

A financial elixir for growth

Well functioning emerging equity markets actively enhance economic development. They are not simply casinos, argues **Ross Levine**

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WORLD EQUITY MARKET capitalisation has risen from \$4.7 trillion to \$15.2 trillion over the past 10 years, and emerging market capitalisation has jumped from less than 4% to more than 13% of the world total. Does this growth affect the economic development of emerging market countries, or are equity markets just "casinos", with development influenced by other factors, as some analysts argue? Empirical evidence suggests that well-functioning stock markets enhance economic development.

One way stock markets affect economic activity is through their liquidity. Many profitable investments require a long-run commitment of capital. However, investors are reluctant to relinquish control of their savings for long periods. Liquidity eases this reluctance. This is because liquid stock markets reduce the downside risk of investing in projects that do not pay off for a long time: with a liquid equity market, the

initial investors do no lose access to their savings for the duration of the investment project because they can sell quickly and cheaply their stake in the company. Firms, meanwhile, have permanent access to the equity capital raised. Thus, more liquid stock markets facilitate investment in long-run, potentially more profitable investments, improve the allocation of capital and thereby enhance prospects for long-term growth.

Investors will come if they can leave. With more players, firms then have greater access to capital and can grow, taking the economy with it. Alternative views exist about the importance of liquidity for long-run economic growth. Some analysts argue that very liquid markets encourage investor myopia: by allowing investors to sell quickly, liquid markets may reduce investor commitment and thereby reduce incentives to exert corporate control by overseeing managers and monitoring firm performance. According to this view, enhanced stock market liquidity may actually hurt economic growth.

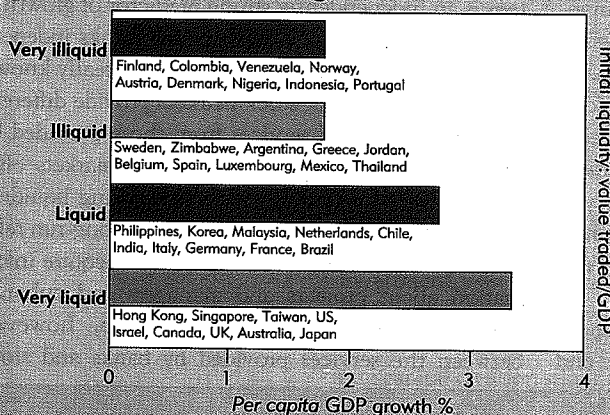
The empirical evidence, however, strongly favours the belief that greater stock market liquidity boosts economic growth. To see this, consider three indicators of the ease of buying and selling equities. One commonly used measure of liquidity is the total value of shares traded on a country's stock exchanges expressed as a ratio of the country's gross domestic product (GDP). The value-traded ratio does not measure directly the costs of buying and selling securities at posted prices. Yet, averaged over a long time, the value of equity transactions as a share of national output is likely to vary with the ease of trading. If it is costly and risky to trade, there will not be much trading.

Using the value-traded ratio for 38 countries, the accompanying figures rank the countries by the liquidity of their stock markets into four groups. The first group has the nine most illiquid markets; the second group has the next 10 most illiquid markets; the third group has the next 10; and the final group has the nine countries with the largest value-traded ratios. Figure 1 shows that countries that began in 1976 with relatively liquid stock markets tended to grow much faster over the next 18 years than countries with illiquid markets.

