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Financial Development and Economic Growth: Stock Markets versus Banks?

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Economic theories diverge radically on the role that banks and markets play in the development of a financial sector – and the link they have with economic growth. It is essential to answer these questions in order to provide concrete orientations for economic policies. Indicators make it possible to link economic growth to the financial system, but there is however no evidence to justify supporting banks to the detriment of markets – or the other way round.

Economic historians and theorists have provided conflicting opinions on the importance of financial intermediaries and markets for economic development. Joseph Schumpeter (1912) argued that financial intermediaries play a decisive role as they decide which firms have access to society's savings. Joan Robinson (1952), on the other hand, argued that finance follows growth and that the process of economic development needed to be explained by other factors. Lucas (1988) asserts that the role of finance in economic development has been significantly overrated.

Economic history and theory also provide conflicting opinion on the different roles of financial intermediaries and markets. Some arguments have been in favour of a financial system in which intermediaries provide most financial services, while others have focused on the superiority of financial markets.

Across countries, much variation in the development of financial intermediaries and markets can be observed. Variation in the degree to which financial systems are based on these intermediaries and markets can also be observed. Theoretical debate and empirical observation give rise to several questions: Is the development of financial intermediaries and markets related to economic growth performance? Do markets and intermediaries provide the same, substitutable financial services, or are their services complementary?

These questions are especially important in the context of the development policy debate for Africa: given the limited resources and implementation capacities in most African countries, should financial sector policies top the reform agenda? If yes, should there be emphasis on banks or stock exchanges? This paper reviews the theoretical literature and provides empirical evidence on these policy-relevant questions.

Financial development and economic growth

While significant information and transaction frictions prevent savers from easily entrusting their savings to entrepreneurs and firms, banks and markets can, in theory, help overcome these frictions.

Firstly, banks can reduce the cost of acquiring and processing information about firms and potential projects by specialising in the assessment of potential borrowers, thereby possibly increasing saving and capital accumulation in the economy. Furthermore, by identifying the most worthy projects and firms, banks foster innovation and efficient resource allocation. Secondly, banks can lower liquidity risk by pooling savings and investing in both short-term securities and long-term investments. Thirdly, banks allow individual investors to share risk, thus allowing a shift to higher-return, higher-risk projects.

When it comes to stock markets, their increased liquidity gives investors more incentive to invest in the acquiring and processing of information, since they are more likely to realise a return by trading in the market. Stock markets can also improve corporate control and resource allocation by facilitating takeovers and compensating managers according to performance. Furthermore, markets can ease liquidity risk by allowing investors to sell rapidly in more liquid markets. In light of this, we would expect both the banking sector and stock market development to foster economic growth.

To analyse the link between stock market development, bank development, and economic growth, a sample of 40 countries is used2, with data for each country averaged over the period 1975-98. To assess stock market development, the 'turnover ratio', a measure of market liquidity3, is used. To measure banking sector development, 'bank credit', which equals deposit-taking bank claims on the private sector divided by GDP, is used. To assess the relation of banks, markets, and economic growth, real per capita GDP growth rates over the period 1975-98 is averaged.

Table 1 represents ordinary-least-squares regressions of the average per capita GDP growth rate for the period 1975-98 on bank credit and turnover ratio. Even when including other factors influencing economic growth, such as human capital accumulation, macroeconomic stability and trade openness, the results provide evidence for a robust statistical relationship between banks, stock markets and economic growth.

These results imply an economically significant relationship as well, illustrated by the following examples. Mexico's annual average growth rate during 1975-98 would have been 1.4 percentage points higher than the actual rate of 1% if its level of banking sector development was equal to the sample average of 44% instead of 13%. Similarly, Chile's growth rate would have been 1.2 percentage points above the actual rate of 4.2% if that country's stock markets had shown the liquidity of the sample average of 37% instead of the actual 7%.

Bank-based versus market-based financial systems

While the previous section focused on the positive role that both banks and markets play in economic growth, this section emphasises the relative advantages of both. It will examine whether financial structure, *i.e*. the degree to which a financial system is based on markets or banks, influences economic growth.

