

**FINANCIAL STRUCTURE, SAVING AND GROWTH:
SAFETY NETS, REGULATION, AND RISK REDUCTION IN
GLOBAL FINANCIAL MARKETS**

By

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**Prepared for the First International Monetary Conference
of the Bank of Korea**

Seoul, Korea

June 22 and 23, 1998

July, 1998

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The momentous events of 1982 and 1994 in Mexico and Latin America and of 1997 in Asia force a reexamination of major issues about the proper design of financial structure and regulation in developed and developing countries. The First International Conference of the Bank of Korea, to consider the effects of globalization of financial markets, was planned months before recent problems became apparent in Southeast Asia. Recent events give the discussion greater urgency. It would be a mistake to ignore the lessons that can be drawn from this experience. I believe it would be no less a mistake to focus exclusively on recent problems and neglect the lessons of longer experience. This paper will comment on some lessons from the longer-term experience of developing and developed countries and draw some implications for financial structure as markets in developing and developed countries become more closely linked.

The past fifty years have been years of growth and change in the world economy and capital markets. More people in more countries have experienced rising living standards than at any time in recorded history. Nowhere is this truer than in Asia. Development and change of domestic financial structures, international capital markets, and the financial safety net are an important part of the development story. Some financial structures have evolved as opportunities changed; other have not.

* I am grateful to Ross Levine and George von Furstenberg for suggestions.

Keynes's views, based on experience under the gold standard and the great depression, influenced early postwar policies including the organization and regulation of financial markets, establishment of the World Bank and the International Monetary Fund (IMF), the initial policies of these institutions and of principal governments, and the thinking of many economists. Keynes favored open markets for international trade in goods but opposed open international markets in finance. See Meltzer (1988). Early postwar policies in many developing countries were a mixture of Keynesian and mercantilist policies. Low interest rates, fixed exchange rates, capital controls to prevent domestic saving from going abroad, strict government regulation of lending, and subsidies to favored borrowers were common features of financial policies.

A puzzling feature of development policy is that although many countries recognized the advantages of open trading markets for goods, they did not apply the same reasoning to capital markets. Countries adopted trade policies that raised living standards by requiring manufacturing firms to compete internationally. Encouraged by Keynesian policies, many of the same countries took the opposite approach when they turned to banking and finance. Banks and financial institutions were required to foster growth of manufacturing and trade by lending at below equilibrium interest rates and subsidizing goods for export or investments in export industries.

Pathbreaking work by Edward Shaw (1973) and Ronald McKinnon (1973) challenged important parts of this orthodoxy. At the time they wrote, interest rates in the developed countries had long since been allowed to rise from their wartime levels, but central banks in many developing economies had been slow to permit interest rates or exchange rates to change sufficiently to keep prices stable. In many developing countries the formal financial structure consisted of a central bank, some government development banks and a number of commercial banks, the latter frequently owned, controlled or heavily regulated by the government. Lending and deposit rates changed infrequently. With the rise in world inflation in the late 1960s and 1970s, real interest rates on loans and deposits became substantially negative in many of these countries.

While there were different rationales for these policies -- political and social as well as economic -- a popular economic rationale was often a simple Keynesian model in which investment is a function of the interest rate; the lower the real interest rate, the higher is real investment. Since more investment yields more capital, and capital contributes to output, lower

interest rates increase output and living standards. In some versions, interest rates affect the growth rate of output, but that is not necessary. If below market interest rates could be maintained, investment would remain above the level that would prevail at the equilibrium interest rate.

To assist development, the World Bank was organized as a development bank with the presumption that capital markets would supply too few loans to developing countries and charge relatively high rates of interest. The availability of loans on concessional terms from the World Bank and other international agencies encouraged many developing countries to borrow, to keep their capital markets closed to equity investors, and to restrict foreign ownership of domestic assets. The debt problems of the 1980s and subsequent private financial flows and direct investment show that the presumption was wrong. In fact, the opposite was true for a large number of developing countries that borrowed far more than their capacity to service or repay under the circumstances of the 1980s and 1990s.

McKinnon and Shaw showed that the Keynesian argument was flawed. Their analyses and subsequent work helped to reverse the early postwar conclusion. The implication of this work was that countries with repressed financial systems should grow more slowly for at least five reasons. First, if saving depends on the rate of interest, holding interest rates below their equilibrium value reduces saving. Second, financial repression -- holding real interest rates on deposits below market clearing rates -- reduces the amount of deposits in the banking system, the size of the banking system, and the amount of bank lending. Some of the lending and borrowing shifts to the informal sector (or curb market). This substitution reduces the efficiency of financial intermediation and investment. More efficient forms of intermediation are restricted, so investment is less productive. Third, if banks lend at below market rates, less efficient or less productive projects are financed by the banking system. Fourth, if the informal financial sector or curb market charges a risk premium or a rent (because competition is restricted), some projects that would have been financed are deterred. Fifth, opportunities for political intervention, favoritism and corruption increase with government control of banks.