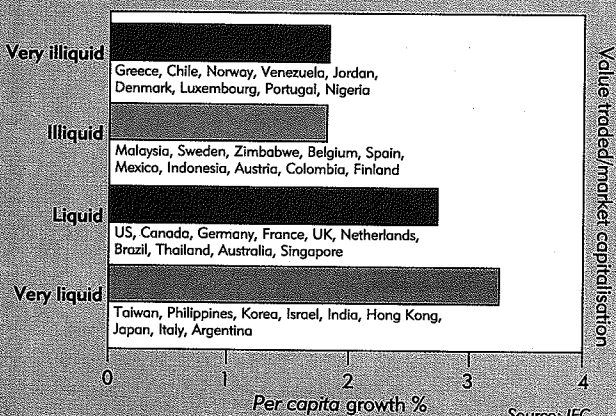
The second measure of market liquidity is the total value of traded shares as a share of market capitalisation. This "turnover ratio" measures stock trading relative to the size of the stock market. Figure 2 shows that greater turnover positively forecasts faster growth. Countries with more liquid markets tend to grow faster.

Besides raising investment quality, liquid markets may also augment the quantity of investment. Liquid markets are attractive. Finally, liquidity can be measured as the value-traded ratio divided by stock price volatility. More liquid markets should be able to handle lots of trading without large price swings. Figure 3 shows that countries that had more liquid stock markets in 1976 – countries with higher trading to volatility ratios – grew faster over the following 18 years than countries with less liquid markets.

1. Initial value traded ratio for equities and long-run economic growth 1976–1993

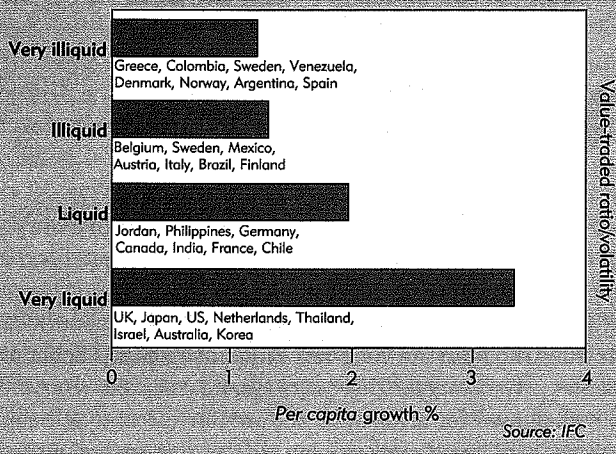


2. Initial turnover ratio for equities and economic growth 1976–1993



Source: IFC

3. Initial-trading-to-volatility ratio on equity and economic growth 1976-1993



(figure 5). Empirically, size or volatility does not forecast growth – ease of trading does.

Countries may be able to foster growth by enhancing the liquidity of their stock markets. For example, regression analyses imply that if Mexico's value-traded ratio in 1976 had been the average of all 38 countries (0.06 instead of 0.01), the average Mexican would be 8% richer today. This type of forecast does not specify how to enhance liquidity. Nevertheless, the example does suggest the potentially large economic costs of policy, regulatory, and legal impediments to stock market development.

Is there an independent link between stock market liquidity and economic growth, or is stock market liquidity just highly correlated with some non-financial factor that causes growth? Multiple regression procedures suggest that stock market liquidity helps forecast economic growth even after accounting for a variety of non-financial factors that influence economic growth. After controlling for inflation, fiscal policy, political stability, education, the efficiency of the legal system, exchange rate policy, and openness to international trade, stock market liquidity still improves predictions of long-run growth.

This still leaves a question: is there an independent link between stock market development and

Other measures of stock market development do not tell the same story. For example, stock market size, as measured by market capitalisation divided by GDP, is not a good predictor of future economic growth (figure 4), and greater stock price volatility does not forecast poor economic performance