According to proponents of bank-based financial systems, financial markets do not provide sufficient incentives against free-riding small investors. Since well-developed and liquid markets promptly reveal information to all investors, small investors do not have incentive to invest in the acquiring and processing of information. It is also argued that banks are better exercisers of corporate control, mainly due to the fact that insiders typically have better information about the firm than outsiders. Finally, proponents of a bank-based system argue that banks are better at providing intertemporal risk diversification options.

Proponents of market-based financial systems focus on the problems that powerful banks pose for the efficient delivery of financial services, and thus, resource allocation. Firstly, powerful banks can negatively affect incentive of firms to undertake innovative, profitable projects, as they have inside information, allowing them to extract rents from these firms. Secondly, it is often claimed that banks, due to their insider status, are ineffective corporate controllers. They could become influenced by firm management, colluding against the interests of shareholders. Finally, while banks offer only limited and standard hedging products, markets offer a richer and more customised set of risk diversification and hedging instruments.

At the heart of the debate about banks vs. markets is the question of whether one system outperforms the other in efficiently mobilising and allocating savings, thus generating growth. While economic reasoning does not provide enough argument for the superiority of either view, this paper statistically tests the importance of financial structure.

Two indicators to measure the structure of a financial system are used. The first, named 'structure-activity', measures the relative importance of stock markets vis-à-vis banks in a country's financial system. The second, called 'restrict', measures regulatory restrictions on banks' activities4. To test the impact of the level of financial development, an aggregate indicator called 'finance-activity' is constructed to account for the development of both financial intermediation and stock markets.

Table 2 presents the results of regressions of economic growth on financial structure. Neither the 'structure-activity' nor the 'restrict' variable has a statistically significant impact on real per capita GDP growth. There is, therefore, no evidence in favour of either the market-based or the bank-based hypotheses. By contrast, the 'finance-activity' indicator for financial development enters the regressions significantly. This is strong evidence that cross-country variation in financial development explains cross-country variation in growth performance.

While the theoretical literature has provided many arguments on the relative advantages of both bank-based and market-based financial systems, there is no empirical evidence in favour of either view. Cross-country growth regressions show the importance of the overall level of financial development, rather than the composition of the financial system. This is consistent with the financial services view where emphasis is placed on the services that financial intermediaries and markets provide, rather than on who provides them.

The financial services view also emphasises the complementarity of intermediaries and markets. Well-developed and liquid stock markets can, for instance, offset the negative effects of powerful banks. Furthermore, intermediaries and markets provide funding to different segments of firms, with only the larger and older firms accessing equity finance through stock markets. The importance of markets in relation to intermediaries might increase with the development of an economy. In other words, the structure of an economy's financial system might become more market oriented as the economy develops5.

All these findings have important policy implications. For one, they are not supportive of policies that favour either financial intermediaries or markets, and thus caution against trying to tilt the playing field in favour of either banks or markets. Also, the results stress the importance of creating conditions for the efficient provision of financial services. For African policymakers, this implies focusing on the policy environment for financial service provision, rather than on establishing stock exchanges where little demand exists.

Footnotes

1 This article is based on Beck (2003). Also see Beck and Levine (2002) and Beck and Levine (2004).
2 Including 18 developed countries (Australia, Greece, Norway, Belgium, Italy, Portugal, Canada, Japan, Sweden, Denmark, U.S., Austria, Finland, France, Netherlands, Germany, New Zealand and Great Britain) and 22 emerging and developing countries (India, Pakistan, Israel, Bangladesh, Indonesia, Peru, Philippines, Brazil, Jamaica, South Africa, Colombia, Jordan, Taiwan, Chile, Korea, Thailand, Egypt, Malaysia, Mexico, Uruguay, Venezuela and Zimbabwe).
3 As shown by Levine and Zervos (1998) and Beck and Levine (2004), it is the liquidity, not the size of a stock market, that is related to economic growth.
4 'Restrict' focuses on the policy environment that determines the structure of the financial system, specifically, the activities of banks relative to other financial institutions and financial markets.
5 On this point, see Scott Standley's article in this issue.

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