An argument that McKinnon and Shaw did not make, but we would make now, concerns the effects of inflation and government intervention. Inflation increases the privately desirable number of financial transactions, thereby increasing the size of the financial sector, making the sector vulnerable to disinflation. This has been more of a problem in Latin America than in

Asia. But several Asian economies suffer from government subsidies to lending and favoritism to particular industries. Mistakes have imposed large losses on banks and financial institutions, thereby weakening their capital structure. To prevent financial failures, governments prevent competition from new entrants, including well capitalized foreign and domestic banks. Instead of strengthening the financial sector, restrictions on financial competition make the financial sector and the economy more prone to crises.

Further, there are strict limits on the ability of domestic banking systems to diversify, if most of their loans are made to domestic firms. Sub-optimal diversification increases the fragility of the domestic financial system.

The International Monetary Fund was established early in the postwar to monitor the fixed exchange rate system. After that system ended in the early 1970s, the IMF searched for new responsibilities. Most recently it has served as conditional lender to countries restructuring their economies, as in Central and Eastern Europe, or experiencing financial failures, as in Mexico or parts of Asia.

The main issue about the IMF is whether it continues to make a positive net contribution. By lending at below market rates, it assists countries that would otherwise be forced to default and restructure foreign claims. This reduces the risk and cost of default at the time, but it also encourages lenders, particularly foreign banks, to avoid the full cost of the risks they take and, therefore, to be less prudent. The social risk to the country and to owners of equity is much larger than the risk borne by foreign private lenders. This is a source of moral hazard.

The experience of the thrift industry in the United States and of banks in Japan, Sweden, Finland, Australia, and much of Latin America suggests that systems with a high degree of moral hazard eventually experience crises. Recent Asian experience provides additional evidence. Calomiris (1998) provides more systematic evidence. There have been ninety examples of banking collapse in the last fifteen years. Twenty of these have cost more than 10% of their countries GDP. He attributes the comparatively high rate of banking failure to the behavior of banks and the policies of the governments and international organizations that sustain moral hazard. The conclusion of the paper turns, therefore, to suggestions for strengthening the international financial system by reducing systemic risk and moral hazard.

Learning about Growth and Development: What Can Data and Experience Show?

In the past twenty years, economists have produced a considerable body of evidence bearing on the Keynes and McKinnon-Shaw theses. Several recent studies summarize and interpret this evidence. See Fry (1993), Little, Cooper, Corden, and Rajapatirana (1993), and World Bank (1989, 1993). Other studies of growth and development test the effect of financial intermediation in equations that relate the rate of growth to the level of income in an earlier period, and to other variables that have been found to affect development. I refer to these regressions of education, initial period income, and one or more other variables as Barro-type regressions. See Barro (1991). Before commenting on this evidence, I want to put these studies in a broader, less formal but, I believe, useful context.

When we consider the data on the role of financial repression and intermediation in economic development, we learn that the effects on development are less than clear-cut. Any knowledgeable observer can think of countries that controlled interest rates, allocated credit, or used official "guidance" yet grew rapidly for many years. Japan, particularly in the 1950s and 1960s, and Korea before the mid-1980s are such examples. On the other side are countries like Hong Kong and Singapore that had few restrictions on domestic and international lending and borrowing. But, Singapore enforced policies that required households to save, and the Singapore government favored some types of investment over others. Does it matter that Korea or Japan relied more heavily on credit allocation while Singapore relied most heavily on other incentives and prohibitions? Would the countries with closed or tightly regulated financial markets have grown more rapidly if they had relied on competitive markets to finance investment? Would crises have been smaller?

Regulation, taxation, government spending, "guidance", and allocation of financial resources all affect resource allocation. Differences in their effects are often more subtle than are captured by available data. Some countries, with "prudent" fiscal policies, use banks and financial institutions to reallocate resources in ways that are difficult to distinguish from subsidies provided through the government budget. The researcher's problem is complicated by three, large problems. First, the time period over which the effects on growth of alternative policies are revealed often must be measured in years or even decades. Stalinist policies industrialized the Soviet Union in the 1930s and the 1950s. Measured growth rates were

comparatively high for a time, but living standards remained low and other measures of development such as life expectancy never reached the levels of the principal market economies. Easterly and Fischer (1994) document the spurt in growth and its subsequent moderation. The longer-term effects were not known at the time, although some anticipated that they would occur. The experience shows that governments can borrow externally and produce domestic growth for a considerable period before any effects of resource misallocation dominate the data. In the mid-1980s Poland and Yugoslavia claimed levels of per capita income about equal to Portugal and Argentina. Brazil, Mexico, and other Latin American countries also supported growth in the late 1970s by borrowing.¹ These countries, and others in Latin America, grew rapidly for a time under policies of import substitution. The costs and inefficiencies of the governments' policies eventually slowed measured rates of growth.

Second, a government may direct resources to efficient uses. There is no economic law that says that all public resource allocations must fail or waste resources. Chance alone assures that some government investment will be productive and some private investments unproductive. Evidence of the superior outcome obtained from market allocation must come from comparison over many trials.