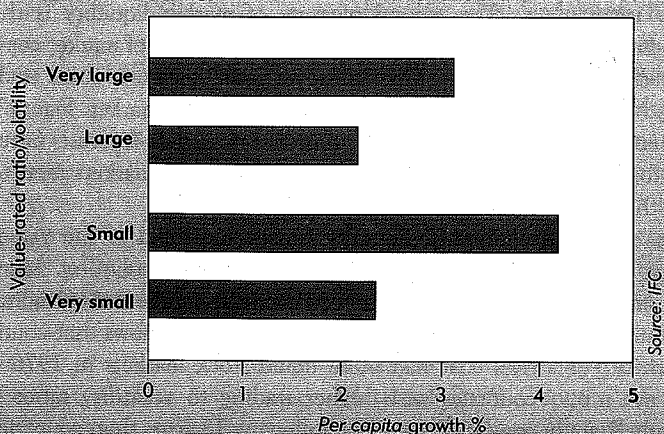
growth, or is stock market liquidity just correlated with banking development, and is it the latter that is the financial impetus for growth? Although countries with well-developed banking systems – as measured by bank loans to private enterprises as a share of GDP – tend to grow faster than countries with underdeveloped banks (figure 6), we can separate the effects of banks from those of stock markets on growth.

To show the relationship between stock markets and banks in influencing growth, the 38 countries were divided into four groups. Group one had greater-than-median stock market liquidity (as measured by the value-traded ratio) in 1976 and greater-than-median banking development. Group two had liquid stock markets in 1976 but less-than-median banking development. Group three had less-than-median stock market liquidity in 1976 but well developed banks. Group four had illiquid stock markets in 1976 and less than median banking development.

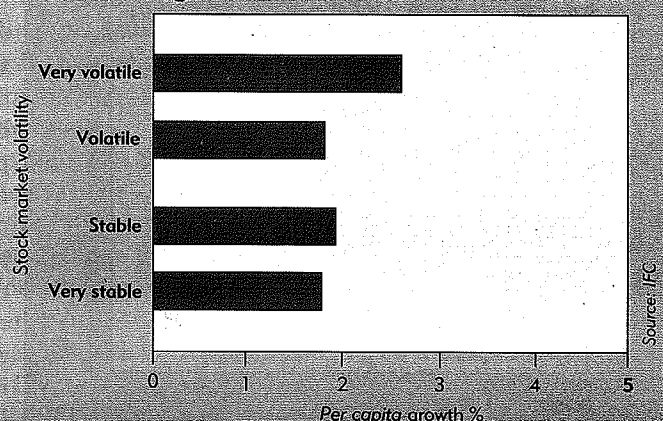
Figure 7 plots these groups and shows the relationship between stock market liquidity, banking development and growth. Countries with both liquid stock markets and well-developed banks grew faster than countries with both illiquid markets and underdeveloped banks. Furthermore, greater stock market liquidity implies faster growth no matter what the level of banking development. Similarly, greater banking development implies faster growth regardless of the level of stock market liquidity. Thus, it is not stock markets *versus* banks, it is stock markets *and* banks. Each of these components of the financial system is an independently strong predictor of growth.

Why do both stock markets and banks independently boost economic growth? No one really knows. One argument is that stock markets provide different bundles of financial services from those provided by banks. According to this view, stock markets offer opportunities for trading risk and boosting liquidity. In contrast, banks focus on establishing long-run relationships with firms, so that banks can acquire information about projects and managers and enhance corporate control. There is overlap, however, between the services provided by banks and stock

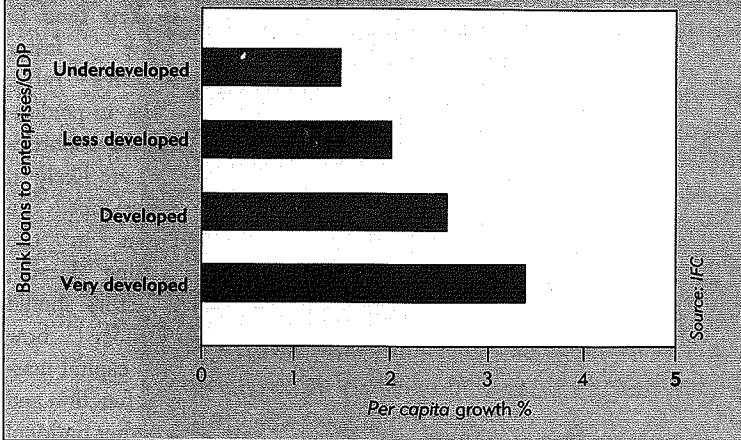
4. Initial stock market size and economic growth 1976-93



