August 21 2003

The Importance of Financial Markets in Economic Growth

Stanley Fischer[1]
Citigroup

It is always a pleasure for me to be in Brazil. It is especially a pleasure to be here at a time when Brazil appears successfully to have surmounted the crisis of last year, and to be on a path that will lead to renewed growth with low inflation. And I am honored to have the opportunity to speak at this first International Derivatives and Financial Market Conference of the Brazilian Mercantile and Futures Exchange.

I will be talking today about the importance of financial markets in economic growth. During the financial crises of the last decade, we all saw that a weak financial system not only makes a country open to international capital flows more vulnerable to crisis, but also exacerbates the costs of any financial crisis that does occur. The Asian crisis countries, Thailand, Indonesia, and Korea, vividly demonstrated that.

Among all the recessions associated with the financial crises of the past decade, Brazil's were the shallowest. That was in part the result after 1999 of the very skilled management of the economy – fiscal and monetary policy – not least during the pre-election financial crisis last year. It was also the result of Brazil's willingness to use its reserves and debt management policy actively to influence the exchange rate. Brazil's superior information system about capital flows has been very useful for policymakers. But we should not overlook the paradoxical fact that although Brazil's financial markets are in many respects highly sophisticated – as the success of the BM&F Exchanges illustrates – Brazil was helped during the crises by having a financial system that is much smaller, relative to the economy, than those in Asia.[2]

---

[1] Vice Chairman, Citigroup, and President, Citigroup International. This lecture was prepared for presentation at the first International Derivatives and Financial Market Conference of the Brazilian Mercantile & Futures Exchange conference in Campos do Jordao, Brazil, August 20-23, 2003. I am grateful to Andrew Balls and Ari Barkan for their assistance. Views expressed are those of the author, not necessarily of Citigroup.

[2]

M3, % of Nominal GDP*

	Indonesia**	Malaysia	South Korea	Thailand	Brazil
1994	40.5	108.1	120.9	102.8	21.1
1995	42.5	104.1	124.2	97.1	20.8

Importantly, the strength of the financial system also helped Brazil to weather the recent financial storms. Brazil's financial system has been strengthened both by the policymakers, who cleaned up and privatized most of the state banks, and who instit uted an effective supervisory system, and by the managers of the leading private institutions who have built sound banks and other financial institutions and markets. This meant that when the economy was under maximum pressure, in the devaluation of early 1999, and again in the fall of 2002, the financial sector maintained its strength (to be sure, in 1999, in part because the devaluation was widely anticipated, giving private institutions time to hedge the risks of the coming crisis).

Nor should we forget the willingness of the international community, through the IMF, to provide support to Brazil at several critical moments – not only because Brazil has such a large and important economy, but also because Brazil was at every stage willing to take the lead in dealing with the crises it faced. There was never any doubt that Brazil *owned* the economic programs it was implementing.

But my theme today is not the importance of a strong financial system during periods of crisis. Nor, much as I would like to talk about it, is the topic the progress that Brazil has made in recent years, and the challenges that remain. Rather, taking my lead from Joseph Schumpeter, I will talk about the relationship between financial development and economic development.

I. The Role of the Financial System

The textbooks tell us that the role of the financial system is to intermediate between lenders and borrowers, providing a menu of saving vehicles with differing risk and return characteristics, and helping investors find the financing they need, taking into account the returns and risks on the projects they wish to undertake. In carrying out their functions, financial intermediaries reduce transactions costs for savers and investors and help reduce problems of asymmetric information that are inherent in the relationships between investors

1996	46.2	116.7	133.5	103.1	25.5
1997	49.7	127.7	143.8	106.6	31.1
1998	49.4	137.9	167.4	116.7	35.5
1999	56.5	138.1	172.2	121.7	41.3
2000	52.9	127.7	168.2	117.8	45.9
2001	53.8	137.4	173.6	119.5	49.1
2002	52.6	134.2	181.5	116.4	48.9

*M3 levels are averages for the year.
** M2 is used for Indonesia.
Source: Bloombeg and Haver Analytics.

and entrepreneurs. And to an important and increasing extent, the development of sophisticated derivative instruments has helped improve the allocation of risk in the economy, and increase the efficiency of the saving-investment process.