Much of what passes for analysis of comparative performance consists of examples that do not support a general conclusion. Japan, guided by some ministry officials, invested in shipbuilding, steel mills, autos, and consumer electronics. Korea, using similar methods, invested in shipbuilding, textiles and steel. These are typically described as successes. But, the Japanese ministries later promoted investment in high definition television and the fifth generation computer, while Korea used lending and other subsidies to develop the chemical and semi-conductor industries. These decisions did not produce high returns. Further, they used financial resources in ways that produced negative returns to banks, contributing thereby to present financial distress.

Third, regulators can succeed for a time by investing in technologies that have worked well elsewhere. Copying or adapting does not always work, but it does not always fail. When copying works, even an authoritarian, inefficient government can bring about a period of growth.

¹ This problem is akin to the problem of choosing well-managed companies. Shortly after the author of a best seller chose some well-managed companies, several had difficulties.

In the past forty years, we have had several different experiments about the role of government in economic development. These experiments were not designed to test the effect on development of institutional and organizational differences. They are not, therefore, experiments in the sense of the physical sciences. They are, nevertheless, about as close as we are likely to come to experimental evidence on some central propositions of economic development.

One set of comparisons is between countries that relied mainly on markets and property rights to allocate resources and countries that relied mainly on command and control. Financial repression or development is not the most important difference between these systems, but the World Bank (1993, p. 219) speaks of the "massive waste" of forced savings in command economies. Differences are not limited to savings. Comparison of market and command economies provide evidence on the role of markets in fostering development.

The examples of North and South Korea and East and West Germany are particularly relevant. Here we hold constant culture, language, and past history. Differences in resources in 1950 or at the end of World War II do not favor one system over the other. Probably North Korea and West Germany had an advantage at the start. After forty years, the market economies with private ownership achieved much higher living standards.

The Chinese government conducted an unplanned experiment that separates political and economic factors at an early stage of development.² It retained political control but changed the system of resource allocation. First in agriculture, and later in manufacturing and trade, it shifted toward increased reliance on private ownership (or long-term leases), free markets and individual or firm decision-making. Growth rates rose and for several years reached the best levels achieved in market economies.

The World Bank (1993) attempted a more systematic and comprehensive study and evaluation than is given by these examples. The study finds modest support for private ownership and direction of resources. If it had been written five years later, after the financial crises in several Asian economics, I believe the study would have drawn stronger conclusions about the importance of private decision making in competitive markets and the benefits of less regulation of financial markets.

² Efforts to test for the role of political freedom using the Gastil index or similar measures have not found strong evidence of these measures of political freedom. The reason is not clear.

A second experiment of the postwar years concerns the effects of trade policy on development. Recognizing that GATT rules made a return to the protectionist policies of the interwar years unlikely, some countries adopted strategies of export led growth. Others chose import substitution as their trade policy. The early results were far from decisive; in the early postwar years, growth rates reached 8 to 10% in Brazil and Mexico and, for 1965-80, growth under import substitution averaged 6% for Latin America as a whole. The rate under export led growth in East Asia was 7% for the same period (World Bank (1993a, p. 27)). For 1975-90, however, growth of per capita income in East Asia averaged 5-1/2% while average growth in Latin America and the Caribbean was below 2%. World Bank (1993, p. 2). Government financed, subsidized, or protected investment programs produced rising income at first, much as the statist, protectionist policies in the Soviet Union, Eastern Europe and China had done when they started. In many Latin American countries, exchange rates overvalued the domestic currency, discouraging exports often to the disadvantage of the agricultural sectors, and encouraging investment in capital with relatively low productivity. Putting the capital in place raised measured growth rates. Once capital was in place, growth could not be sustained given the low average productivity of capital. Overvaluation would have favored imports if they had not been restricted by tariffs and other types of protection.

A World Bank study of Latin American development summarizes the results of the policy. World Bank (1993a, p. 25).

"By the late 1950s the import substitution strategy began to run into difficulties. Most of the easy and obvious substitutions had taken place, and the process was losing its dynamism... Real industrial production in most countries in the 1960s grew at half the annual rate of the previous decade."

It was only in the 1980s, however, that the growth rate of Latin American countries fell far below East Asian growth. The World Bank report continues (*ibid.*, p. 27)

"In the mid-1980s, the widespread view in Latin America was that the state-based development model followed since the 1940s had entered a deep and generalized crisis."

In the 1980s, Asian countries adjusted more rapidly than the Latin Americans to the effects of higher real interest rates and reduced borrowing. Greater export growth, less regulation, more stable policies, exchange rates close to market values, and lower barriers to

competition from abroad contributed to the better performance of these countries. As knowledge of the comparative experience spread through Latin America, a willingness to abandon import substitution and state direction spread. The results of Chile's policies of greater openness and reliance on markets convinced several countries that Asian successes could be achieved in Latin America. Mexico, Argentina, Peru, Brazil and others adopted policies of stabilization, privatization, reduced regulation, and export-oriented growth.

Opening a country to trade and competition from abroad encourages efficiency in several ways. Licensing foreign technology improves production practices. Capital from abroad embodies the latest technology. New technology often requires new skills. To learn these skills, students are sent abroad and foreign managers and consultants are used at home. Exposure to new and different ideas encourages innovation. Attention to exports encourages the development of world class products. Competition from imports forces improvement of old products and specialization where comparative advantage is greatest.