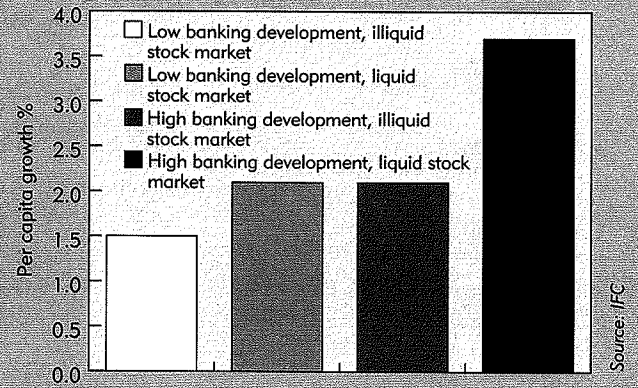
5. Initial stock market volatility and economic growth 1976-93



6. Initial banking development and economic growth 1976-1993



7. Initial stock market and banking development and economic growth 1976-1993



markets. Like stock markets, banks help savers diversify risk and provide liquid deposits. Similarly, like banks, stock markets stimulate the acquisition of information about firms. Since investors want to make a profit by identifying undervalued stocks and exploiting this information, liquid markets encourage the acquisition of information about firms. Also, liquid stock markets may help corporate control by simplifying takeovers, since the threat of job losses after a takeover may spur managers to become more competent. Nevertheless, while overlap undoubtedly exists, the empirical finding that both stock markets and banks independently foster growth suggests that stock markets provide distinct bundles of financial services from those provided by banks.

Is greater stock market liquidity associated with more investment or better investment? Both. Figure 8 shows that countries that started out in 1976 with more liquid stock markets enjoyed faster rates of capital accumulation and greater productivity gains over the following 18 years. Therefore, liquid stock markets boost the quantity and quality of investment.

Although more liquid equity markets imply more investment, new equity sales are not the only source of finance for this new investment. Retained earnings, bonds, and bank loans help finance some of the corporate capital creation stimulated by greater stock market liquidity. While the mechanism is not fully understood, greater stock market liquidity in emerging market economies tends to increase the amount of capital raised through bond offerings and bank loans, so that corporate debt-equity ratios actually rise with greater stock market liquidity. One way that stock markets may boost bank lending and bond sales is through the rate of return on investment. As shown in figure 8, liquid stock markets boost productivity. By boosting investment quality, stock market liquidity increases the rate of return on corporate investment. The higher return then stimulates greater investment, some of which flows through more bank loans and bond sales.

Thus, stock market development in emerging market economies tends to complement rather than replace bank lending and bond issues.

Given the likely importance of liquid stock mar-

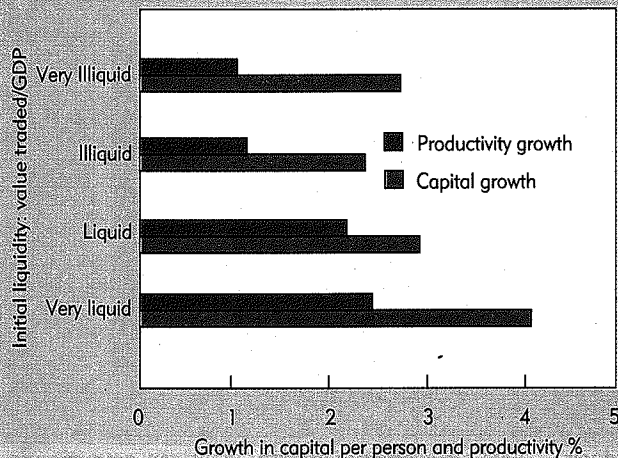
kets for economic growth, what can countries do to promote liquid stock markets? The answer, of course, is beyond the scope of this article. Legal, regulatory, accounting, tax, supervisory systems and trading technology influence stock market liquidity, as does the macroeconomic and political environment.