For a given level of saving, more efficient financial intermediation increases the productivity of investment. It thus seems obvious that the more efficient the financial system, the more rapid the growth rate.[3]

In practice, there are two views on the importance of the financial system during development. The first view is that the financial sector does not matter very much, and that any correlation between financial development and growth is a result of growth leading development. This is a view I used to hold in the 1980s.[4] So did Robert Lucas, who in his celebrated 1988 paper on development said:

> "I will… be abstracting from all monetary matters, treating all exchange as though it involved goods-for-goods. In general, I believe that the importance of financial matters is very badly over-stressed in popular and even much more professional discussion and so am not inclined to be apologetic for going to the other extreme."[5]

The second view is that an efficient financial system is key to development. In his classic, *Lombard Street,* published in 1873, Walter Bagehot argued that it was England's efficient capital markets that made the industrial revolution possible. However, the most important and thorough early contribution on financial development and economic development came from Joseph Schumpeter, whose 1912 German book on the subject was published in English only in 1934, as *The Theory of Economic Development.*

Schumpeter contended that financial development causes economic development – that financial markets promote economic growth by funding entrepreneurs and in particular by channeling capital to the entrepreneurs with high return projects. He developed his case in vivid language:

> "The banker… is not so much primarily a middleman in the commodity 'purchasing power' as a *producer* of this commodity… He stands between those who wish to form new combinations and the possessors of productive means. He is essentially a phenomenon of development, though only when no central authority directs the social process. He makes possible the carrying out of new

[3] It could also be that a more efficient financial system increases the rate of saving. But the impact on saving of an increase in the rate of return is theoretically ambiguous, and has been difficult to pin down empirically. In addition, there is the question of whether increases in saving or the efficiency of investment should have a level (possibly to be reached only after a lengthy adjustment period) or – through mechanisms introduced via endogenous growth theory – rate of growth impact on output.

[4] I believed that if someone had a good business proposition, they would find the financing one way or another.

[5] Lucas (1998) p6.

> combinations, authorizes people, in the name of society as it were, to form them. He is the ephor [overseer] of the exchange economy."[6]

II. Empirical Evidence on the Finance-Growth Relationship

As a banker I find this passage from Schumpeter compelling. As an economist, I have to ask how plausible it is. In the 1960s Raymond Goldsmith conducted a massive cross-country empirical study examining the relationship between financial development and growth,[7] looking at data for 35 countries, over 100 years. He demonstrated a positive correlation between financial development (measured by the value of financial intermediary assets relative to GNP) and economic growth.

Following Goldsmith, Ronald McKinnon and Edward Shaw both published books in 1973 showing that *financial repression* – which was then a common policy – affects the quantity and quality of investment. The rationale for financial repression is that holding interest rates down boosts investment and savings and hence growth. There is also a fiscal policy rationale, for with lower interest rates the government reduces its own borrowing costs[8] and by forcing financial institutions to hold liquid deposits increases the benefits it derives from seigniorage.

In their respective books, McKinnon and Shaw showed that countries that are financially repressed are characterized by credit rationing and artificially low real interest rates, and that in the 1960s financial repression and inflation shrunk the deposit base for domestic bank lending in the developing world. In addition, the evidence showed that financial repression leads to lower savings and also created a bias in favor of capital-intensive investment.[9]

However, these contributions did not demonstrate that financial development causes economic development rather than the reverse. Indeed, Goldsmith concluded his 1969 study by saying that economists will never be able to settle the question of causation one way or the other.

This has not prevented a major research effort since. In papers published in 1993, Robert King and Ross Levine reported results based on a study of 80 countries from 1960-89 using measures of economic and financial development

---

[6] Schumpeter (1934) p74.
[7] Goldsmith (1969). Goldsmith's work in the 1950s helped stimulate the classic book by Gurley and Shaw (1960).
[8] Financial repression is associated with negative real interest rates
[9] Based on this and later work, Fry (1995) notes that arguments that financial repression can improve the average quality of the pool of loan applicants, increase firm equity, reward good performance and encourage lending to sectors with high technological spillovers are open to question and that "there is no evidence that [directed credit policies] improve the economic efficiency of resource allocation." (Fry, 1995, p451).

respectively. They found a positive, statistically signicant correlation between GDP per head and proxies of financial development.