Pack and Page (1994) argue that much of the technological change in East Asian countries came from adopting "best practices." Using a Barro-type regression, they find that productivity growth is positively related either to an index of an economy's degree of openness or to the share of manufactured to total exports. Further, they report some evidence that countries that are more open converge more rapidly toward the higher income levels of the industrial countries.³

A third experiment comes from the comparison of countries in which governments have used the financial system or the allocation of saving and credit to direct the use of resources. Particularly in the 1950s and 1960s, the Japanese government took a leading role in planning and encouraging some specific activities, and discouraging others, by offering loans at below market rates of interest to favored sectors. Korea and Indonesia are examples of Asian countries where the allocation of saving and credit and the structure of the financial system depend on government decisions far more than on market forces. On the opposite side, development of the Hong Kong economy relied almost entirely on investors' private decisions. Young (1992) presents evidence showing that Hong Kong has generated much more growth per dollar invested than more interventionist Singapore.

³ Young (1993) finds that part of the difference between East Asian and other countries is explained by variations in hours worked. Most regressions, including those of Pack and Page, do not control for hours worked.

The World Bank's (1993) study of the reasons for rapid growth in East Asia discusses the alternative policies. The principal conclusions I draw from that study are: (1) intervention is not necessary for growth and development, and (2) policies that produced macroeconomic stability contributed to growth. The Hong Kong economy, where government had a very limited role, has one of the highest growth rates over a 25 or 30 year span. Singapore and Korea where government took a more active role in the investment or development process, have done about as well, perhaps at greater cost in living standards. Young (1992). Many others have grown more slowly than Hong Kong. Government planning and directing is not necessary and is surely not sufficient to produce growth or sustain development.

In the five years since the World Bank completed its major study of Asian growth, financial disturbances in Asia give reason for more careful consideration of the role of financial structure in developing countries. The close relationship between banks and corporations must be cited as a source of instability in some Asian countries. Perhaps more important is the concentration of loan portfolios in loans to a small number of firms in a few industries. In both cases, there is insufficient diversification. Over periods long enough for these risks to materialize, these practices reduce the rate of return to private capital and the social rate of return to investment.

The problem is not unique to Asia. Many governments use some type of credit allocation to achieve political or social ends. A fiscally responsible government, that avoids large deficits, may use credit allocation instead of direct subsidies. The policies are not the same but, under both, poor choices about resource allocation waste resources, and restrictions on entry of foreign banks limit portfolio diversification to a sub-optimal level.

Korea is the eleventh largest economy in the world. It is close in size to Los Angeles County in the United States. U.S. financial history has demonstrated repeatedly that economies of that size rarely have sufficient diversification to withstand a large decline in demand affecting one of their important industries. In some Asian countries, the effects of insufficient diversification were intensified by the close ties between large corporations and their financing banks.

Many other factors contributed to the financial crises. Slow growth of demand in Japan, a major export market for most Asian countries, made Asian firms vulnerable. Devaluation by countries selling competing products spread the problem through the region. Borrowing at short-

term in foreign currency to finance long-term loans in domestic currency left the financial system vulnerable. IMF, U.S. Treasury and domestic policy of protecting lenders encouraged moral hazard. These and, no doubt, other weaknesses revealed, ex post, the size of the risks in the system of intermediation.

Saving and Growth

One rationale for financial restrictions, exchange controls and credit allocation is that these policies force domestic savers to finance domestic investment in accord with the government's development plan. Discussions often neglect the importance of rate of return or presumes that rate of return is either unimportant (within a broad range of values) or independent of controls and regulation.

A frequent conclusion after the Mexican problems of 1994-95 was that the comparatively low Mexican saving rate made Mexican growth dependent on international capital flows. This conclusion is at best a half-truth. It ignores the consequences of Mexican policy, the rates of return to capital and, importantly for this paper, the Mexican financial structure.

In a study of the relation of saving to growth the World Bank (1989, p. 27) found somewhat different results for the years 1965 to 1987. The data suggest that the countries with relatively high and low saving rates have relatively high and low growth rates respectively. For intermediate countries, the relation of saving to growth is less clear than the relation of investment to growth. These data are shown in Table 1.

Table 1

<u>Growth</u>	<u>Gross National Saving/GDP</u>	<u>Gross Investment/GDP</u>
>7%	28%	28.6%
3-7%	18.5	22.6
<3%	19	19

The data do not show the causal direction. Increased saving may precede or follow growth. Starting from a given level of income and rate of growth, the public can restrict consumption to increase saving and investment. Or, policy can force domestic saving to finance a higher rate of domestic investment. In these cases, higher saving precedes an increase in growth. An alternative is to increase investment and growth by borrowing abroad. This scheme has growth first and saving later. As income rises in response to productive investment, saving increases.