Consider one policy lever: liberalising controls on international capital flows. Liberalisation may involve the easing of restrictions on capital inflows or reducing impediments to repatriating dividends or capital. In either case, reducing barriers to cross-border capital flows affects the functioning of emerging stock markets. Fewer impediments for foreign investors will enhance market integration with capital markets worldwide and therefore affect the pricing of domestic securities. Domestic firms, in seeking foreign investment, will often have to upgrade the information disclosed to investors, since there will be more of them, and they will have to improve their accounting systems. As more foreigners enter the market, pressure will be applied to upgrade trading systems and modify legal frameworks to support more trading and a greater variety of financial instruments.

The evidence supports the belief that removing international investment barriers encourages stock market development. Figure 9 lists 14 countries that liberalised controls on international capital flows. In 12 out of these 14 countries, stock market liquidity rose significantly following the liberalisation of international investment restrictions. For example, in January of 1988, Chile liberalised restrictions on the repatriation of dividends from the investments of foreign investors and enjoyed a subsequent rise in market liquidity. None of the 14 countries experienced a statistically significant fall in liquidity following liberalisation. In conjunction with the earlier findings that market liquidity boosts economic growth, these results suggest that liberalising international capital flow restrictions can accelerate economic growth by enhancing stock market activity.

Figure 9 also indicates that stock market volatility rose in 7 out of 11 cases. Volatility did not significantly fall in any of the countries following liberalisation. Thus, although easing international capital flow

8. Initial liquidity and capital accumulation and productivity growth 1976-1990



9. Stock markets after liberalisation

Country and year of liberalisation	Size	Liquidity	Volatility
Argentina (1989)	↑	↑	↑
Brazil (1983)	-	-	↑
Chile (1988)	-	↑	-
Colombia (1989-91)	-	↑	↑
India (1990-1992)	↑	↑	↑
Jordan (1987)	-	↑	-
Korea (1981-92)	-	↑	-
Malaysia (1986)	-	-	na
Pakistan (1990)	↑	↑	↑
Philippines (1988)	-	↑	-
Portugal (1988)	↑	↑	na
Thailand (1988)	-	↑	↑
Turkey (1990)	↑	↑	na
Venezuela (1988)	-	↑	↑
Total	5/14	12/14	7/11

Source: IFC

evidence suggests that countries with liquid stock markets tend to enjoy faster growth rates. Thus, in predicting the countries that are likely to experience a boom in the coming decade, investors should consider how well capital markets function and whether national policies and institutions sup-

port market liquidity. Well-functioning means that it is relatively easy, secure, and inexpensive to trade securities, not that market prices are currently rising. The ability to analyse market liquidity will provide a forecast of cross-country differences in growth rates and lead to better investment decisions. ■

restrictions may raise liquidity, it also may increase volatility. This should not be of much long-run concern, however. As shown in figure 5, volatility does not have any measurable effect on long-run growth, while greater market liquidity is strongly linked to future economic growth. Thus, if policy makers have the patience to weather some short-run volatility, international investment liberalisation may offer long-run economic growth.

Though many factors affect economic growth, the

port market liquidity. Well-functioning means that it is relatively easy, secure, and inexpensive to trade securities, not that market prices are currently rising. The ability to analyse market liquidity will provide a forecast of cross-country differences in growth rates and lead to better investment decisions. ■

This article is based on two papers by Levine and Sara Zervos, *Stock Markets, Banks and Growth* and *Capital Control Liberalisation and Stock Market Development: A Cross-Country Event Study*. The views expressed in this article are the author's, and do not reflect those of the World Bank or its member countries.

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