DEC notes
Research findings

Stock markets, corporate finance, and economic growth

Emerging stock markets are booming, raising important questions for policymakers in developing countries

THE RAPID GROWTH OF EMERGING STOCK MARKETS PRESENTS OPPORTUNITIES AND CHALLENGES FOR DEVELOPING COUNTRIES

During the past decade the capitalization of emerging markets increased twentyfold, to about $2 trillion. In 1994 trading on these markets accounted for about 17 percent of the $9.6 trillion of shares traded on the world's stock markets, up from a mere 3 percent of the much smaller $1.6 trillion in 1985. This rapid growth in emerging stock market activity raises critical questions for developing country policymakers. What effect do stock markets have on economic growth? How does stock market development affect firms' financing decisions? And if stock markets are good for growth, what policies can governments adopt to foster their development? This note summarizes answers to these questions drawn from a recent research project in the Finance and Private Sector Development Division of the Policy Research Department.

Do stock markets promote growth?

Theory is ambiguous about whether stock markets help or hurt economic growth. On the positive side, a liquid stock market may make it easier for firms to raise capital for investment. Many profitable activities require a long-run commitment of capital. Yet investors are reluctant to relinquish control of their savings for long periods. Liquid stock markets ease this tension. In liquid markets savers hold an asset-equity that they can sell quickly and cheaply. At the same time firms have permanent access to the capital raised through equity issues. By making long-run investments more attractive, liquid stock markets may boost investment in longer-run, more profitable activities, enhancing the prospects for long-term economic growth.

On the negative side, stock markets are sometimes seen as "casinos" that have little positive impact and perhaps even a negative impact on long-term growth. According to this view, by enabling investors to sell quickly, liquid markets may reduce investors' incentives to oversee managers and monitor firms' performance and prospects, so that they fail to exert corporate control. And liquid markets may induce a short-term perspective among investors that encourages firms to take actions—selling off assets, for example—that raise their profits temporarily at the expense of long-term growth.

Which view is correct? The evidence strongly supports the view that access to a liquid stock market increases long-term economic growth. In a set of thirty-eight countries divided into four groups according to the initial liquidity of their stock markets, the nine countries with very liquid markets in 1976 grew much faster over the next eighteen

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years, on average, than the countries with illiquid or very illiquid markets (figure 1). This comparison is based on a commonly used measure of liquidity, the total value of equity traded as a share of gross domestic product (GDP). Of course, this ratio does not directly measure the costs of buying and selling securities at posted prices. Yet averaged over a long period, the value of equity transactions as a share of national output probably varies with the ease of trading. Put differently, if trading is very costly and risky, there will be little trading. Other market liquidity indicators give similar results.

But liquidity is just one measure of stock market development, and other measures show no strong relationship with growth. For example, the size of the stock market relative to the economy (market capitalization divided by GDP) is a poor predictor of future economic growth. And contrary to what pundits sometimes suggest, greater stock price volatility does not forecast poor economic performance. Of the various measures of stock market development, only market liquidity—the opportunity to easily buy and sell equity in the economy's corporations—is closely associated with future growth. Moreover, regression analysis suggests that stock market liquidity helps forecast economic growth even after accounting for such nonfinancial factors as inflation, initial income, political stability, investment in education, the black market exchange premium, and the efficiency of the legal system.

Liquid stock markets boost both the quantity and quality of investment

A well-developed banking sector is also a prediction of economic growth. Dividing the countries into four groups based on stock market liquidity and bank development (as measured by bank loans to private enterprises as a share of GDP) revealed that countries that began with liquid stock markets and well-developed banks grew much faster than countries with illiquid stock markets and poorly developed banks (figure 2). Moreover, stock market liquidity and banking development are independently strong predictors of future economic growth: greater stock market liquidity implies faster growth, no matter the level of banking development, and greater banking development implies faster growth, no matter the level of market liquidity.

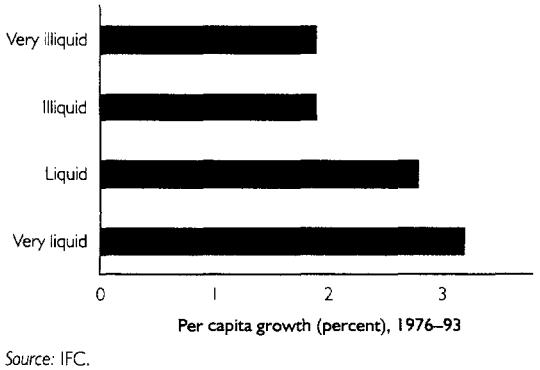
How do liquid stock markets boost growth? The evidence suggests that liquid markets boost both the quantity and the quality of investment. Compared with countries that began in 1976 with illiquid markets, countries that started with more liquid stock markets had more investment—and therefore faster rates of capital accumulation—and better-quality investment—and thus more rapid productivity gains.