These alternatives do not exhaust the possible relations between growth, investment, saving, and the current account balance. There is no presumption in economics that one of these schemes must dominate the others. In fact, the results of the World Bank's study in Table 1 suggest that, on average, investment was financed by national saving in both the high growth and low growth countries. These countries on average did not borrow or lend abroad in the aggregate. The same was not true for the intermediate countries with annual growth between 3 and 7%. On average, countries in this group borrowed in the aggregate to maintain investment above domestic saving.

The World Bank (1993, p. 204) study of East Asian growth found that "incomes have often risen before saving rates rather than after." This is consistent with the permanent income theory of consumption if increases in income have a large unanticipated component. Life cycle considerations may also be at work. (*Ibid.*, p. 205). For Latin America, where the saving share of GDP has typically been lower than in East Asia, the saving share in several countries where growth has resumed remains below the share achieved in 1980. World Bank (1993a, p. 112).

Countries differ in the extent to which saving is voluntary. Governments may require saving (as in Singapore), may run budget surpluses or deficits thereby increasing or reducing national saving, or may choose policies that encourage or discourage private saving.⁴ There is not a large body of evidence on the effects of these policies. Barro and Lee (1994) show that increased government spending on consumption (as a share of GNP) slows growth. For 5 Latin American countries and 14 African countries that grew relatively slowly in the 1980s and 1990s, Barro and Lee's study suggests that relatively high government spending on consumption reduced the average growth rate by one percentage point. An empirical study of 13 developing

⁴ Indonesia, Japan, Korea, Singapore and Thailand all had relatively low shares of public consumption. Public sector saving was relatively high on average in several East Asian high growth countries. World Bank (1993, p. 208).

countries cited in World Bank (1993a, pp 207-8) found that a temporary cut of a dollar in government spending reduced private saving by 16 to 50 cents. A dollar of tax increase reduced private saving by 48 to 65 cents. This evidence suggests that reducing budget deficits (or increasing budget surpluses) increases national saving.

Studies that attempt to test the McKinnon-Shaw thesis have produced mixed results. Some econometric evidence suggests that there is a positive relation between saving and the real interest rate paid by banks, but this evidence is far from conclusive. Real interest rates can rise or fall for several reasons such as increased productivity of capital or unanticipated disinflation. More generally, both the real interest rate and saving are endogenous variables, so not much confidence can be placed in conclusions based on a regression of one on the other. Also, increasing the interest rate on bank loans may shift assets from non-banks to banks without changing total saving. A shift of this kind may increase the productivity of investment and overall efficiency without directly affecting the saving rate.

King and Levine, (1993) studied the 27 countries that undertook intensive structural adjustment in the second half of the 1980s. These countries received World Bank loans conditional on major changes in trade, budget, privatization, and regulatory policies. They find that post-reform, per capita GDP growth is related to the share of credit going to the private sector. Although King and Levine do not separate saving and intermediation in their first study, they did in later work. King and Levine (1993a) find that future growth increases with prior development of the financial system. And King and Zervos (1998) find that well functioning, liquid stock markets are associated with faster economic growth. On average well-functioning stock markets increase growth most when they are part of a developed banking and financial system.

Real Rates of Return

Much of the discussion of saving strikes me as wrong-headed. It should be obvious, but apparently isn't, that anticipated rates of return to capital are the principal force driving investment. Countries with higher anticipated, risk-adjusted, real returns to capital will draw financing from domestic savers and foreign lenders if the government does not intervene to prevent it. Open markets in goods draw buyers to better opportunities; open markets for capital draw financing toward high, risk-adjusted, real rates of return.

In his presidential address to the American Economic Association, Arnold Harberger (1998) used data from Beyer (1996) to show that countries with the highest growth rates have high rates of return and high rates of total factor productivity growth. A country such as Hong Kong, with few regulations, had no difficulty finding finance for the years 1971 to 1990. It had the highest rate of return and reported the third highest growth rates.⁵

World Bank data (1989, Table 2.3, p. 31) show that for 1965-73 and 1974-85, real interest rates and real growth rates are positively related when countries are grouped by real interest rates. Countries with positive real interest rates have the highest growth rates and largest changes in GDP per unit of investment. Countries with moderately negative real interest rates are intermediate, with values in both periods lower than in countries with positive real interest rates but higher than in countries with strongly negative real rates. Again, these data cannot show the direction of causality. Fry (1993, p. 29) notes, however, that there are sizeable differences in the efficiency of investment in countries with positive real interest rates. Differences in investment shares of GDP are small or non-existent in the two periods, but differences in the efficiency of investment are from 1.7 (1965-73) to 3.7 (1974-85) times greater in countries with positive real rates than in countries with strongly negative real interest rates.

Variability of interest rates has been substantially lower in the rapidly growing East Asian economies than in Latin America, Africa or South Asia. A World Bank study (1993, p. 206) reports averages and standard deviations of ex post real interest rates for ten to twenty year periods for 35 countries. The standard deviation for high performing East Asian countries as a group is 3.5, relatively close to the 2.8 for a sample of OECD countries. Comparative measures are 13.9 for Sub-Saharan Africa and 40.3 for a Latin American sample. The principal reason for these differences in variability is the difference in the variability of inflation. A more general finding is that countries with greater macro variability invest less and develop less rapidly. One reason is that they develop payments problems. (Little, et al., p. 359).