Addressing the question of causation they showed that the level of financial development in 1960 "predicted" the economic growth rate of the next thirty years across countries.[10] In another paper[11] they argue for causation on the grounds we discussed earlier – that financial markets not only allow risk diversification on the part of savers, they also facilitate risk diversification that affects technological change. By making it possible to hold a diversified portfolio of investments in risky technology projects, the markets enhance investment in growth-enhancing R&D. Further, financial institutions play a role in evaluating entrepreneurs and projects. Better financial systems improve the probability of successful innovation and thereby accelerate economic growth. Following Schumpeter they stress that financial institutions play an active role in evaluating, managing, and funding the entrepreneurial activity that leads to productivity growth.

Subsequent research has generally but not fully supported the conclusion of a positive association between financial and economic development, but it has not established causation.[12]

III. Growth and the Financial System

Drawing the historical and empirical evidence together, it is sensible to come to an intermediate position. It is obvious that financial development is at least correlated with economic development and that a sound and sophisticated financial system promotes the efficiency of investment and economic growth in a market economy. It is also obvious that a poorly functioning financial system can hamper economic growth and development.

I am often asked what surprises me about my (relatively) new private sector job. One of the surprises is that banking is a highly technological industry, not only in the technology for payments and assets transfers, not only in calculating the pricing of complex financial instruments, not only in the processing of data and their application to market transactions, but also in risk management. That comes as no surprise to any of you in this audience, for

---

[10] King and Levine (1993a).
[11] King and Levine (1993b).
[12] Levine (1997) provides a very useful review of the empirical literature. Many of the studies focus only on measures of the development of the banking system. Beck and Levine (2002) find that stock markets and banks positively influence growth. Beck, Levine, and Loayza (2000) present a pooled-cross country study that is re-examined by Favara (2003). Favara, using a larger sample and a longer time period finds that the relationship between financial development and economic growth is weak and that the exogenous component of financial development does not spur economic growth. He also finds that the link between financial development and economic development is non-linear (being strongest for middle income countries).

Brazil's top financial institutions, including the BM&F, operate at global standards.

The development of this sophisticated technical capacity has been essential to the growth of national financial systems and indeed the global financial system. It is also essential to the capacity of the financial system to allocate risk efficiently, an area of rapid technical progress. As is well known, the derivatives markets have grown at an explosive rate. By now the notional value of outstanding OTC derivative contracts is around $150 trillion, with the nominal amount of exchange traded contracts adding about another $25 trillion – for a total about four times the volume of annual global GDP. However it is also well known that these spectacular numbers are highly misleading, for the market value of these contracts is probably only about 5 percent of their nominal value, and – taking into account legal netting – their net value is smaller yet.

Still, the existence of these instruments does make a major contribution to reallocating risk in the economy towards those most prepared to bear it, for a price. And that does increase market stability. Consider for instance the experience of the US in the last recession compared with the early 1990s. The value of U.S. stock market assets peaked early in 2001 at about $18 trillion. The subsequent collapse of stock prices wiped out about $8 trillion or over 40 percent of that part of wealth. Yet despite that, despite the recession, despite 9/11 and the corporate scandals, there has – fortunately – been no failure of a major U.S. financial institution, or indeed any major European financial institution during that period.[13] This could not have happened without the development of modern methods of risk allocation, especially through the growing sophistication of derivative instruments.

Warren Buffet and others have expressed concerns about the explosion in the use of derivatives. There *is* a great potential for abuse in markets of such speed, volume and complexity. They place exacting demands on both internal risk control mechanisms and on the official regulatory systems. We should worry about transactions that can be kept off balance sheet, and applaud the progress that is being made in doing the right accounting for these instruments, difficult as the distinction between net and gross positions makes that. We should also worry about where the risks that are being hedged are ultimately held – for generally these risks are reallocated, not eliminated from the system.

