



# Stock Market Development and Corporate Finance Decisions

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***In developing countries, how is the growth of stock markets affecting corporate financing decisions? Initially, stock market development tends to be accompanied by higher corporate debt-equity ratios and more business for banks.***

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**O**VER THE past ten years, total capitalization of stock markets worldwide has grown from \$4.7 trillion to \$15.2 trillion; developing countries' share of this total has jumped from less than 4 percent to 13 percent. These increases have been accompanied by the liberalization of stock markets, especially in the developing world. In a successful attempt to attract foreign portfolio flows, many developing countries have removed restrictions on foreign ownership, liberalized capital account transactions, and improved accounting and information standards. Portfolio flows of equity investment to emerging markets have increased sharply in recent years, reaching

\$35 billion in 1994, compared with \$0.1 billion in 1985.

The growth of equity markets in developing countries has won the enthusiastic support of policymakers and expanded the financing options available to firms. But it raises a number of questions. How do firms decide whether to finance investment by debt or equity? How does stock market development affect the financing choices of firms? And how does it affect banks in developing countries?

## Debt or equity?

Finance theory tells us that, in the absence of bankruptcy costs, corporate income taxation, or other market imperfections, the value of a firm is independent of its financial structure. The theory is intuitive—because a firm's value is determined by real assets, it cannot be changed by purely financial transactions. In other words, financial assets on the right side of the balance sheet have value only because of the real assets, including intangibles and growth opportunities, on the left side. Therefore, if markets are doing their job, it should not be possible to create value by shuffling the paper claims on the firm's real assets. However, if there are imperfections—such as taxes, underdeveloped financial markets, and inefficient legal sys-

tems—financial structure becomes relevant. Firms must decide whether to issue debt or equity securities to minimize the costs entailed by these imperfections.

Existing theories have focused on two different determinants of financing choices made by firms: “agency” theories stress conflicts of interest between owners, creditors, and managers; other theories stress tax consequences. Empirical evidence shows that differences in the capital structures of firms in industrial and developing countries can be attributed to the potential for a firm's owners or managers to engage in opportunistic behavior (captured by factors such as asset composition, liquidity constraints, industry classification, and growth opportunities) as well as to the tax advantages of debt financing in many countries. However, these differences explain only part of the cross-country variation in corporate debt-equity ratios. As shown in Chart 1, this variation is considerable.

## Stock markets

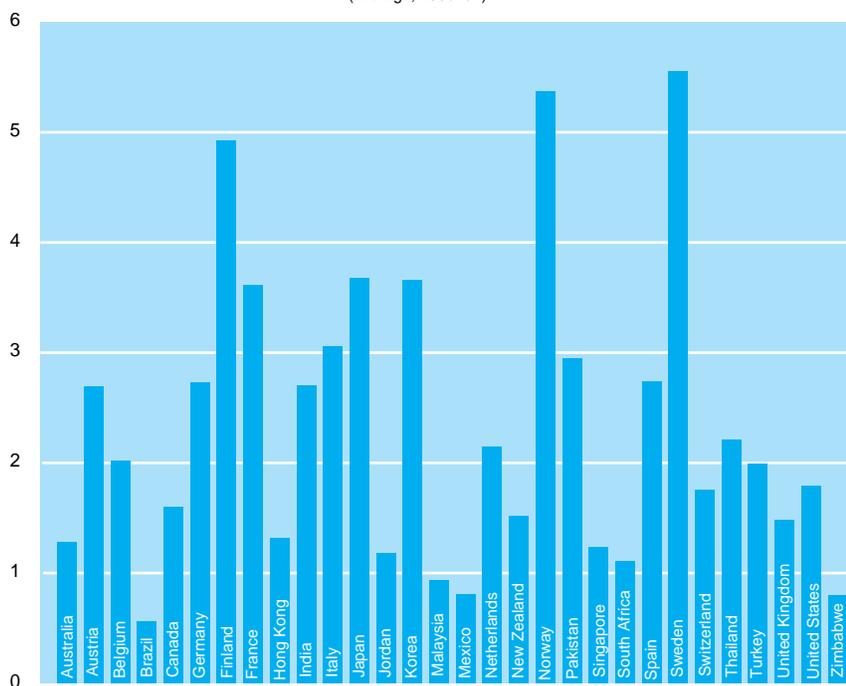
One possible determinant of corporate financing choices that theory has overlooked is the level of development of financial markets, especially equity markets. Most of the finance literature assumes the existence of liquid, well-functioning stock markets. However, economies without a

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Chart 1  
**Corporate debt-equity ratios**  
 (average, 1980–91)



Sources: IFC's corporate finance data base and Global Vantage data.

well-functioning stock market may suffer from three types of imperfections.