The conclusion usually drawn from the available evidence is that the ratio of saving to output or spending is not much affected by financial liberalization. The complementary conclusion should not be overlooked: there is no evidence that governments facilitate growth by keeping real rates of interest low or negative. Countries that allow interest rates to respond to

⁵ For reasons elaborated earlier, data on comparative growth rates should be used cautiously. There is no doubt, however, that Hong Kong had a comparatively high growth rate.

market forces do not pay a penalty for higher rates; they generally benefit by getting greater efficiency (or more output) per unit or dollar invested. The last proposition must be partly hedged because positive real rates of interest are often accompanied by regulatory, exchange rate, tax and other policies that encourage efficiency in the use of resources.

Financial Structure

Developed financial markets increase efficiency by saving transaction costs, by eliminating the costs of barter, by reducing costs of acquiring information, and increasing the efficiency of investment. As in Brunner and Meltzer (1971), costs of acquiring information and transacting fall with the introduction of a medium of exchange. Development of a panoply of institutions for sharing risk becomes possible once society has a medium of exchange. Three major problems arise in going from these potential sources of efficiency gain to the design of a financial structure that facilitates growth.

First, the increase in efficiency is most often either a one-time gain, or a series of one-time gains, that reduce average cash balances or lower risk. These gains improve welfare and increase per capita consumption. Although the gains may continue for a time, they do not change the permanent growth rate.

Second, in practice, large bank and development institutions are frequently organized to lend to large, rather than to small, projects. Information about small borrowers is often costly to acquire, and small loans to new borrowers are more costly to service. Informal institutions like the Korean curb markets or the informal lending markets in Taiwan may make small loans more efficiently than commercial or development banks. Informal lenders often have family, regional or other ties that raise borrower's perceived cost of default, thereby reducing lenders' risk.

Empirical evidence is mixed. King and Levine (1993) found that financial intermediation contributed significantly to growth using a Barro-type regression. They measured the degree of financial intermediation as the ratio of a broad definition of money to GDP at an initial date (1960). Fischer (1993) found the opposite. Financial intermediation is not significant in his regressions.

The conclusion I draw from these studies is that the efficiency of the financial system is not well measured by the ratio of banking liabilities to GDP. A principal reason is that there are many distortions such as government regulations, credit allocation, preferential lending

arrangements, and controls on interest rates. A study that is relatively free of these problems, supports King and Levine (1993). Rousseau and Wachtel (1998), use data for the monetary base, real GDP per capita, and various measures of financial development in five countries during the years 1870 to 1929. They find an important role for intermediation in industrialization and growth.

Third, government intervention in financial markets has often produced large losses. Some of the same types of regulatory failure that contributed to the saving and loan problems in the United States are found in Asian countries. Lenders with too little diversification and too much political intervention are less likely to survive in a crisis. Relatively large loan losses follow.

In developing countries, preferential terms and subsidies are at times financed by the international development banks. Since credit is fungible and the alleged purpose of the borrower differs from the project financed on the margin, it is difficult to learn how the subsidies affect resource use. Further, such subsidies are often accompanied by domestic credit subsidies.

The size of subsidies can be large. The World Bank (1989, p. 59) reports that in Brazil, in 1987, credit subsidies were estimated at between 4 and 8 percent of GDP. In Mexico for 1982-87, credit subsidies were 3% of GDP. Korea had 221 directed credit programs at one time. (Ibid., p. 55)

Default rates are often high. The World Bank (Ibid., p. 67) reports that default rates on subsidized agricultural credit from development banks ranged from 30 to 95%. Housing finance has also been a source of losses and defaults. Korea's use of subsidies and directed credit to develop specific industries left many Korean banks insolvent after the 1980s. Non-performing assets reached 20% of total loans. Fry (1993, p. 47). The government continued to direct credit toward failing firms at the expense of growing firms.

Of course, the government may use its credit subsidies cautiously and choose projects judiciously. In the 1950s, Japan directed credit toward the financing of industrial equipment by providing about 1/3 of the cost. By 1990, the government's share had dropped to 8%. The beneficiaries were industries with large optimum size and, for a time, increasing returns to scale. World Bank (1993, pp. 280-1). However, much evidence suggests that government intervention has had the opposite result in many countries. World Bank (1993, p. 289); Little, et al., (1993, pp. 353-4). It has proved difficult for governments in both democratic and authoritarian regimes

to resist the blandishments of groups and individuals that seek favorable treatment, or seek political support for allocating credit on concessional terms. It has been difficult also, to avoid corrupt practices.

Credit Regulation, Supervision and Reform⁶

One of the principal recommendations after every crisis is to increase the quantity and improve the quality of information. The Asian crisis is not an exception. The reasoning is that more and better information contributes to improved financial regulation and supervision. It is hard to argue against more and better information. The problem is with the inference that improved supervision and regulation is the key -- or an important contributor -- to financial stability and to avoidance of crises. Evidence from developed countries suggests that supervision and regulation could not prevent financial collapse in the U.S. thrift industry, Japanese banks, or banking systems in Sweden and Finland.