Regulators, internal and external, should never relax their concerns about derivative transactions and the potential damage they can do – and if they do relax, they should reflect on the failure of LTCM. For all that, derivative and swap markets make a major contribution to the efficiency of the financial markets in allocating risk.

---

[13] See Greenspan (2003). No doubt the Fed's monetary policy helped moderate the impact of the recession on the financial system.

To be sure, financial markets are far from perfect. For centuries they have experienced bouts of irrational exuberance, the most recent during the final years of the last century. The exuberance is all the more difficult to deal with because everyone is having such a good time. Policymakers who are virtually sure market levels are not sustainable find it very difficult to take actions to burst the bubble, for fear that in doing so they may bring on a massive overreaction on the downside. But despite their imperfections, well-regulated competitive financial markets are the best mechanism we know for allocating saving to investment. The best way to make them more efficient and less prone to overreaction is to improve both the information base available to market participants and the regulatory systems in which they operate. The extensive work now going on to improve accounting frameworks should help improve the information base. And the new Basel II framework, now in the process of development, could be a major step forward as it seeks to align the supervisory framework with the internal risk control systems of the major banks that account for the bulk of banking sector transactions.

None of this means that development of the financial system is a magic bullet that will lead to growth. At an early stage of development a country can function with a relatively unsophisticated financial system – particularly if it has decent banks. Building a gleaming stock exchange in a poor country with an inadequate legal framework and accounting practices is not going to increase the growth rate. But no financial system in which investors and savers are different people will function well without a reasonable legal system and accounting information.

As the economy develops, the financial system can become more sophisticated with it. At what rate? One answer – the financial repression argument – is that the development of the financial system should be held back by regulation. Another, the answer I prefer, is that the financial system should be allowed to develop more rapidly relative to per capita GDP than has been the historical norm – that a modern financial system can increase the efficiency of investment and contribute to growth both by reducing the costs of intermediation and by improving the allocation of risk. Such a system makes it possible for some firms that cannot self-finance to carry out projects that otherwise would not have taken place, and this increases output. Thus the financial sector should be a leader in the development process – but it should always remain relevant to the economy in which it operates. This is essentially the approach that Brazil has taken, and I believe it is the right approach.

In any country, but especially in a developing country, economic policy has a special obligation to help the poorest. There is some evidence that financial development directly benefits the poorer segments of society,[14] as does low

[14] Li, Squire and Zou (1997) show that financial development is associated with improvements in income distribution. Dollar and Kraay (2000) show that measures of financial development are

inflation. The development of microfinance, which makes small loans to poor people, also holds out promise of making a difference to the lives of the poor. By some estimates, microfinance now reaches over 50 million people worldwide, and in some countries microfinance is beginning to move into the more formal financial sector. The future of microfinance will be assured if it can become a viable commercial proposition – and this is well recognized by some of the leaders of the microfinance movement.

IV. Capital Account Liberalization

I turn next to the question of controls on international capital flows. In principle, capital account liberalization is not essential for the development of a strong financial system. What is essential is to permit foreign competition for domestic financial institutions by allowing foreign firms to operate in the domestic markets – for such competition raises the standards of the domestic institutions. And foreign entry can take place even if there are controls on capital outflows.

Capital account liberalization as part of a growth strategy remains controversial. That is not surprising in light of the capital account financial crises of the last decade, which took a heavy toll on almost all of the crisis countries as well as on other countries affected by the contagion.[15]

As an economy develops, there are great benefits of having access to global capital markets – and disadvantages only insofar as domestic financial institutions are weak, or the macroeconomic situation is unstable. In considering capital account liberalization, I assume that countries will and should at some stage in the course of their development want to liberalize the capital account and integrate into global capital markets. This view is based in part on the fact that the most advanced economies all have open capital accounts.

At present most developing countries maintain capital controls. Experience suggests they should only be removed gradually, at a time when the exchange rate is not under pressure,[16] and as the necessary infrastructure – in the form of strong domestic financial institutions, a sound macroeconomic framework, a market-based monetary policy, an appropriate exchange rate system, and the information base necessary for the markets to operate efficiently – is put in place.[17] Prudential controls that have a similar effect to some capital

---

positively and significantly correlated with the share of income of the bottom quintile of the income distribution.