How do stock markets influence firms' financing decisions?

How do liquid stock markets affect firms' financing decisions? In particular, how might firms that gain access to a liquid market alter their mix of debt and equity? To answer this question, the study first analyzed how firms that lack access to a liquid stock market could be expected to behave. It identified three ways that lack of access to a liquid market might affect firms' behavior:

- First, entrepreneurs would have limited opportunities for diversifying risk. As a result they

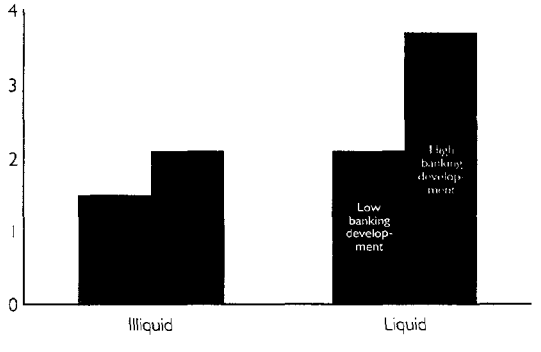
Figure 1 Economies with very liquid markets grew fastest



Source: IFC.

Figure 2 Growth was fastest in economies beginning with liquid markets and well-developed banks

Per capita growth (percent), 1976–93



Source: Levine and Zervos.

might opt for investment strategies that reduce their risk at the expense of long-term growth, for example, by investing less or choosing less capital-intensive production technologies.

■ Second, firms would have trouble striking the appropriate balance between debt and equity. Firms with high levels of debt that are close to bankruptcy face incentives to act opportunistically. As a result they may enter into overly risky projects, harming their creditors. Because of this, a highly leveraged firm often has trouble obtaining more credit. Firms with access to a well-functioning stock market can avoid this problem by issuing equity, mitigating debt-associated incentive problems and making it possible for them to borrow more.

■ Third, investors and creditors would have much less information about firms. Well-functioning stock markets aggregate information about the prospects of firms whose shares are traded and make it available to investors and creditors. This strengthens investors' and creditors' corporate control, spurring managerial competency. But lacking the information made available by a liquid stock market, investors are likely to invest less and to invest less wisely, and they tend to exert less corporate control, giving managers fewer incentives to perform well.

Taken together, these three problems mean that firms lacking access to a well-functioning stock market are likely to be smaller and to grow more slowly than would otherwise be the case. But theory is ambiguous about how such firms would alter their debt-equity ratios if they suddenly gained access to a well-functioning market.

■ Increased options for diversifying risk tend to make expansion more attractive. But theory does not tell us whether firms will rely more on debt or on equity to finance this expansion.

■ Even if we assume that the firm issues additional equity, the effect on the debt-equity ratio is uncertain. A firm might substitute outside equity for debt, reducing its debt-equity ratio. Or it might substitute outside equity for inside equity, leaving the debt-equity ratio unchanged.

■ Finally, by aiding the flow of information, better-functioning stock markets lower the cost of raising capital. But since these lower costs apply to debt as well as to equity, it is unclear which firms would rely on more.

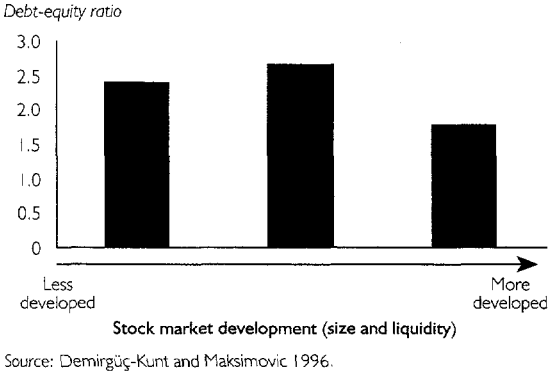
The evidence suggests that the effect of stock market development on firms' debt-equity ratios depends on the initial level of stock market development. The study examined firms' debt-equity ratios in thirty industrial and developing countries, ranked on the basis of the development of their stock markets (defined to include size and liquidity measures) and divided into three groups of ten. The first ten countries had the least developed stock markets. The second group had stock markets twice as developed as the first group's. And the third group had stock markets almost four times as developed as the first group's.