Recent problems in the banking and financial systems, and growing recognition that supervision and regulation have not, and probably cannot, prevent crises, stimulated interest in alternatives that rely more on markets and incentives. Heightened understanding of insurance and risk principles has produced new proposals for reform of financial regulation and supervision. Several proposals recognize that regulation and supervision can contribute more to efficiency and flexibility if restructured to reduce opportunities for forbearance and politically motivated intervention and increase incentives for prudential behavior by managements. Efficient regulation would minimize regulatory burden and the social costs of the financial safety net. Central banks or governments would retain their role as lenders of last resort to prevent systemic failure.

Two very different types of reform proposals have been made. Benston and Kaufman (1988) use equity, subordinated debentures and rules for closing banks to limit potential losses to an explicit or implicit deposit insurance system. The aim of their proposal is to eliminate moral hazard from deposit insurance by making equity owners and (non-insured) debenture holders bear all the losses in a bank's portfolio. A weak version of the Benston-Kaufman proposal has been adopted in the United States. Stronger versions are in place in New Zealand and Chile.

⁶ Part of this section is based on Meltzer (1995).

An alternative, called the narrow bank, separates the banks' lending from its deposits. Deposits would be fully collateralized by government debt, hence insured by default-free nominal claims. Lending and borrowing would be done by non-banks. These institutions would raise equity capital or borrow on the capital markets and lend to businesses and households for shorter terms.

The narrow bank proposal protects the domestic payment system against bank failures, but it does not address problems that arise when short-term capital outflows increase. Corporations and non-bank financial institutions bear the default risk that they previously shared with the banking system. A similar problem would arise under the Benston-Kaufman proposal applied to a small- or medium-sized open economy that imports capital from abroad.

There are several proposals to mitigate the effect of short-term capital flows or to prevent such flows. The International Monetary Fund (IMF) can, and does, lend to countries facing default on debt service. James Tobin (1996) stimulated considerable interest in the idea of taxing short-term capital flows to restrict their volume. Chile has restricted short-term capital movements in an attempt to use interest rates as a short-term stabilization tool. The long-term effectiveness of this policy is doubtful as are its welfare effects.⁷

The system that has evolved in recent years relies on emergency IMF credits supplemented by loans from the World Bank and developed countries. This system fosters moral hazard. Equity owners, currency holders, and citizens of the developing countries bear heavy costs. The IMF loans permit bankers to withdraw funds at small cost. Hence the risks borne socially exceed the risks borne by the private suppliers of short-term capital.

The current system is crisis-prone. The banks have little incentive to end the practices that preceded crises in Latin America in the 1980s and Mexico and Asia in the 1990s. Following the Mexican problems in 1994-95, the composition of foreign capital flows to developing countries shifted. Growth of equity declined, and growth of foreign direct investment increased. The heavy losses borne by equity owners appear to have had a salutary effect. Banks experienced few losses, so they continued to expand loans.

Some proposals for change assign to the IMF the function of a bankruptcy agency for developing countries. This proposal formalizes and extends the current system and its defects.

⁷ For a summary of the literature on the Chilean policy see von Furstenberg (1998, pp. 62-63).

Traditionally, a lender of last resort made collateralized loans at a penalty rate. The borrowers were obliged to offer “good” collateral to distinguish illiquidity from insolvency. They were obliged to pay a penalty rate to distinguish a liquidity crisis from subsidized lending. These features eliminated the risk of moral hazard.

Contrast the IMF program. Loans are at below market rates to banks that are often insolvent. Moral hazard is created and subsidized. The IMF program does not eliminate the wedge between the private costs of foreign banks and the social costs borne by the public in the borrowing country. It increases the wedge by encouraging borrowing and subsidizing risk taking.

Reform Proposals

For an economist, the goal of reform is to increase efficiency by eliminating moral hazard and inefficiency. I consider two reforms. First, the problem of capital flows would be mitigated if countries adopted floating exchange rates. Exchange rate crises would not occur, but they might be replaced by large, short-term changes in the exchange rate following changes in the domestic or international economy. These effects would be reduced if countries followed stabilizing policies.

The second proposal seeks to reduce moral hazard in countries with fixed exchange rates. This requires an understanding of the source of moral hazard in the existing financial structure.

Among developed countries, U.S. experience is most informative. Repeated waves of financial failure and recurrent financial crises have been a characteristic feature of the U.S. system. A principal reason is that banks were regional or local. Portfolios were insufficiently diversified. When local industry failed, local banks failed with them, deepening the problem. Depositors withdrew their money either because there was no lender of last resort before 1914 or the lender did not act in the 1930s.

The problem changed during the great depression. Deposit insurance protected depositors against losses. The flaw in this system was that society assumed the risk of losses caused by risk-taking owners or managers who faced bankruptcy.