[15] In this section I draw on Fischer (2003), where the argument is developed in more detail.

[16] The removal of controls on outflows sometimes results in a capital *in*flow, a result of either foreigners and/or domestic residents bringing capital into the country in light of the greater assurance it can be removed when desired.

[17] Some countries have attempted to impose controls on outflows once a foreign exchange crisis is already under way. This use of controls has generally been ineffective. (See Ariyoshi *et al* (2000),

controls, for instance limits on the open foreign exchange positions that domestic institutions can take, should also be put in place as direct controls are removed.[18]

Both theory and bitter experience have established the difficulty of combining capital account liberalization with a pegged exchange rate. Countries with open capital accounts should have a flexible exchange rate.[19] This does not rule out foreign exchange market intervention, but it does rule out attempting to maintain the exchange rate within a narrow band over any sustained period. In choosing a new nominal anchor to replace the exchange rate, most countries have – wisely I believe – opted for inflation targeting. And of course Brazil is prominent among such countries.

Any country using capital controls builds up an information system on capital flows. It may be useful to maintain an information base for some time even after the removal of controls, as in the Brazilian case, for such information can be useful in managing a crisis.

Excessive indebtedness of domestic financial and non-financial institutions arises not from capital outflows, but from inflows, especially short-term inflows. Market-based capital inflow controls, Chilean style, could be helpful for a country seeking to avoid the difficulties posed for domestic policy by capital inflows. Evidence from the Chilean experience implies that controls were for some time successful in allowing some monetary policy independence, and also in shifting the composition of capital inflows towards the long end. Empirical evidence suggests that the Chilean controls lost their effectiveness after 1998[20] and they have been removed. It is in the nature of such controls that they gradually lose their effectiveness.

I conclude that the potential benefits of well-phased and well-sequenced integration into the global capital markets outweigh the costs.[21] [22] This conclusion is buttressed by the remarkable fact that that despite the crises of the last decade, and despite the arguments of many critics of globalization, almost no country has

---

pp 18-29, and Edwards (1999), pp 68-71.) It has also to be considered that the imposition of controls for this purpose in a crisis is likely to have a longer-term effect on the country's access to international capital. For the record, I should note here that there is very little information about such use of controls in the Malaysian case of 1998, for the controls were imposed when exchange rates in the region were at their most depreciated, and as capital flows in all the crisis countries were reversing.

[18] Goldstein (2002) recommends a "managed floating plus" regime, where the plus consists of measures to discourage currency mismatching by domestic institutions.

[19] However exchange rate flexibility is not sufficient to prevent crises, for a country may nonetheless get into trouble because of market doubts about its ability to service its debt. This is the main cause of the 2002 crisis in Brazil.

[20] De Gregorio *et al* (2000)

[21] The argument is developed at greater length in Fischer (1998). The point has been much disputed, including by Bhagwati (1998).

[22] It is also based on the views that in practice capital controls are often discriminatory, a standing invitation to corruption, and grow progressively less effective over time.

cut itself off from international capital flows.[23] The revealed preference of the emerging market countries is to stay involved with the international financial system.

V. Concluding Comments

Let me conclude with brief comments on what countries can do to promote a positive relationship between financial development and economic growth and to reduce their vulnerability to financial crises. One part of the answer is completely familiar – a stable macroeconomic framework. Familiar as it is, the statement bears repeating, for it is astonishing how quickly unstable government finances and high inflation can destroy a financial system, as we have sadly seen recently in Argentina. Other elements include: the development of a sound regulatory framework; the reform of inefficient financial institutions, whether through privatization or by allowing competition – including from foreign firms – to restructure the financial system; the removal of discriminatory taxes and other elements of financial repression; and strong corporate governance and the adoption of sound accounting practices.

This is of course a list of measures that are necessary for economic stability and growth in any case. Which is to say, that the financial system will work best in an economy with strong macroeconomic policies and a strong institutional structure. And beyond that, the financial sector can contribute to growth through financial innovation of the type that is represented by the development of the BM&F.