First, if there is no stock market, or the stock market is not liquid, opportunities for risk diversification are limited for investors and entrepreneurs. Outside investors may require a premium to acquire company stock that is traded on an illiquid market. The high costs of diversification may induce firms to avoid the use of financial markets and may influence the firms' investment decisions. Thus, firms may choose less capital-intensive production technologies that are subject to lower long-term risk, or they may invest less and remain smaller than if their shares were widely held.

Second, in the absence of a well-functioning stock market, firms are unable to optimally structure their financing packages. Usually, there are conflicts of interest between a firm's managers and its customers and suppliers as well as between different classes of investors in the firm. For example, firms with high levels of debt may have increased their probability of bankruptcy sufficiently that they may enter into overly risky projects, thus harming their creditors. Because debt financing creates incentives to take greater risks, a highly leveraged firm may not be able to obtain additional credit. In these cases, if there were a well-functioning stock market,

issuance of equity would mitigate the incentive problems, allowing the firm to borrow more.

Third, besides their role in supplying capital, stock markets play an important informational role. Well-functioning stock markets collect information about the prospects of firms whose shares are traded and make it available to creditors and investors. By improving the flow of information about firms and simplifying takeovers, well-functioning stock markets may contribute to corporate control and thus lead to greater managerial competency. Better corporate control and firm management will, in turn, promote investment and efficiency.

However, the effect of stock market development on corporate financing decisions is ambiguous. Sudden access to a well-functioning stock market could have a variety of possible effects on corporate debt-equity ratios. One possible outcome is the substitution of outside equity, through public offerings, for debt; in this case, the debt-equity ratios of firms previously able to issue only debt would decrease. Or a closely held firm might open itself to public ownership by issuing shares and substituting outside equity for inside equity, which would not affect the debt-equity ratio. A third possibility is that the firm's owners' new ability to diversify risks would make

expansion more attractive; such an expansion could be financed either through additional debt or equity. A fourth possibility is that, by facilitating the flow of information and improving corporate governance, well-functioning stock markets may lower the cost of raising capital. In this case, external finance—both debt and equity—would become less costly, although it is not clear which would increase more.

*The effect of stock market development on corporate debt-equity ratios depends on the initial level of stock market development.* We examined corporate debt-equity ratios in 30 industrial and developing countries (Chart 1). After ranking countries based on the level of stock market development (measured by the size and liquidity of stock markets), we divided the sample into three groups of equal numbers of countries. The first group has the least developed stock markets; the stock markets in the second group are twice as developed; and the third group has the most developed stock markets—almost four times as developed as the first group. When less-developed stock markets double, in terms of size and liquidity, corporate debt-equity ratios increase by 10 percent. (See Chart 2.) When a stock market quadruples in size and liquidity, however, corporate debt-equity ratios decline by 25 percent.

This finding suggests that, as a relatively undeveloped stock market begins to develop in a given country, firms in that country initially increase their debt-equity ratios. Not only do they issue new equity but they also borrow more. So, at early stages of market development, improvements in information quality, monitoring, and corporate control may be large enough to induce creditors to lend more. For these firms, debt and equity finance are complementary. However, as stock markets continue to develop, the ratio changes. In countries with relatively developed stock markets, as the latter continue to develop, firms begin to substitute equity for debt.

*Could this reflect other factors that determine corporate financing decisions?* While the simple correlations between debt-equity ratios and the level of stock market development are telling, they do not take into account other possible determinants of corporate financial structure. In addition to the differences, identified in the corporate finance literature, between firms, capital structures may be different across countries because of differences in economic development, supporting institutions, tax treatment of debt versus equity, and level of development of financial institutions.