Most developing economies, and many developed countries, are too small and too little diversified to sustain domestic banking systems of optimal size and diversification. Many Asian

countries add to the problem by maintaining close relationships between industrial conglomerates and banks, but the problem of sub-optimal diversification would remain even if banks were independent of commercial and industrial groups. Further, explicit or implicit guarantees of deposits against loss requires taxpayers to bear the losses when banks or other financial institutions become insolvent.

One part of the solution is to remove legal and regulatory obstacles that prevent banks from branching internationally and international banks from entering markets as full competitors. Diversified international banks would internalize losses, reducing or removing the externality, much as international corporations (and a few banks) now do.

A second part of the proposal eliminates or reduces taxpayers' responsibility for financial losses. Regulators must require all financial firms to hold enough equity and uninsured debt at risk within the country, so that equity owners would have incentives to both remain in the country and avoid imprudent loans. There are different ways to sustain commitment by international lenders, but all involve an expectation of larger losses from withdrawing than from remaining.

Local banks and financial institutions in each country would compete in a deregulated financial system by offering services that international banks are less able to supply. They would retain the competitive advantages that come from superior knowledge of local circumstances and relationships within the local community.

Competitive international banking would continue the evolution that has been underway in financial markets for several decades. International banks now operate in many markets, often under restrictions that protect local banks from competition. Investment banks and mutual funds operate globally, often under lesser restrictions. International corporations list their shares in New York and London. They agree to meet the more burdensome reporting standards required by these markets to gain access to international capital markets on competitive terms. The proposed reform would be a step back toward the financial arrangements of the late 19th century, when branches of London banks competed in many markets.

The proposed changes would not remove the burden arising from a sudden shift in the supply of international capital. Withdrawal of international capital could occur in response to previously unforeseen events at home or abroad including, but not limited to, policy changes. As

Bagehot (1873) recognized more than a century ago, financial systems require a lender of last resort to protect illiquid but solvent institutions at such times.

Bagehot's rule called on the central bank to lend freely at a penalty rate. That rule was implemented when the borrowing bank offered collateral acceptable to the central bank. The offer of collateral --- some marketable securities --- separated solvent from insolvent banks. The penalty rate assured that the borrowing bank would not come to the central bank if the market offered to purchase the collateral at less than the penalty discount rate. Thus, Bagehot's rule separated insolvent and illiquid firms, identified liquidity crises, and resolved them at low cost.

The dynamic properties of the rule are impressive also. Banks are induced to hold marketable collateral to use in a liquidity crisis, so it encourages prudent behavior. Bagehot urged the central bank to reduce uncertainty, and panic, by announcing the rule in advance and following it in a crisis. Modern theory gives us a better understanding of the helpful dynamic effects of pre-announcement. I recommend a rule of this kind for international lending for countries with fixed exchange rates. Most of the time, the lender will do no business; the market will function. In a crisis, the lender will be there to prevent liquidity problems from generating a crisis, insolvency, and bankruptcy.

Conclusion

In the early postwar years, the dominant policy was to restrict or prevent capital movements. Recent research on capital markets suggests the opposite: that open capital markets, like open markets for goods, increase incomes and welfare. The benefits of participating in international capital markets continue to be questioned, however. Financial crises and problems, typically associated with short-term capital outflows and deep recessions, have imposed heavy costs on some developing countries. These social costs are often much greater than the costs borne by principal international lenders, particularly banks that benefit from IMF loans following a crisis. Unlike equity investors, banks have been able to shift much of the cost to the developing countries. This difference between the social and private costs reflects the moral hazard in international lending that is sustained by current institutional arrangements.

One root of this problem is the international safety net that permits, and even subsidizes, short-term capital flight. To reduce or eliminate the problem, and reduce the social cost of

international lending, limits on competition and diversification should be removed. International banks should be allowed to compete in developing country markets. Pooling and diversifying risks in global banks' portfolios would internalize the externality and reduce risk.

Some risk of capital flight would remain. More than one hundred years ago, Walter Bagehot (1873) set out the rules under which a lender of last resort should function. These include: (1) pre-announcement, to reduce panic, (2) a penalty rate, to avoid subsidies and assure that the lender is active only when markets fail and (3) loans only against marketable collateral to separate illiquid from insolvent banks. Those rules are as valid now as in his day. Moreover, the requirement to offer acceptable collateral imposes a discipline on banks that works to reduce imprudent behavior. Reform of international lending to extend Bagehot's rules to international markets is one basis of lasting reform. The other is for countries to pursue stable policies and allow exchange rates to fluctuate.

The last time I had the privilege of being a guest of this bank, on the occasion of its 35th anniversary, I recommended some changes in domestic financial arrangements that remain relevant. I would like to close my remarks by repeating some of the comments about financial reform made at that time.

"Efficiency will be enhanced by reducing further the barriers to entry into banking and financial services...by removing the preferential treatment of loans to particular firms and industries and by using direct subsidies in place of the past system of credit allocation, interest rate regulation and other indirect subsidies. Each of these steps encourages the development of a system in which the principal reliance for resource allocation is on market prices and market determined interest rates. Changes of this kind...will bring more private saving out of the secret recesses of the Korean financial system and into the market, further increasing market efficiency." Meltzer (1985, p. 21)

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