Thank you.

[23] Even Malaysia, which imposed capital controls in 1998, removed most of them within one to two years.

References

Ariyoshi, Akira, *et al* (2000). *Capital Controls: Country Experiences with their Use and Liberalization.* IMF Occasional Paper 190.

Bagehot, Walter. 1873. *Lombard Street.*

Barro, Robert and Xavier Sala-i-Martin (1995). *Economic Growth.* Cambridge, MA: MIT Press.

Beck, Thorsten, Ross Levine and Norman Loayza (2000). "Finance and Sources of Growth," *Journal of Financial Economics.*

Beck, Thorsten and Ross Levine (2002). "Stock Markets, Banks, and Growth: Panel Evidence," Cambridge, MA, NBER Working Paper 9082.

Bhagwati, Jagidsh (1998). "The Capital Myth", *Foreign Affairs* (May/June), 7-12.

De Gregorio, Jose, Sebastian Edwards and Rodrigo Valdés (2000). "Controls on Capital Inflows: Do they Work?" *Journal of Development Economics* (63): 59-83.

Dollar, David and Aart Kraay. 2000. "Growth is Good for the Poor." IMF Seminar Series (International) 2000-35: 1-44.

Edison, Hali, Ross Levine, Luca Ricci and Torsten Slok (2002). "International Financial Integration and Economic Growth," Washington, DC, IMF Working Paper 02/145.

Edwards, Sebastian (1999). "How Effective are Capital Controls?" NBER Working Paper 7413.

Eichengreen, Barry and Favara, Giovanni (2003)."An Empirical Reassessment of the Relationship Between Finance and Growth," Washington, DC, IMF Working Paper WP/03/123.

Fischer, Stanley (1998). *Capital Account Liberalization and the Role of the IMF*, Princeton Essays in International Finance (207): 1-10.

----------- 2003. Globalization and Its Challenges", American Economic Review Papers and Proceedings, (May 2003), 1-32.

Fry, Maxwell. 1995. *Money, Interest, and Banking in Economic Development* – 2nd ed. Baltimore: The Johns Hopkins University Press.

Goldstein, Morris (2002). *Managed Floating Plus.* Policy Analyses in International Economics 66. Washington, DC: Institute for International Economics.

Greenspan, Alan (2002). *Remarks on World Finance and Risk Management*, Lancaster House, London, September 25, 2002.

Gurley, John and Edward Shaw (1960). *Money in a Theory of Finance*. Washington, DC: Brookings Institution.

King, Robert and Ross (1993a), "Finance and Growth: Schumpeter May Be Right," Quarterly Journal of Economics, August, pp. 717-737.

---------- (1993b). "Finance, Entrepreneurship, and Growth: Theory and Evidence," *Journal of Monetary Economics* 32: 513–42.

Levine, Ross (1997). "Financial Development and Economic Growth: Views and Agenda," *Journal of Economic Literature*, Vol. XXXV 688-726.

----------- (2002). "International Financial Liberalization and Economic Growth." *Review of International Economics*, 2001, vol. 9, issue 4, pages 688-702.

Li, Hongyi, Lyn Squire and Heng-fu Zou. 1997. "Explaining International and Intertemporal Variations in Income Inequality." *Economic Journal*, 108 (January) 1-18

Lucas, Robert (1988). "On the Mechanics of Economic Development." Journal of Monetary Economics 22, 3-42.

McKinnon, Ronald (1973). *Money and Capital in Economic Development.* Washington, DC: Brookings Institution.

Schumpeter, Joseph (1912). *Theorie der Wirtschaftlichen Entwicklung.* Leipzig: Dunker & Humblot, 1912. (In English: *A Theory of Economic Development*, Translated by Redvers Opie, Cambridge, MA: Harvard University Press, 1934.

Shaw, Edward (1973). *Financial Deepening in Economic Development.* New York: Oxford University Press.

World Bank. 2002: *World Development Report 2002, Building Institutions for Markets*. New York: Oxford University Press.