Debt-equity ratios are 10 percent higher for the second group of countries than for the first (figure 3). But the debt-equity ratios for the third group of countries—those with the most developed stock markets—are 25 percent lower than for the first group. This suggests that as countries with an initially low level of stock market development increase the size and liquidity of their markets, debt-equity ratios rise. Firms not only issue new equity, they also borrow in amounts even larger than the value of that equity. But as stock markets continue to develop, the debt-equity ratio declines, with firms relying more on equity and less on debt. (These results hold even when other determinants of firm financing decisions are controlled for, such as firm characteristics, tax variables, and macroeconomic factors.)

Firms are likely to be smaller and to grow more slowly in the absence of a well-functioning stock market

This pattern suggests that at early stages of market development, improvements in information, monitoring, and corporate control may be sufficient to induce creditors to lend more. At this stage, debt and equity finance are complementary. The market's role of aggregating information is especially important for large firms

Figure 3 As stock markets develop, firms first rely more on debt, then more on equity



Source: Demirgüç-Kunt and Maksimovic 1996.

because their stocks are traded more often and are followed by many analysts.

Do banks and stock markets complement one another? In many developing countries with emerging stock markets, bankers worry that the stock markets will reduce the volume of their business. The study's results suggest that these concerns are misplaced. As the functioning of a developing stock market improves, firms initially take on a higher debt-equity ratio, so banks have more business, not less. The results also suggest that in countries with developing financial systems, stock markets and banks play different yet complementary roles.

Countries that lower barriers to foreign investment can expect better domestic capital markets

Thus policies to develop stock markets need not undermine existing banking systems, and stock markets and banking can develop simultaneously. Indeed, even at higher levels of stock market development, higher economic growth means that banks can increase the volume of their business even as their share of total finance declines.

What policies foster stock market development?

Theory suggests several reasons why reducing barriers to cross-border capital flows might increase market liquidity and enhance the functioning of emerging stock markets. Domestic firms seeking foreign investment often have to improve their accounting systems and the quality of the information they disclose to investors. As more foreigners enter the market, there may also be increased pressure to upgrade the trading apparatus and legal system to support more trading and the trading of additional financial instruments. Increased integration with world capital markets also tends to squeeze out distortions in the prices of domestic securities. Through all these channels, lowering international investment barriers would be expected to improve the operation of domestic capital markets.

The evidence from a sample of fourteen countries that liberalized international capital flows supports this view. In twelve of the countries stock market liquidity rose significantly after liberalization, and none of the fourteen experienced a statistically significant fall in liquidity. Interestingly, stock market volatility rose significantly in seven of the cases, and did not fall significantly in any of them. These findings are consistent with the view that liberalizing capital flows offers expanded opportunities for long-run economic growth through greater market liquidity, provided that policymakers are prepared to weather increased market volatility.

Besides liberalizing capital movements, are there other measures that countries can take to foster stock market development? Theory and evidence suggest that policymakers should remove impediments to market development, such as tax, legal, and regulatory barriers. They should also set and enforce standards for accounting and disclosure. But they should stop short of more interventionist measures, such as tax incentives for firms that go public. While these policies may artificially boost the size of stock markets, there is no evidence that they increase liquidity—or economic development.

Not every country needs to have its own stock market to reap the benefits associated with a liquid market. What matters is that residents and firms have easy access to a liquid market where they can trade and issue securities. It is the ability to trade and issue securities easily that aids long-run growth, not the physical location of the market.

—Aslı Demirgüç-Kunt and Ross Levine

Further reading

Demirgüç-Kunt, Aslı, and Ross Levine. 1996. "Stock Markets, Corporate Finance, and Economic Growth: An Overview." *The World Bank Economic Review* 10(2): 223–40.

Demirgüç-Kunt, Aslı, and Ross Levine. 1996. "Stock Market Development and Financial Intermediaries: Stylized Facts." *The World Bank Economic Review* 10(2): 291–322.

Demirgüç-Kunt, Aslı, and Vojislav Maksimovic. 1996. "Stock Market Development and Financing Choices of Firms." *The World Bank Economic Review* 10(2): 341–70.

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