no agency.
Column (5): 0 = free, 1 = some restrictions, 2 = restricted.
Column (6): Withholding tax rates, given in percentages.
Source: The table is based on the information provided in the IFC's Factbook. All data are as of year-end 1991.

TABLE 4
MACROECONOMIC CLIMATE AND COUNTRY RISK IN EMERGING MARKETS

Country	Inflation	Real GDP Growth	Inflation Variability	Rank	Exchange Rate Variability	Credit Rating
Argentina	370.10	0.97[c]	> 1,000	20	442.9	26.2
Brazil	624.10[a]	-3.10[a]	> 1,000	21	173.0	27.1
Chile	20.20	5.68	10.5	12	25.1	45.9
Columbia	27.30	4.94[a]	11.6	15	17.4	37.2
Greece	18.70	0.71[a]	16.1	13	40.0	46.7
India	10.00	5.28[a]	9.8	10	33.6	37.5
Jordan	8.16	-2.12[a]	19.2	11	33.1	20.7
South Korea	6.13	10.72	6.3	6	10.0	67.6
Malaysia	2.71	6.22[b]	4.1	3	13.3	64.6
Mexico	53.30	1.28[a]	38.2	19	66.8	42.6
Nigeria	25.10	3.96	42.9	16.5	223.6	19.5
Pakistan	7.86	5.96	10.6	9	12.1	27.7
Philippines	9.46	2.19	9.0	8	32.2	25.2
Portugal	11.00	7.13[b]	6.1	7	41.7	65.0
Taiwan	-	-	-	-	16.1	77.5
Thailand	3.96	10.82[b]	5.8	4	7.9	61.3
Turkey	57.70	2.46[b]	28.0	18	30.2	43.9
Venezuela	38.20	0.98[a]	33.2	16.5	58.8	39.0
Zimbabwe	18.70	-0.55[e]	13.0	14	45.6	26.1
Germany	2.04	3.77	3.0	1	46.0	90.8
Japan	1.67	3.74	5.77	2	43.1	89.8
United Kingdom	5.60	2.26[a]	6.2	5	48.1	84.6

Sources: Inflation and GDP data are from *International Financial Statistics;* the exchange rates are from the IFC EMDB database for the emerging markets and from Citicorp Data Services for the industrialized countries. The credit rating is taken from *Institutional Investor* in 1992.

Notes:
1. For inflation, the annual compounded growth rate for the CPI between the end of 1985 and 1992, or the latest available year, is reported.
2. For real GDP, a similar computation is made. In many cases, 1992 data were not available. Final years used other than 1992 are footnoted. For most countries the GDP growth number is close to the average annual growth rate over the sample period, except for Argentina and Brazil. For those countries, hyperinflation makes some of the data difficult to interpret, and the numbers given are subject to this caveat.
3. Inflation and exchange rate variability is the standard deviation of monthly rates times 1,200.
4. Rank is based on the sum of the ranks according to the level of inflation and the variability of inflation.

[a] 1991; [b] 1990; [c] 1989; [d] 1988; [e] 1987.

TABLE 5

GLOBAL MARKET INTEGRATION AND ECONOMIC GROWTH

Global Market Integration Measures	Rank Correlation
OPEN I	-.241
OPEN II	.235
OPEN III	.310
POLRI	.591
INFLAT	.777
CORREL	.393

Source: Authors' computations.

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