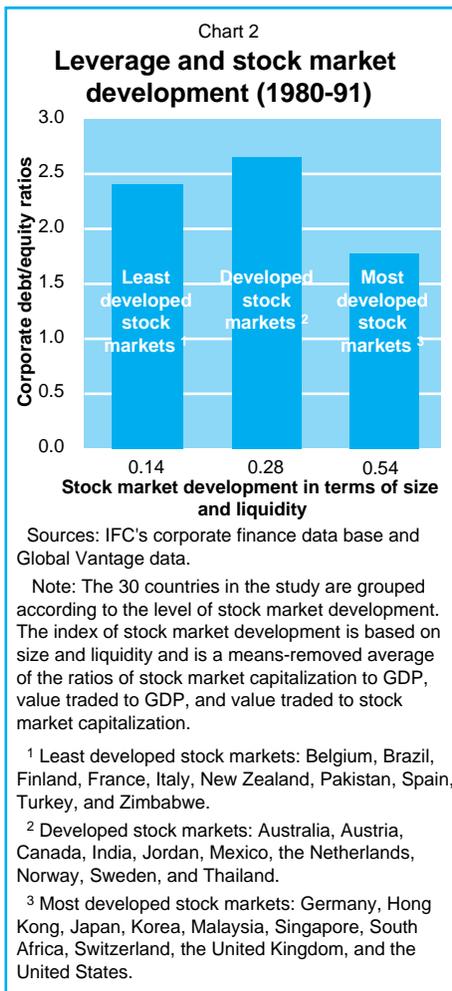
Differences in growth rates capture differences in growth opportunities available to firms in industrial and developing countries. All countries in Chart 1, except Jordan and South Africa, experienced GDP growth in the 1980s. Some countries—especially Brazil, Mexico, and Turkey—experienced high rates of inflation in the 1980s. Differences in inflation rates can also explain some of the cross-country variation in debt-equity ratios. Because debt contracts are typically written in nominal dollars, the rate of inflation may affect the riskiness, in real terms, of debt financing.

The countries in the study also present a wide range of economic development—GDP per capita for 1991 ranges from \$359 (Pakistan) to \$27,492 (Switzerland). Income is a good indicator of institutional development. Although the general trend has been toward liberalization, markets are much more heavily regulated in most developing countries; there are often fewer protections for investors; accounting standards are inadequate; and governments are, in general, more active in business affairs. The efficiency of the legal system and the ability to enforce contracts are also highly correlated with the level of income.

Countries also vary with respect to their tax treatment of interest income, dividends, and capital gains. In most industrial countries in the sample—for example, Japan, the United Kingdom, and the United States—interest payments have tax advantages. However this is true for only two developing countries in the sample: India and Korea. In the others, the net tax burden is generally lower on equity income.

Finally, the level of development of financial institutions, especially banks, is also important in provision of credit and corporate financing decisions. Differences in bank development also reflect differences in legal structure. For example, different combinations of financial intermediaries have been developed by European countries with universal banking than by industrial countries with regulatory restrictions that segregate banking and commerce (the United States, for example). Even though the overall size of the financial system may be similar across these countries, the financing decisions of firms may reflect these structural differences.

Multiple regression procedures suggest that our findings on stock market development and leverage hold even after control-



ling for these other determinants of corporate financing decisions.

*Size matters.* It is likely that the role played by the market in gathering and disclosing information may be more important for large firms because their stocks are traded more often and are followed by many analysts. Small firms may not benefit as much from stock market development, at least initially, because their access may be limited by high fixed issuance costs. Even the stock of small firms that are listed on an exchange may not be traded as often as the stock of larger firms, since it may be more costly for traders to acquire information about the prospects of small firms.

An examination of the quartiles composed of the smallest and the largest firms (measured by asset size) in each country demonstrates that debt-equity complementarity in developing markets is indeed driven by large firms. The findings suggest that the development of a stock market initially affects the financial policies of only the largest firms. In countries where stock markets do not play a significant economic role, stock market development permits

large firms to increase their leverage. However, for large firms in countries with more developed markets, further stock market development is associated with lower debt-equity ratios.

### Complementarity of banks

Stock markets serve important functions even in economies with well-developed banking sectors. Because stock markets provide a means of diversifying risk, mitigate conflicts of interest among different creditors, and improve information flow and corporate governance, equity and debt financing are, in general, not perfect substitutes for each other. This is especially true in countries with developing stock markets. In these countries, although development of stock markets makes more investment feasible, new equity sales are not the only source of finance for investment. By providing better information and decreasing monitoring costs for investors and financial intermediaries, stock markets lower the costs of both external debt and external equity. Some of the new investment stimulated by stock market development is financed by new bank loans and bond sales. Thus, in the early stages of stock market development, equity issues tend to complement rather than replace bank lending and bond issues.

In many developing countries, banks fear that the volume of their business will decrease as stock markets grow. However, analysis suggests that initial improvements in the functioning of a developing stock market produce higher debt-equity ratios for firms, and thus more business for banks. In countries with developing financial systems, stock markets and banks play different, but complementary roles. Policies undertaken to develop stock markets need not affect existing banking systems adversely. Stock markets and banks can be developed simultaneously. [F&D]

*This article is based on two papers by the authors: "Capital Structures in Developing Countries: Evidence from Ten Countries," World Bank Policy Research Working Paper No. 1320 (Washington, 1994); and "Stock Market Development and Firm Financing Choices," World Bank Policy Research Working Paper No. 1461 (Washington, 1995). These papers were part of a World Bank research project, "Stock Markets, Corporate Finance, and Economic Growth," organized by Asli Demirgüç-Kunt and Ross Levine.*